

Strategies for Conserving the Natural and Cultural Assets of Fauquier County Virginia

Prepared by Students in the Green Lands Class at the University of Virginia
Printed December 15, 2012



This is a report prepared by students in the University of Virginia's School of Architecture.



This work was supported by the Green Infrastructure Center Inc.



Printed December 15, 2012

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Anyone interested in receiving the class college curriculum guide used to create this report, can contact the instructor Karen Firehock. Any comments about this report or other requests may be emailed to the instructor karenfirehock@virginia.edu.

INTRODUCTION

Green infrastructure is the interconnected network of waterways, wetlands, woodlands, wildlife habitats, and other natural areas that support native species, clean water and contribute to community health and quality of life. Just as localities plan for grey infrastructure, they also need to take care of their green infrastructure to create healthful places for residents and businesses. For example, forests help to filter and absorb rainfall thereby reducing flooding frequency while also protecting streams and facilitating the recharge of groundwater supplies. Green infrastructure planning is a framework for assessing and valuing these environmental assets.

This report was prepared by students in an applied planning class titled *Green Lands* at the University of Virginia (UVa). This project is a collaborative partnership between Fauquier County, the Green Infrastructure Center and UVa. It was funded by the Virginia Department of Forestry. Students proposed strategies for protecting environmental assets and landscape-influenced cultural resources.

Students worked in teams to evaluate recreation and open space, water resources, culture and history, and working lands such as forests and farms. To create this report, student teams conducted research, utilized natural resource models and the county's spatial data sets. They also held two reviews with county staff.

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Each section of this report contains goals, objectives, resources and examples. Summaries of these goals are found on page 1. Students consulted the County's Comprehensive Plan (May 10, 2012) and utilized existing goals whenever possible. The plan is referenced as "CP" along with the corresponding page number. If there was no relevant goal within the county's current Comprehensive Plan, students wrote a new or modified goal. Fauquier County is encouraged to make use of the ideas, case studies and references within this report to maintain the county's quality of life and conserve its rural heritage appreciated by both long time and newer residents. Data and recommendations in this report can be used to improve and expand the comprehensive plan update.

We wish to thank the funders of this report who provided staffing, printing and travel support.



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GOAL SUMMARY

FORESTS

Goal 1: Preserve Fauquier's forested landscape as a resource that is highly valuable for its direct ecosystem services and is essential for the unique scenic beauty of the county.

Goal 2: Create and protect contiguous forestal resources to improve wildlife habitat, promote local recreation and tourism and improve water quality.

WATER

Goal 1: Improve and protect the riparian ecosystem to restore water quality to a high standard by working with local farmers and other stakeholders to ensure sustainable and clean water in Fauquier County.

Goal 2: Foster stewardship of Fauquier County's waters by increasing community appreciation and awareness of the county's rich water resources.

AGRICULTURE

Goal 1: Preserve and maintain Fauquier's agricultural heritage by preserving the most productive farmlands.

Goal 2: Further economic viability of small farms by responsibly utilizing agri-tourism business models.

Goal 3: Prioritize local food production as an economic development strategy.

RECREATION

Goal 1: Incorporate more nature-based recreation within the service districts including pocket parks and trails to provide green space opportunities as a way to improve health of the community in Fauquier County in the spaces they live in.

Goal 2: Increase public awareness of and engagement with trails, parks, and green space so access and usage is spread across demographic, economic, and geographic barriers.

HISTORY AND CULTURE

Goal 1: Identify locations for historical civil war sites and churches within the county.

Goal 2: Protect historical sites and their viewsheds.

Goal 3: Develop historical sites as a tourism and education resource.

FORESTS: POLICIES AND STRATEGIES

Written by Corbin Brooks and Abbey Ness

Virginia's forests face significant challenges to their existence. Currently, development destroys around 68,000 acres of forested land in Virginia per year, the equivalent of one acre every minute (Virginia's Forest Resources). In Fauquier County, Virginia, 17,000 acres of forested land have been lost since 1976 to development and population growth (CP). Declining forest resources translates to declining community and environmental benefits.



Soldiers Hill Farm, Warrenton, VA

Fauquier County has long recognized the importance of these benefits to its quality of life. Its 2012 comprehensive plan states that forests provide, "raw materials for forestal industries and an economic income for forestal landowners," as well as environmental benefits including "watershed protection, soil erosion, stream sedimentation control, recreational opportunities, air pollution, noise modification, screening for privacy, wildlife habitats, and general visual beauty."

The only way to ensure that future generations of residents also experience these benefits is to conserve forests. The county has already demonstrated its intent to conserve them in its comprehensive plan goal, "To protect critical

environmental resources and to maintain renewable natural resources so that they are not degraded but remain viable for future generations" (2012). Fortunately, Fauquier County and its residents have already conserved much of its land as parks, wildlife management areas or conservation easements.

Forests improve communities, economies and environmental conditions by providing various ecosystems services. By filtering water, forests directly improve human health and reduce the cost of wastewater treatment. In fact, adding ten percent more forest cover in a watershed reduces the costs of treating its water by twenty percent (de Brun). Forested land located in riparian areas increases water quality by reducing phosphorous and nitrogen levels that result from farming practices and residential land management by up to sixty-eight percent (Southeast Watershed Forum).

Fauquier County's 2011 Water Supply Plan recognized forests for their role in rain water filtration. The report states that "Forests are significant groundwater recharge areas and, in the case of riparian forests, protect water quality by reducing storm water runoff, filtering pollutants, decreasing stream bank erosion and maintaining the biological, physical and chemical aspects of stream ecosystems." (Fauquier County Office of Community Development: 2011).

Groundwater recharge is a pressing issue in Fauquier where geological conditions limit water filtration. Figure 1 shows the result of a geological survey conducted by Virginia Groundwater LLC and illustrates a segment of bedrock in Fauquier County. The vertical scale shows depth and the color scale represents resistivity, with red showing highly resistive areas and blue showing areas of low resistivity where water more abundant. The existing conditions restrict water filtration at greater depths, a problem that could be mitigated with increased tree presence (Evans and Collins, 2010).

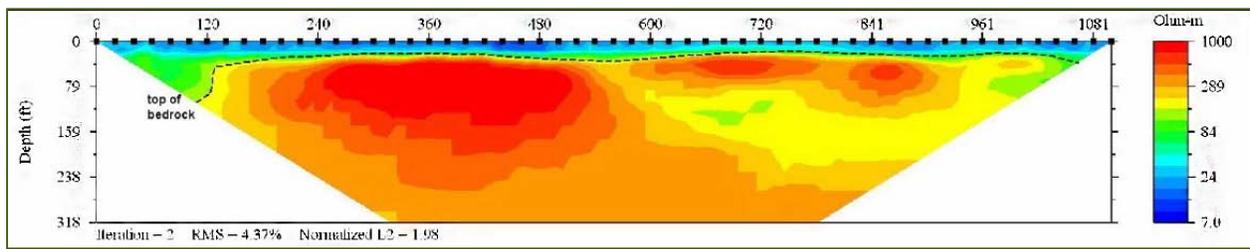


Figure 1: Depth and Resistivity of Fauquier County Water Resources

Fauquier’s forests also reduce air pollution caused by traffic and industrial emissions. The chart below shows that carbon monoxide, nitrogen oxides and volatile organic compounds emission levels recorded in the county are above average. This data is unsurprising, given the proximity of Fauquier to the growing Washington D.C. area, and this trend is reflected in other northern Virginia counties as well. The Virginia counties that have the worst air quality emission in the state are also the counties most affected by urban sprawl from Washington DC (see Appendix A for a map of air quality rankings for Virginia localities). This decline in air quality is partially due to the loss of tree cover in those jurisdictions (Scorecard.com: 2011).

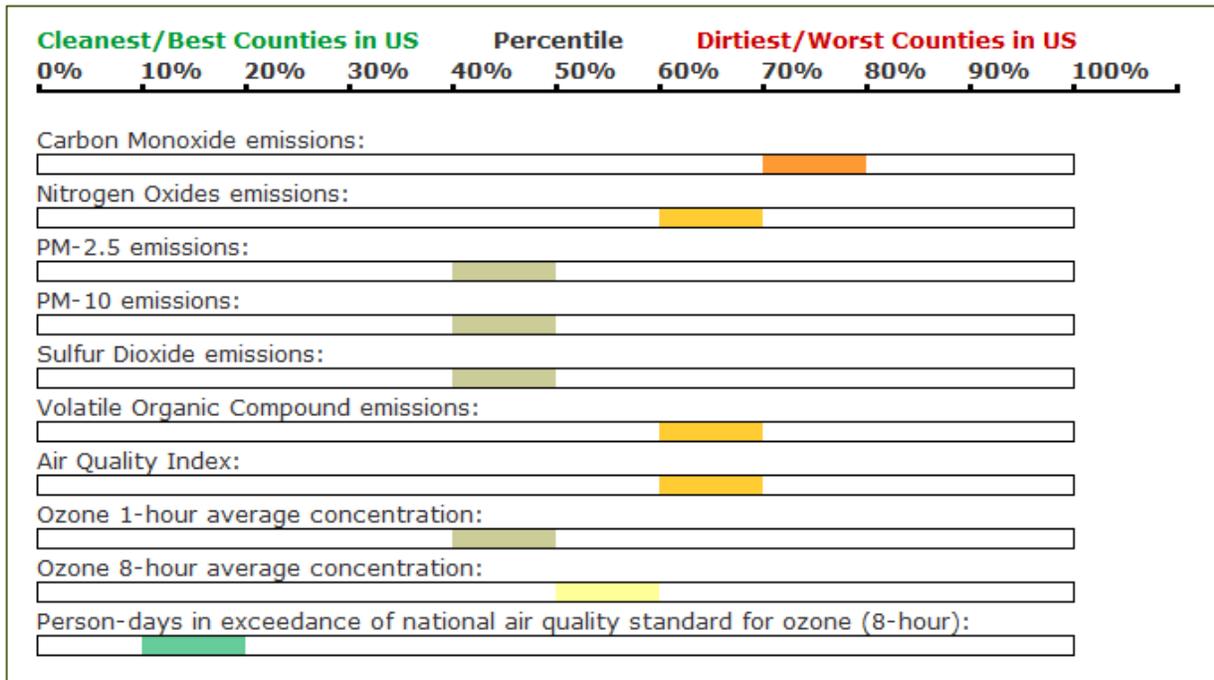


Figure 2: Air Quality Report for Fauquier County (from Scorecard.com, based on Environmental Protection Agency data).

Forests contribute to the rural landscapes that make Fauquier County's historical and recreational sites so attractive. Sky Meadows Park alone attracts thousands of visitors a year from both in and outside the county. Visitors come to recreate in a natural area and look out over the scenic viewshed, of which trees constitute a large part. Visitors and residents appreciate Fauquier’s rich cultural history as the home of twenty-one sites on the National Register of Historic Places and twelve Civil War battles. Fifteen community groups



Sky Meadows State Park, White Post, VA

are dedicated to the preservation of these historic resources, but if the forested viewsheds near these areas is disturbed, their attractive potential will diminish (Fauquier County: 2012).

Northern and southern Fauquier are characterized by remarkably different development patterns, natural resources and socioeconomic characteristics. Northern Fauquier faces development pressures of urban growth of Washington DC. Southern Fauquier is beyond this influence, hosting smaller communities surrounded by rural land uses and abundant natural resources. Because the threats to forest resources vary by location, the county cannot rely on a universal strategy to protect its forests, and should consider these varied conditions across the county when adopting forest management and preservation strategies.

Fauquier County derives considerable benefit from its existing forested land. In order to protect this valuable land and increase the county's forest cover, strategic action is needed. We recommend two goals to guide these efforts: 1) Preserve Fauquier's forested landscape 2) Create and protect contiguous forestal resources.

GOAL SUMMARY:

Preserve Fauquier's forested landscape, as a resource that is highly valuable for its direct ecosystem services and is essential for the unique scenic beauty of the county.

Create and protect contiguous forestal resources to improve wildlife habitat, promote local recreation and tourism and improve water quality.

Goal 1: Preserve Fauquier's forested landscape, as a resource that is highly valuable for its direct ecosystem services and is essential for the unique scenic beauty of the county.

Rationale: Fauquier County has over 22,000 acres of agricultural land totaling about 53.7% of the county, thus making agriculture the largest single type of land cover. For the aggregate amount of farm land in Fauquier, about 38% is taken up by cropland, 34% by pasture, and 20% by wooded land. This shows a significant amount of overlapping forested and agricultural land (USDA: 2007). These forestal resources are threatened by conversion to agricultural uses, especially because agriculture is more profitable than forest management strategies. Because of this threat to forested land cover, we recommend that the county focus part of its forest management efforts on forests owned by farmers.

We conducted a case study of the Cedar Run-Owl Run sub-watershed in central Fauquier to quantify the benefits of converting agricultural lands to forests (see Appendix B for the complete results). By converting twenty percent of conventional tillage cropland in the sub-watershed to forested land, nitrogen loads would decrease by 2,476 pounds per year, phosphorous by 373 pounds per year, and sediment by 298 tons per year. These results imply that incorporating more forested land on farms could increase water infiltration and supply and improve water quality by decreasing runoff.



Soldiers Hill Farm, Warrenton, VA

We recommend that the county educate farmers about forest preservation through mailers and personal interactions. These outreach methods would emphasize the economic and environmental benefits of sustainable forest management strategies. Mailers are a cost-efficient communication strategy and require little personnel time. The creation of a new position to promote best agriculture and forestry practices would add a valuable human dimension to outreach efforts. We have partnered with the Agriculture Team to propose such a Farming Networks Coordinator position (see Agriculture Team Objective 3B Action). This agent, in addition to facilitating connections between farmers, could meet individually with landowners about agroforestry and other sustainable forest management practices. By utilizing sustainable forest management strategies, farmers have the potential to play a positive role in forest preservation.

Another effective strategy is to focus forest coverage efforts in urban areas to increase the quality of life and ecosystem health in areas of greater population density. Tree presence can provide myriad environmental, economic and cultural benefits to urban areas. Environmental benefits include improved air quality, aided storm water management, mitigated erosion, increased biodiversity and decreased urban temperatures. Urban forests also provide economic advantages. The USDA Forest Service found that mature trees add about ten percent to property values. The American Association for the Advancement of Science conducted a study proving that crime rates are lower in tree-covered areas. According to another study undertaken by the University of Washington, people shop longer and more often in retail areas containing trees and spend about twelve percent more money. Trees in urban areas also provide intrinsic benefits that improve the quality of life of citizens and help create a “sense of place” (Sustainable Cities Institute).

One of the tasks associated with this strategy is to help localities achieve the Tree City USA designation. Warrenton has set the precedent by achieving this designation, and other towns in Fauquier can be equally as visionary in their efforts to increase urban forest cover.

Though all localities would benefit from urban forestry, we recommend that an appropriate place to start is Remington. Remington has a rich history as the site of the Battle at Kelly’s Ford, and a concerted effort has been made to make this history accessible to visitors through a map kiosk and guided walking tour pamphlet. The town has an architecturally interesting main street and is a popular route for bicyclists, who represent a potential tourism market.

Currently, the lack of trees in the downtown area detracts from its charm, and the addition of urban trees in Remington has the potential to revitalize this area. Shaded sidewalks would provide a more pleasant place for pedestrians following the historic walking tour and might even persuade bikers to stop for a breather and pick up a snack. Remington is an ideal place to start because it is already home to citizens interested in improving the town, as evidenced by the Remington Community Partnership whose goal is to “restore the historical and cultural charm of Remington” (Remington Community Partnership). By achieving Tree City



A Visualization of Urban Trees if planted in Remington, VA

USA designation, Remington could receive national recognition and additionally be eligible for grants for further improvement. Meanwhile, residents would benefit from an improved quality of life through enjoyable public spaces, walkable public spaces and a vibrant downtown experience.

Objective 1A: Promote sustainable forest management strategies on agricultural lands to maintain forest cover in the county.

Action 1) Include in a mass mailing (such as property tax assessments, use value assessments, utility bills, or Farm Bureau newsletters) an informational flyer targeted to farmers explaining why forest management plans are a vital strategy for protecting Fauquier’s forests.

Action 2) Incorporate sustainable forestry methods into forest management plans for farmers.

Action 3) Create the position “Farming Network Coordinator” as a part of the Farm Link program to promote agri/forestral methods and put experienced practitioners in contact with interested parties (see Agriculture section).

Objective 1B: Town of Remington planning department should implement an urban tree planting program within its town limits to enhance the scenic values of its developed area and improve ecosystem functions.

Action 1) Create a community tree board to advocate for urban forests by communicating with residents and businesses with regards to the proper planting, maintenance, protection, and removal of trees.

Action 2) Adopt a community tree ordinance (see Appendices C and D for sample ordinances).

Action 3) Conduct a community forestry program with an annual budget of \$2/capita to address tree planting needs, species diversity and a regular care regiment.

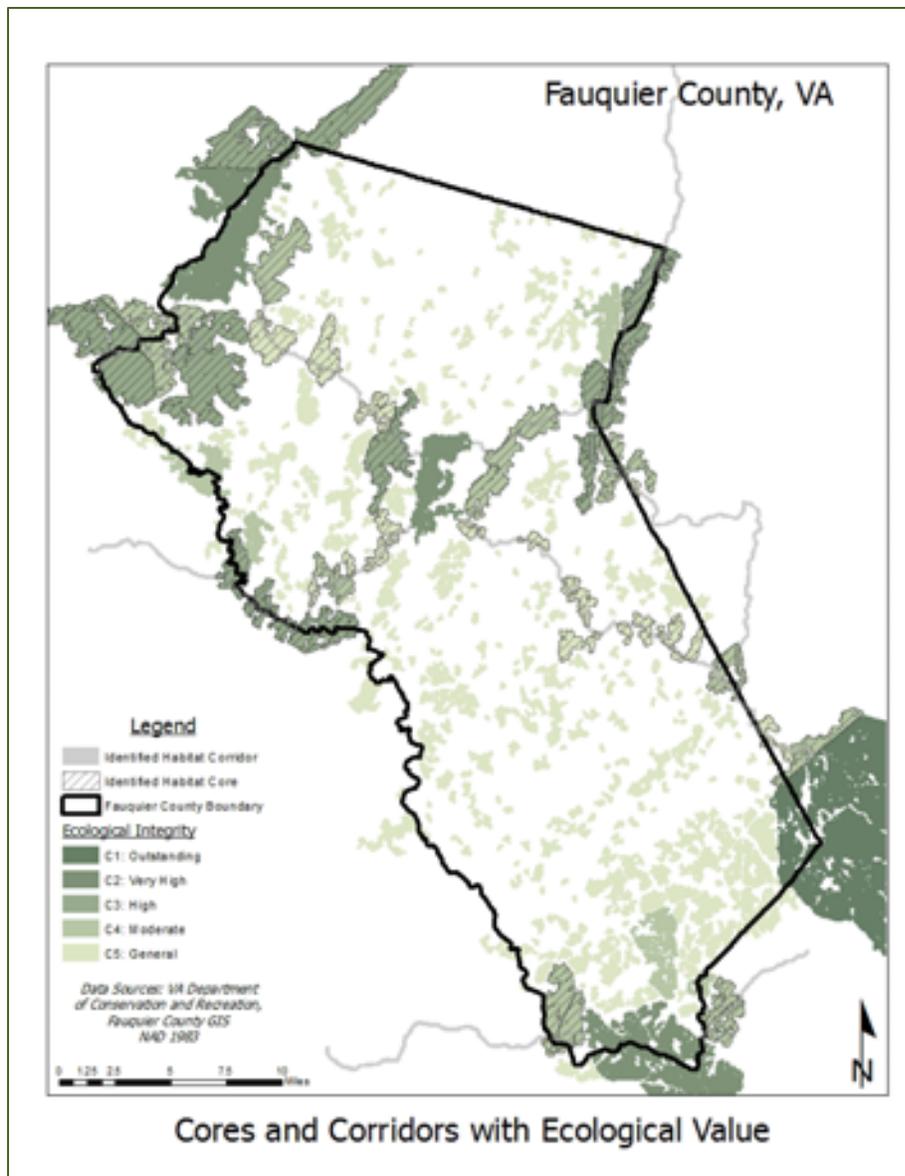
Action 4) To raise awareness of the importance of urban trees and conduct tree-planting events, the tree board should conduct an Arbor Day observance event.

Action 5) The tree board should apply to be an Arbor Day Foundation Tree City USA community (see Appendix E for a sample application).

<p>Goal 2: Create and protect contiguous forestal resources to improve wildlife habitat, promote local recreation and tourism and improve water quality.</p>

Rationale: Intact habitat cores and corridors provide ideal living conditions for wildlife by shielding them from disturbances and facilitating their migration. The fragmentation of these habitats threatens the survival of most species and entire ecosystems. Fauquier County wildlife is particularly threatened by high rates of parcelization and development as a result of the growing Washington DC metropolitan area. The county must conserve its most valuable resources in anticipation of these threats.

Fauquier County has already identified its most prominent habitat cores and corridors based on their ecological value (see Map 1). This process used a least cost path analysis of density, elevation, habitat fragmentation and distance. Unfortunately, this method does not adequately prioritize the most valuable local resources or identify areas with the most opportunity for restoration. For example, cores in southern Fauquier County have not been identified through this measure, even though this part of the county has larger, more contiguous cores.



MAP 1: FAUQUIER COUNTY CORES AND CORRIDORS IDENTIFIED FOR THEIR ECOLOGICAL VALUE

Thus, we strongly recommend that the county prioritize its resources. This is the only way to ensure that the most valuable resources are preserved in the face of multiple threats. We suggest splitting priority areas into “conservation” and “restoration” cores and corridors. Conservation areas would be cores and corridors that have ecological value and connectivity but are lacking legal protection through conservation tools. Restoration areas would be areas that would greatly benefit from planting trees and establishing wildlife nodes and corridors. The strategies recommended below mirror this organizational scheme.

In Appendix F, we have listed several areas not currently identified as cores and corridors that would benefit from conservation or restoration. It is our hope that Fauquier County will use this resource as a guide for

prioritizing its forestal resources based on their ecological value, proximity to impaired watersheds, linkage to recreational assets, quality of agricultural soils and proximity to service districts. We recommend that the county create a list of priority cores and corridors and share it with other organizations working to conserve and restore Fauquier County lands. This will help the county more easily communicate and achieve its goals.



It is important to note that designating areas as nodes or corridors does not represent a special legal status that would adequately protect them. Fortunately, there are myriad tools to preserve habitat cores and corridors, including conservation easements, wildlife management areas and agri/forestal districts. Appendix G contains a list of these tools and how Fauquier County currently employs them.

The tasks associated with our recommended strategies employ educational outreach, enhanced communication among stakeholders and active restoration of forestal resources. We have only suggested tasks that are feasible with the limited financial and personnel resources that

Soldiers Hill Farm, Warrenton, VA

state and county agencies face. The benefits of these strategies are the ecosystem services mentioned in the introduction: better economies, improved public health, increased recreational opportunities, cleaner air, cleaner water, more wildlife habitat, and preservation of the rural landscape. Fauquier County should preserve these valuable benefits by protecting forested land.

Objective 2A: Protect the highest value cores and corridors with conservation easements, agri/forestal districts and outreach campaigns.

Action 1) To facilitate the strategic conservation of forest resources, the county should share the list and map of priority land conservation areas with land trust organizations holding easements in Fauquier, such as the Piedmont Environmental Council and the Virginia Outdoors Foundation.

Action 2) Land trust organizations should target their existing landowner approach efforts to landowners of priority conservation habitat cores and corridors (see Appendix F for a map of prioritized cores and corridors).

Objective 2B: Connect forest cover in habitat cores and corridors identified as restoration corridors to enhance the quality of habitats for wildlife.

Action 1) To facilitate the strategic restoration of forest resources, the county should create and share a list and map of priority land restoration areas with environmental or forestry groups in Fauquier, such as school environmental clubs, 4H and Future Farmers of America groups.

Action 2) Apply for a Virginia Department of Forestry Urban and Community Forestry grant to fund the planting of forests on non-forested properties in identified restoration corridors (see Appendix H for more funding resources).

Action 3) Install forested riparian buffers to increase forest cover and improve the ecological health of water systems (see Water section, Goal 1, Objective 3A)



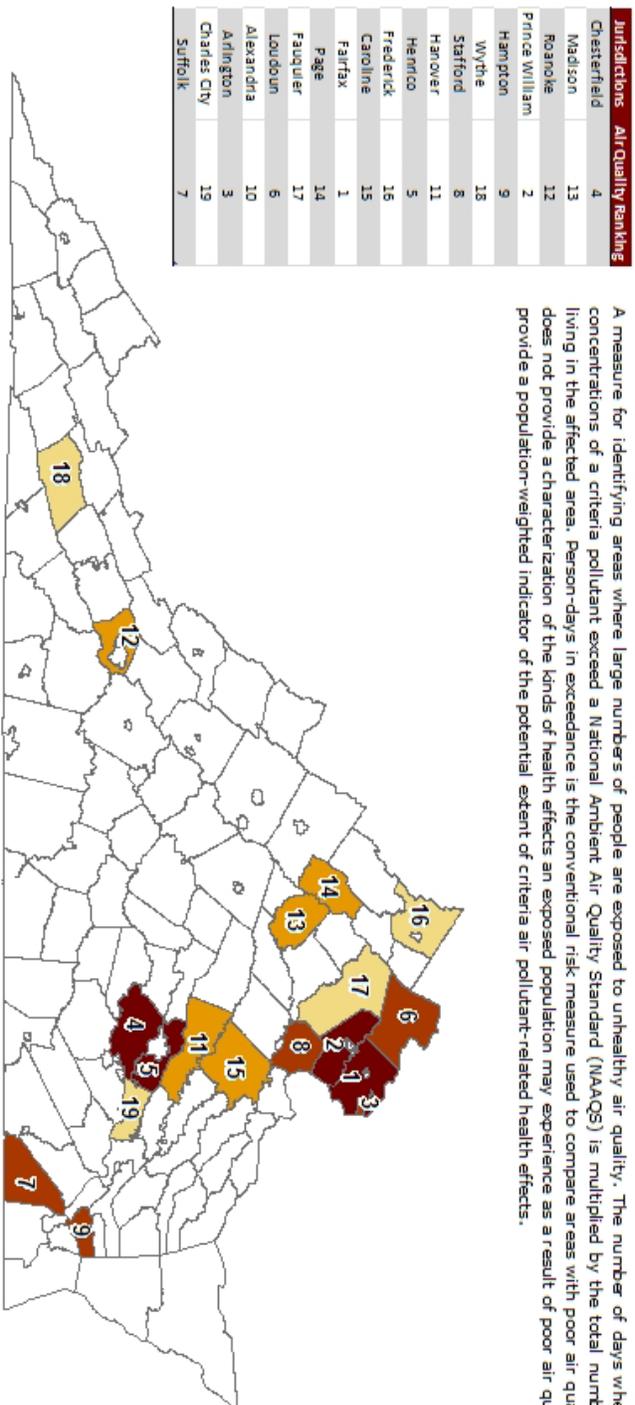
Philip Carter Winery, Hume, VA

APPENDIX A: MAP OF AIR QUALITY RANKINGS FOR VIRGINIA COUNTIES

The following map was made using information from Scorecard.com, a website that compiles and reports pollution data from the Environmental Protection Agency.

Virginia Jurisdictions with the Worst Air Quality Person Days in Exceedance of NAAQS

A measure for identifying areas where large numbers of people are exposed to unhealthy air quality. The number of days when monitored concentrations of a criteria pollutant exceed a National Ambient Air Quality Standard (NAAQS) is multiplied by the total number of people living in the affected area. Person-days in exceedance is the conventional risk measure used to compare areas with poor air quality. While it does not provide a characterization of the kinds of health effects an exposed population may experience as a result of poor air quality, it does provide a population-weighted indicator of the potential extent of criteria air pollutant-related health effects.

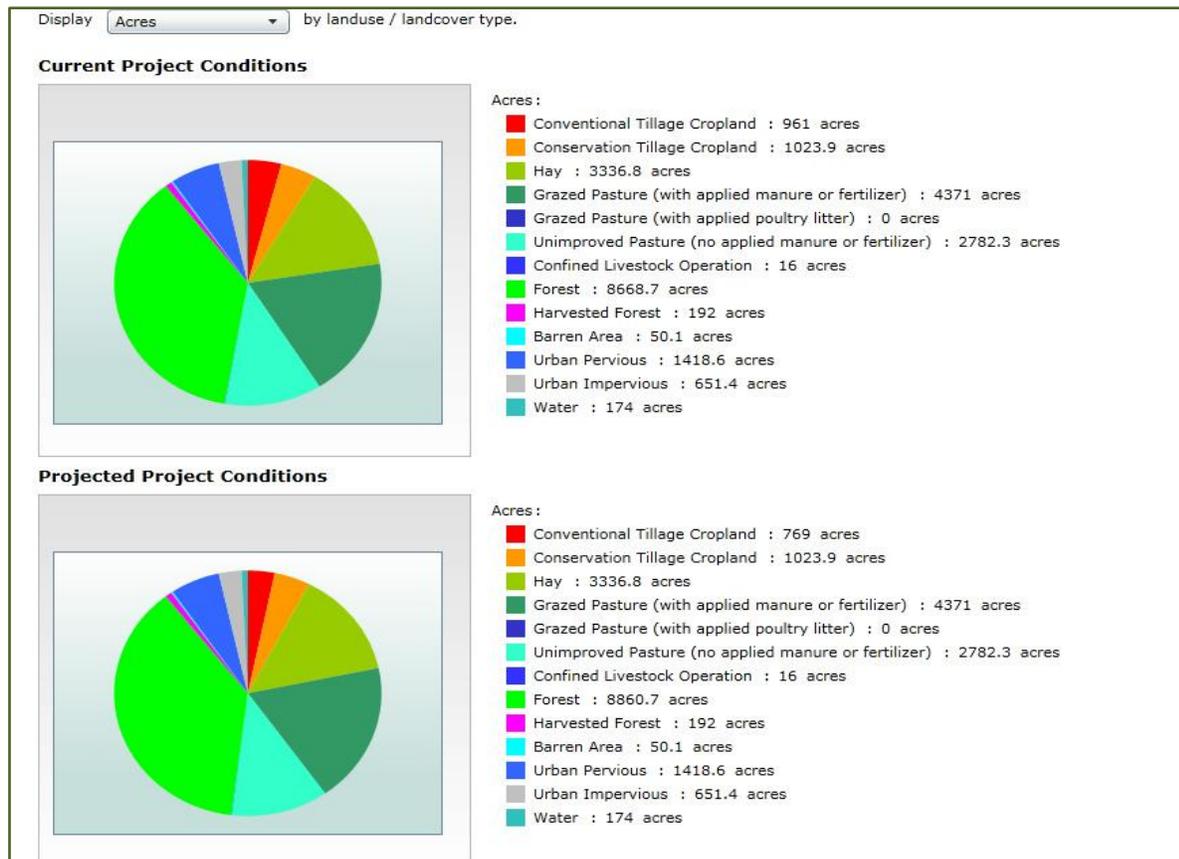
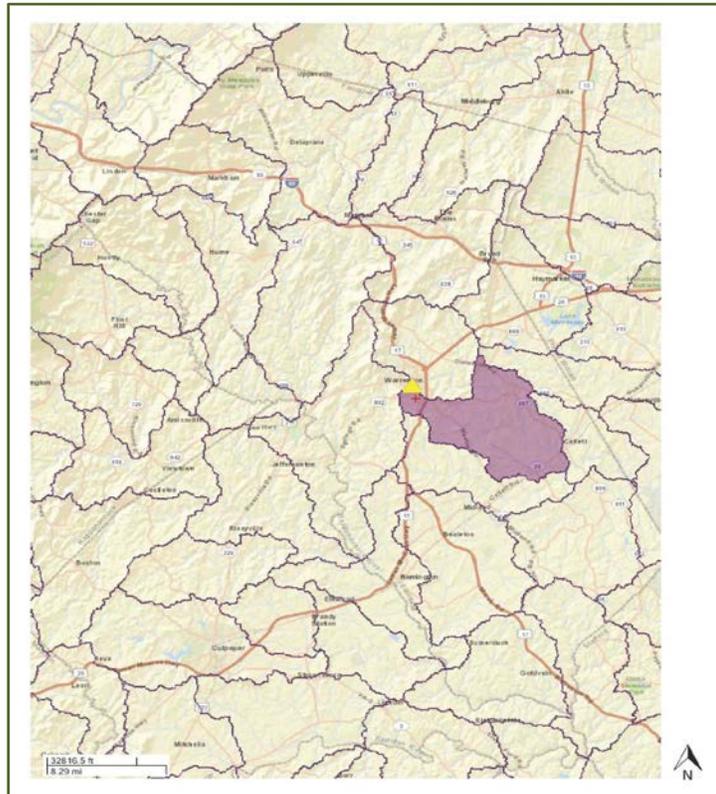


APPENDIX B: INFOREST PROJECTION, CEDAR RUN-OWL RUN WATERSHED

InFOREST is a modeling tool created by the Virginia Department of Forestry utilizing GIS data of land cover. This program can be used to create custom maps, reports and information concerning the relation between forests and ecosystem services.

<http://inforest.frec.vt.edu/>

To the Right: Cedar Run-Owl Run Watershed



NUTRIENT AND SEDIMENT RUNOFF REPORT WATERSHED LEVEL

Project Name: Cedar Run-Owl Run

This report **estimates** the nitrogen, phosphorus, and sediment loading for the area of interest chosen for this project. These values are based on the various land use/cover types found in the project area. The Generalized Watershed Loading Function (GWLF) model is used to run the analysis. The GWLF model is a mid-range watershed loading model developed to assess non-point source flow and sediment and nutrient loading from urban and rural watersheds. The GWLF model provides the user with the ability to simulate sediment and nutrient (nitrogen and phosphorus) loading within a watershed and to estimate the contribution of that loading from the various land uses/covers (e.g., forest, impervious area, pasture, hay, high till) present in the project area.

1) Baseline Watershed Loads (provided or modified)

Watershed Identification: Cedar Run-Owl Run

<u>Land Use Types</u>	<u>Acres</u>	<u>Nitrogen (lbs/vr)</u>	<u>Phosphorus (lbs/vr)</u>	<u>Sediment (tons/vr)</u>
Conventional Tillage Cropland	961.00	12467.36	1872.83	1493.52
Conservation Tillage Cropland	1023.90	18574.83	3458.83	737.80
Hay	3336.80	44268.38	4177.32	172.06
Grazed Pasture (with manure or fertilizer)	4371.00	13243.61	2340.21	493.54
Unimproved Pasture (no manure or fertilizer)	2782.30	13806.45	1350.33	870.00
Confined Livestock Operation	16.00	2305.59	461.21	0.0
Forest	8668.70	701.29	70.77	32.36
Harvested Forest	192.00	445.11	108.91	172.22
Barren Area	50.10	127.21	44.53	78.65
Urban Pervious	1418.60	3105.43	360.90	18.18
Urban Impervious	651.40	7391.22	791.90	131.99
Water	174	0.0	0.0	0.0
Watershed TOTAL	23645.80	116436.48	15037.74	4200.32

2) Watershed Level Changes to Land Uses and Nutrient and Sediment Loads
(with user-identified land use changes)

<u>Land Use Types</u>	<u>Acres</u>	<u>Nitrogen (lbs/yr)</u>	<u>Phosphorus (lbs/yr)</u>	<u>Sediment (tons/yr)</u>
Conventional Tillage Cropland	-192.00	-2491.00	-374.13	-298.39
Conservation Tillage Cropland	0.00	0.00	0.00	0.00
Hay	0.00	0.00	0.00	0.00
Grazed Pasture (with manure or fertilizer)	0.00	0.00	0.00	0.00
Unimproved Pasture (no manure or fertilizer)	0.00	0.00	0.00	0.00
Confined Livestock Operation	0.00	0.00	0.00	0.0
Forest	192.00	15.43	1.54	0.71
Harvested Forest	0.00	0.00	0.00	0.00
Barren Area	0.00	0.00	0.00	0.00
Urban Pervious	0.00	0.00	0.00	0.00
Urban Impervious	0.00	0.00	0.00	0.00
Water	0	0.0	0.0	0.0
Watershed Load Changes	0.00	-2475.57	-372.59	-297.68
New Watershed TOTALs	23645.80	113960.91	14665.15	3902.64

NOTE:

- 1) Baseline Watershed Loads result from the land use distribution for the 12 digit hydrologic unit watershed in which your project is located.
- 2) Project changes involve the shifting of acreage from one land use (indicated by a negative (-) acreage and corresponding load changes (+ or -), to one or more other land uses (indicated by a positive (+) acreage(s) and corresponding load changes (+ or -).

APPENDIX C: TREE CITY USA SAMPLE TREE ORDINANCE

The sample ordinance was designed for use in midwestern communities of average population. The ordinance that your community ultimately develops should be designed to fit its specific needs.

SAMPLE CITY TREE ORDINANCE

Be it ordained by the City Commission of the City of _____ State _____

Section 1. Definitions

Street trees: "Street trees" are herein defined as trees, shrubs, bushes, and all other woody vegetation on land lying between property lines on either side of all streets, avenues, or ways within the City.

Park Trees: "Park trees" are herein defined as trees, shrubs, bushes and all other woody vegetation in public parks having individual names, and all areas owned by the City, or to which the public has free access as a park.

Section 2. Creation and Establishment of a City Tree Board.

There is hereby created and established a City Tree Board for the City of _____

(state) which shall consist of five members, citizens and residents of this city, who shall be appointed by the mayor with the approval of the Commission.

Section 3. Term of Office

The term of the five persons to be appointed by the mayor shall be three years except that the term of two of the members appointed to the first board shall be for only one year and the term of two members of the first board shall be for two years. In the event that a vacancy shall occur during the term of any member, his successor shall be appointed for the unexpired portion of the term.

Section 4. Compensation

Members of the Board shall serve without compensation.

Section 5. Duties and Responsibilities

It shall be the responsibility of the Board to study, investigate, council and develop and/or update annually, and administer a written plan for the care, preservation, pruning, planting, replanting, removal or disposition of trees and shrubs in parks, along streets and in other public areas. Such plan will be presented annually to the City Commission and upon their acceptance and approval shall constitute the official comprehensive city tree plan for the City of _____ State _____.

The Board, when requested by the City Commission, shall consider, investigate, make finding, report and recommend upon any special matter of question coming within the scope of its work.

Section 6. Operation

The Board shall choose its own officers, make its own rules and regulations and keep a journal of its proceedings. A majority of the members shall be a quorum for the transaction of business.

Section 7. Street Tree Species to be Planted

The following list constitutes the official Street Tree species for _____ State _____ No species other than those included in this list may be planted as Street Trees without written permission of the City Tree Board.

<p>* Small Trees</p> <ul style="list-style-type: none"> Apricot Crabapple Flowering dog Golden Rain Tree Hawthorn (sp.) Pear, Bradford Redbud Southern Utic, sp. Tree Peach, Flowering Plum, Flowered Serviceberry 	<p>Medium Trees</p> <ul style="list-style-type: none"> Ash, Green Hackberry Honeylocust (Shanley) Linden or Basswood (sp.) Mulberry, Red Burdtian, male Oak, English Oak, Red Rapahoe, Japanese Pecan Birch, River Chagoranga Osage, thornless Perseemon Poplar, White Sassafras 	<p>Large Trees</p> <ul style="list-style-type: none"> Catalpa Kentucky Maple, Silver Maple, Sugar Oak, Bur Sycamore Sycamore London plane tree Cottonwood (Cottonwood, male)
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Section 8. Spacing

The spacing of Street Trees will be in accordance with the three species size classes listed in Section 7 of this ordinance, and no trees may be planted closer together than the following: Small Trees, 30 feet; Medium Trees, 40 feet; and Large Trees, 50 feet; except in special plantings designed or approved by a landscape architect.

Section 9. Distance from Curb and Sidewalk
The distance trees may be planted from curbs or curblines and sidewalks will be in accordance with the three species size classes listed in Section 7 of this ordinance, and no trees may be planted closer to any curb or sidewalk than the following: Small Trees, 2 feet; Medium Trees, 3 feet; and Large Trees, 4 feet.

Section 10. Distance from Street Corners and Fireplugs

No Street Tree shall be planted closer than 35 feet of any street corner, measured from the point of nearest intersecting curbs or curblines. No Street Tree shall be planted closer than 10 feet of any fireplug.

Section 11. Utilities

No Street Trees other than those species listed as Small Trees in Section 7 of this ordinance may be planted under or within 10 lateral feet of any overhead utility wire, or over or within 5 lateral feet of any underground water line, sewer line, transmission line or other utility.

Section 12. Public Tree Care

The City shall have the right to plant, prune, maintain and remove trees, plants and shrubs within the lines of all streets, alleys, avenues, lanes, squares and public grounds, as may be necessary to insure public safety or to preserve or enhance the symmetry and beauty of such public grounds.

The City Tree Board may remove or cause or order to be removed, any tree or part thereof which is in an unsafe condition or which by reason of its nature is injurious to sewers, electric power lines, gas lines, water lines, or other public improvements, or is affected with any injurious fungus, insect or other pest. This Section does not prohibit the planting of Street Trees by adjacent property owners providing that the selection and location of said trees is in accordance with Sections 7 through 11 of this ordinance.

Section 13. Tree Topping

It shall be unlawful as a normal practice for any person, firm, or city department to top any Street Tree, Park Tree, or other tree on public property. Topping is defined as the severe cutting back of limbs to stubs larger than three inches in diameter within the tree's crown to such a degree so as to remove the normal canopy and disfigure the tree. Trees severely damaged by storms or other causes, or certain trees under utility wires or other obstructions where other pruning practices are impractical may be exempted from this ordinance at the determination of the City Tree Board.

Section 14. Pruning, Corner Clearance

Every owner of any tree overhanging any

street or right-of-way within the City shall prune the branches so that such branches shall not obstruct the light from any street lamp or obstruct the view of any street intersection and so that there shall be a clear space of eight feet (8') above the surface of the street or sidewalk. Said owners shall remove all dead, diseased or dangerous trees, or broken or decayed limbs which constitute a menace to the safety of the public. The City shall have the right to prune any tree or shrub on private property when it interferes with the proper spread of light along the street from a street light or interferes with visibility of any traffic control device or sign.

Section 15. Dead or Diseased Tree Removal on Private Property

The City shall have the right to cause the removal of any dead or diseased trees on private property within the city, when such trees constitute a hazard to life and property, or harbor insects or disease which constitute a potential threat to other trees within the city. The City Tree Board will notify in writing the owners of such trees. Removal shall be done by said owners at their own expense within sixty days after the date of service of notice. In the event of failure of owners to comply with such provisions, the City shall have the authority to remove such trees and charge the cost of removal on the owners property tax notice.

Section 16. Removal of Stumps

All stumps of street and park trees shall be removed below the surface of the ground so that the top of the stump shall not project above the surface of the ground.

Section 17. Interference with City Tree Board
It shall be unlawful for any person to prevent, delay or interfere with the City Tree Board, or any of its agents, while engaged in and about the planting, cultivating, mulching, pruning, spraying, or removing of any Street Trees, Park Trees, or trees on private grounds, as authorized in this ordinance.

Section 18. Arborists License and Bond

It shall be unlawful for any person or firm to engage in the business or occupation of pruning, treating, or removing street or park trees within the City without first applying for and procuring a license. The license fee shall be \$25 annually in advance; provided, however, that no license shall be required of any public service company or City employee doing such work in the pursuit of their public service endeavors. Before any license shall be issued, each applicant shall first file evidence of possession of liability insurance in the minimum amounts of \$50,000 for bodily injury and \$100,000 property damage indemnifying the City or any person injured or damaged resulting from the pursuit of such endeavors as herein described.

Section 19. Review by City Commission

The City Commission shall have the right to review the conduct, acts and decisions of the City Tree Board. Any person may appeal from any ruling or order of the City Tree Board to the City Commission who may hear the matter and make final decision.

Section 20. Penalty

Any person violating any provision of this ordinance shall be, upon conviction or a plea of guilty, subject to a fine not to exceed \$_____.

*Please note: The above species are offered as size-class examples only and may not be suitable for planting in your area. Please check with local sources to develop a species list for your area.

APPENDIX D: SAMPLE TREE ORDINANCE FROM LEXINGTON, VA

Abstracted June 2010

<http://www.ecode360.com/ecode3-back/getSimple.jsp?custId=LE2692&guid=LE2692>

CHAPTER 380. TREES

§ 380-1. Purpose and intent.

This chapter establishes policies, regulations and standards necessary to ensure that the City of Lexington will continue to realize the benefits provided by its trees. The provisions of this chapter are enacted to:

- A. Establish and maintain the maximum sustainable amount of tree cover on public and private lands in the City.
- B. Maintain city trees in a healthy and nonhazardous condition through good arboricultural practices.
- C. Establish and maintain an optimal level of age and species diversity.
- D. Promote conservation of tree resources.
- E. Select, situate and maintain public trees to maximize benefits and minimize hazard, nuisance and hardscape damage and manage costs at an appropriate level.
- F. Coordinate tree management under a person or agency with the necessary expertise.
- G. Foster community awareness and support for a local urban forestry program and foster good tree management on privately owned properties.

§ 380-2. Definitions.

For the purpose of this chapter, the following words and phrases shall have the meanings respectively ascribed to them by this section:

CITY ARBORIST A person receiving training or trained in arboriculture, forestry, horticulture, and/or landscape architecture in the employ of or under contract to the City, duly appointed by the City Manager, and charged with the responsibility of enforcing the provisions of this chapter.

COMMUNITY TREE A tree located on private property identified by the City Arborist with the concurrence of the property owner as worthy of identification and preservation.

CRITICAL ROOT ZONE That area which falls within a tree's dripline (a vertical line extending from the outermost portion of the canopy to the ground).

DBH Diameter of a tree trunk at 4.5 feet above grade.

HAZARD TREE Any tree which by virtue of its condition, surroundings, and tendency to fail constitutes a risk to life, health, or property.

INTENTIONALLY PLANTED TREE(S) Any tree or trees planted on property owned by the City, in the right-of-way or on private property that is or are planted pursuant to the City's Comprehensive

Tree Management Plan; any tree or trees donated in part or whole and planted with permission of the landowner; and trees planted pursuant to an approved conditional use permit, approved site plan, approved subdivision or planned unit development.

MAINTENANCE Includes all operations of trimming, pruning, spraying, injecting, fertilizing, treating, bracing, and cutting above or below the ground.

PARK Public parks or public open spaces having instituted names.

PROTECTED TREE Any tree afforded protection under the terms of this chapter, including public trees, community trees, and intentionally planted trees.

PUBLIC AREA All public land and rights-of-way within the corporate limits of the City owned or held by the City, including rights-of-way for streets, alleys, sidewalks, utility lines and facilities, median strips and other City facilities, including parks and cemeteries.

PUBLIC TREES Trees planted in public areas.

TREE Any self-supporting woody plant growing upon the earth that usually possesses one main trunk and produces a more or less distinct and elevated head with many branches.

§ 380-3. Policies regarding trees.

It shall be the policy of the City to:

- A. Recognize that trees are a vital part of the urban infrastructure.
- B. Promote the planting of site-appropriate trees along City streets.
- C. Plant trees in "pocket parks" in the downtown area to preserve views and reduce conflicts between buildings and trees.
- D. Properly plant and maintain trees to promote their longevity and safety.
- E. Conduct a consistent and adequate program for maintaining and preserving trees.
- F. Promote the involvement of both the public and private sectors in maintaining the health of the "community forest" of the City.
- G. Identify and/or accept nominations for community trees located on private property, provide appropriate documentation of any such trees and provide for continuing protection of the same upon transfer of ownership of the property.

§ 380-4. City Arborist

This chapter hereby establishes the position of City Arborist, whose authority and responsibilities are defined in §§ [380-14](#) and [380-16](#) of this chapter. The City Arborist shall be appointed by and shall act under the direction and control of the City Manager or his designee.

§ 380-5. Tree Board.

This chapter hereby establishes a City Council-appointed Tree Board with comment authority to serve as an advisory board to the City Council, Planning Department, and City Arborist. The Tree Board shall consist of five members appointed for three-year staggered terms.

§ 380-6. Comprehensive Tree Management Plan.

The City Arborist shall have the authority to formulate, revise, and administer a Comprehensive Tree Management Plan known hereafter as the "plan." The plan shall be reviewed and approved by the Tree Board and the City Council. The plan shall govern tree planting, maintenance and removal of trees planted along City streets in public areas and make provisions for educating the public about trees.

§ 380-7. City plantings.

All plantings existing or installed on any public area located within the corporate limits and owned by the City shall become the property of the City and be under the control of the City and subject to all regulations of the City.

§ 380-8. Protection of trees.

A. Any tree protected by the terms of this chapter (hereafter "protected tree") which is near any excavation or construction of any building, structure, or street work shall, if feasible, have its critical root zone protected with an effective fence, frame, shield, or box not less than three feet high, and all building material, dirt or other debris shall be kept outside this barrier.

B. No person, including public utility companies and City departments, shall excavate any ditches, tunnels, or trenches or lay any line within the critical root zone of any protected tree without notification of and discussion with the City Arborist. In the event of a disagreement between the public utilities, City departments and the City Arborist, the decision regarding the location of excavation will be made by the City Manager.

C. Any person performing emergency work to restore, but not increase beyond the original capacity of, underground utilities, and within the same trench as existing utilities, shall be exempt from this notification, provided that the City Arborist is notified as soon as practical should excavation necessitate severing roots in excess of three inches in diameter.

D. All trees on public areas shall, to the degree practical, be pruned or trimmed in accordance with the standards described in the American National Standards Institute's A300 Pruning Standard. This applies to all public utility companies and City departments involved in maintenance of easements.

§ 380-9. Damage prohibited.

A. Unless specifically authorized by the City Arborist, or by the City Manager as detailed in § [380-8B](#), no person shall intentionally damage, cut, carve, disturb, transplant or remove any protected tree; allow any gas, liquid or solid substance which is harmful to such trees to come in contact with them; set fire to or allow the heat thereof to injure any portion of any such tree; or change the natural grade of the critical root zone of such trees either by excavating or filling. Any person violating the provisions of this subsection shall be guilty of an unclassified misdemeanor punishable

with a fine of up to \$500 and, in addition thereto, shall be responsible for the cost of repair or replacement of any such tree so damaged.

B. It shall be unlawful as a normal practice to top any protected tree. "Topping" is defined as the severe cutting back of limbs to stubs larger than three inches in diameter within the tree's crown to such a degree so as to remove the normal canopy, disfigure the tree, and create a public hazard. Trees severely damaged by storms or other causes, or certain trees under utility wires or other obstructions where other pruning practices are impractical, may be exempted from this subsection as determined by the City Arborist.

§ 380-10. Prior notice for removal.

A. For public safety, and to avoid damage to public utilities, owners considering the removal of trees greater than six inches dbh and growing within 15 feet of the City right-of-way should notify the City Arborist of their removal plans.

B. In the Central Business District, there shall be no planting or removal of protected trees without prior notification, review, and approval of the Tree Board.

C. No person, except authorized employees of the City, shall remove planted trees, shrubs or plantings protected under this chapter without first procuring authorization from the City Arborist. The person who obtains such authorization shall bear the cost of removal.

§ 380-11. Remedies for hazard trees.

A. The City shall provide for removal of dead, diseased, or hazard trees or shrubs on land owned by the City or within a City right-of-way when such trees are determined by the City Arborist to constitute a hazard to life, health, or property.

B. If a hazard tree is located on private property, and if the tree constitutes a hazard to the general public, the City Arborist shall notify the owner of the premises as follows:

(1) Such notification shall:

- (a) Be in writing;
- (b) Be sent by certified mail, return receipt requested;
- (c) Be mailed to the address of the owner shown on the records in the office of the Commissioner of the Revenue; and
- (d) Cite the tree's condition and the corrective action required to remedy the hazard tree.

(2) If such owner cannot be found, a copy of such notice shall be placed next to said tree or part thereof.

(3) Written notice shall also be given to any tenant occupying such property.

C. Upon receipt of the written notice described above, the property owner may appeal the order to the City Manager. Such appeal must be made in writing within 15 days of notification from the City Arborist. Any actions required in the notice shall be delayed pending the City Manager's response to the appeal.

D. If any work required to be done by the City Arborist is not accomplished within the time specified, the City Attorney may institute a suit to compel the responsible party to remedy or remove the hazard tree and to recover the necessary costs incurred for the provision of emergency services reasonably required to remedy or remove any such hazard tree.

E. The term "responsible party" shall include, but not be limited to, the owner of the premises where the hazard tree is located.

§ 380-12. Appeals process.

Any action of the City Arborist or his or her designee may be appealed to and heard by the Tree Board. An appeal, to be effective, must be filed within 15 days after the action of the City Arborist or his or her designee. The appeal shall be in writing and shall clearly specify the reason or reasons for which a hearing is requested. After a hearing, the Tree Board shall render its decision. Any action of the Tree Board may be appealed to and heard by the City Manager. This appeal must be filed within 15 days after the decision of the Tree Board, must be in writing, and must clearly specify the reasons for which a hearing is requested. Decisions of the City Manager shall be final.

§ 380-13. Violations and penalties.

Unless specified elsewhere, violation of any section of this chapter shall be an unclassified misdemeanor punishable by a fine as set forth in the annual appropriations resolution.

§ 380-14. Enforcement.

The City Arborist is hereby charged with the responsibility for the enforcement of this chapter and may serve notice to any person in violation of it or may recommend the institution of legal proceedings as may be required. The City Manager may request the City Attorney to institute appropriate legal proceedings to that end.

§ 380-15. Performance evaluation.

The City Arborist shall collect and maintain all records and data necessary to evaluate whether progress is being made toward the stated goals of this chapter. An annual summary and analysis of the evaluation and recommendations for action shall be prepared and presented to the City Council.

§ 380-16. Administrative responsibilities.

A. The City Arborist or designee is hereby vested with the authority to carry out the following responsibilities:

- (1) Develop and revise the Comprehensive Tree Management Plan for Tree Board and City Council approval.
- (2) Implement a monitoring program to evaluate whether goals are being met.
- (3) Direct municipal tree care operations.
- (4) Assist with the preparation of, or review, the municipal tree care budget.
- (5) Review and prepare comments for proposed site plan work that involves trees.
- (6) Seek funding from state, federal or other granting agencies or resources.
- (7) Conduct community outreach and education programs.
- (8) Enforce ordinance provisions.
- (9) Prepare and maintain all necessary current maps, plans and records relating to the various functions of this chapter.
- (10) Report to the City Council annually on the work and activities related to the provisions of this chapter.

(11) Preserve historical records of the Arborist and the Tree Board.

(12) Provide limited advice to City residents concerning the care and maintenance of privately owned trees.

(13) Identify and promote community trees and facilitate the application process for community trees.

B. The Tree Board is hereby vested with the authority to carry out the following responsibilities:

(1) Review notification for activities that affect protected trees.

(2) Conduct community outreach and education programs.

(3) Assist with the development, revision and evaluation of the Comprehensive Tree Management Plan.

APPENDIX E: TREE CITY USA APPLICATION

<http://www.arborday.org/programs/graphics/tree-city-usa/new-app.pdf>

TREE CITY USA Application

Mail completed application with requested attachments to your state forester no later than December 31.
The TREE CITY USA award is in recognition of work completed by the community during the calendar year.
Please provide information for the year ending _____.
(Some states require information in addition to the requested on this application. Check with your state foresters.)

As _____ of the community of _____
(Title - Mayor or other city official)

I herewith make application for this community to be officially recognized and designated as a Tree City USA for _____, having achieved the standards set forth by The National Arbor Day Foundation as noted below.
(year)

Standard 1: A Tree Board or Department

List date of establishment of board, board members, and meeting dates for the past year; or name of city department and manager.

Standard 2: A Community Tree Ordinance

Date ordinance established _____
Attach ordinance.

Standard 3: A Community Forestry Program with an Annual Budget of at Least \$2 Per Capita

Total community forestry expenditures \$ _____
Community population _____

Attach annual work plan outlining the work carried out during the past year. Attach breakdown of community forestry expenditures.

Standard 4: An Arbor Day Observance and Proclamation

Date observance was held _____
Attach program of activities and/or news coverage. Attach Arbor Day proclamation.

Signature	Title	Date
Please type or print the following:		
Mayor or equivalent:		City Forestry Contact:
Name: _____	Name: _____	
Title: _____	Title: _____	
Address: _____	Address: _____	
City, State, Zip: _____	City, State, Zip: _____	
Phone #: _____	Phone #: _____	
Email: _____	Email: _____	

NOTE: Application will not be processed without attachments.

Certification

(To Be Completed By The State Forester)

(Community)

The above named community has made formal application to this office. I am pleased to advise you that we reviewed the application and have concluded that, based on the information contained herein, said community is eligible to be recognized and designated as a Tree City USA, for the _____ calendar year, having in my opinion met the four standards of achievement in urban forestry.

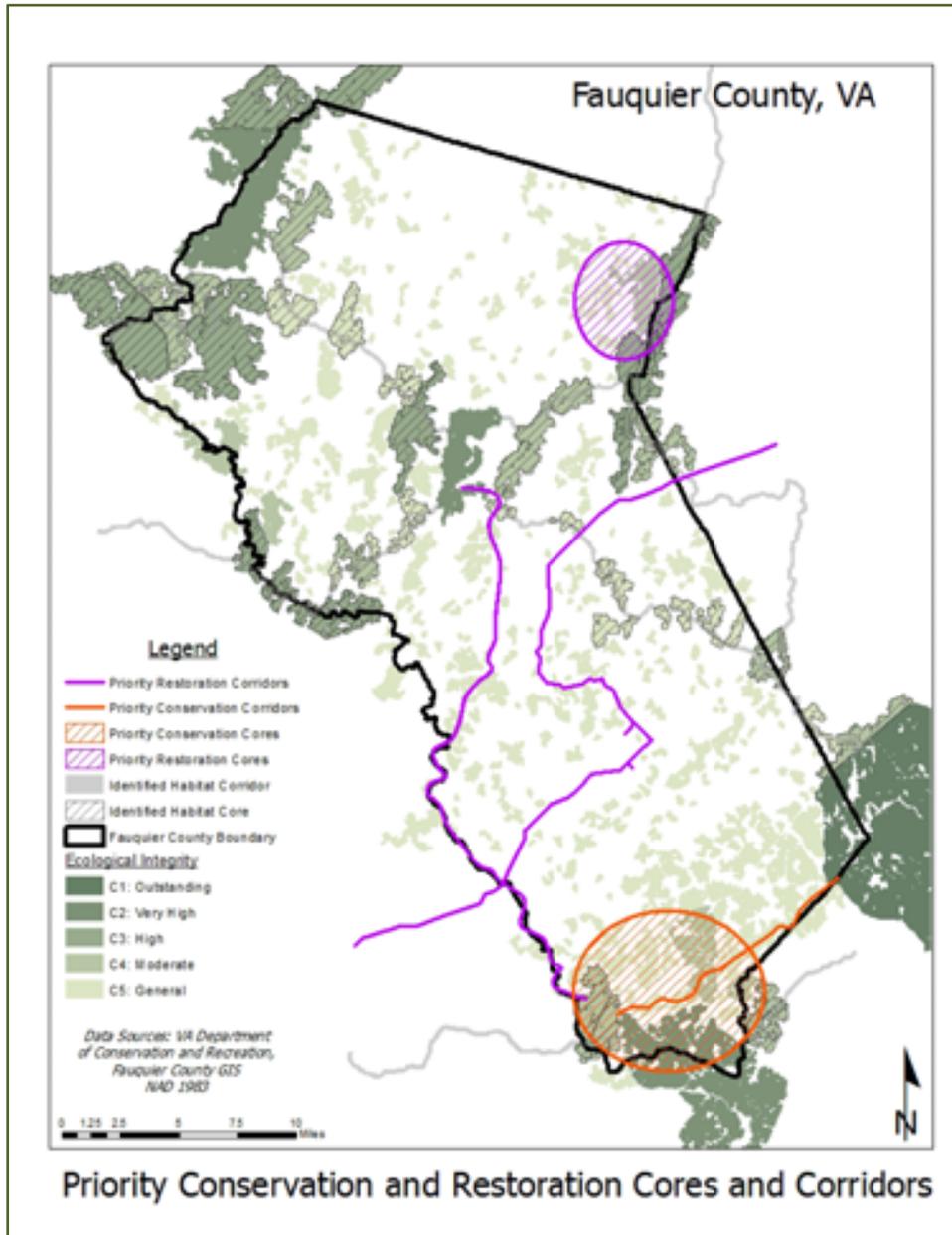
Signed _____
State Forester Date

Person in State Forester's Office who should receive recognition material:

Name: _____ UPS Address: _____
Title: _____ City, State, Zip: _____
Agency: _____ PH #: _____ Email: _____

APPENDIX F: LIST AND MAP OF PRIORITY FOREST RESOURCES

To demonstrate how Fauquier County can prioritize its forested resources, we have created case studies of recommendations for restoration and conservation cores and corridors. All of these cores and corridors are areas that have not yet been identified by Fauquier County as nodes and corridors. The map below shows current nodes and corridors, as well as the case study areas we have selected:



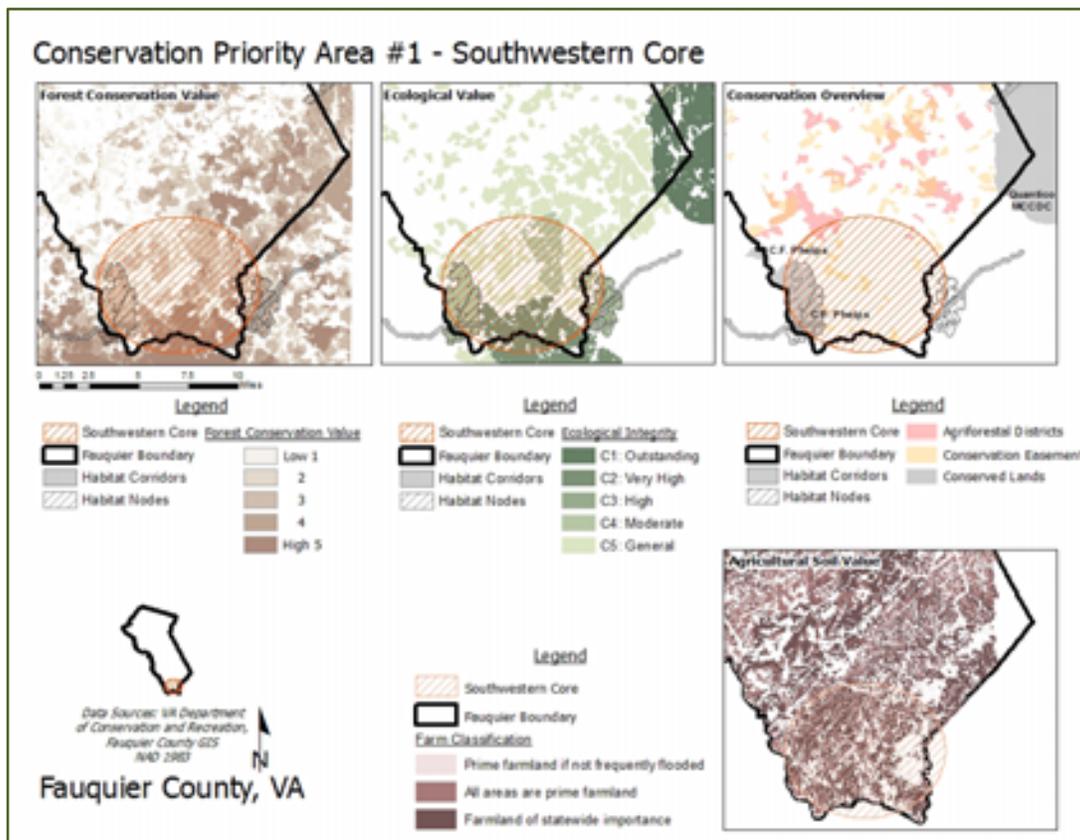
Map 2: Case Study Conservation and Recreation Cores and Corridors

The two priority conservation cores and corridors we identified are highlighted in orange. These are areas that have high ecological value but are not currently protected with conservation measures. The three purple areas are restoration cores and corridors. These are areas that would benefit from increased forestal connectivity.

CONSERVATION PRIORITY #1- SOUTHWESTERN CORE

The first is the “southwestern core,” an area that is proximate to the Chester F. Phelps Wildlife Management Area. By extending the boundary of this core, we are increasing the types of wildlife it supports and preventing invasive and edge species from penetrating it. This could also provide more opportunities for residents of southern Fauquier to recreate; there are fewer public trails and recreational sites in this part of the county.

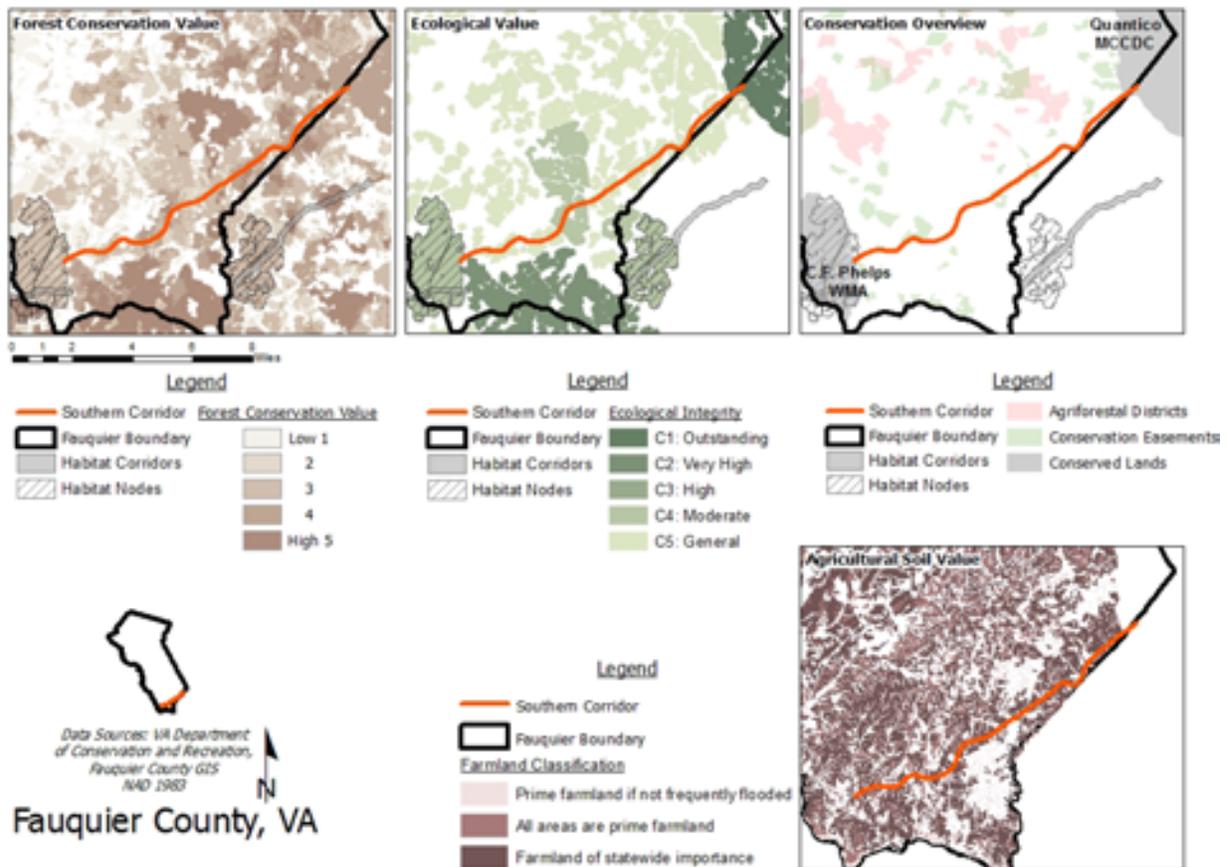
As shown by the maps below, preserving this area would extend high value habitat cores further into the southern portion of the county. Southern Fauquier County has fewer conservation easements and agri/forestal districts to protect the county's southern forests.



CONSERVATION PRIORITY #2- SOUTHERN CORRIDOR

The “Southern Corridor” will link the “Southwestern Core” (see Conservation Priority #1) to the Quantico Marine Corps Base. Southern Fauquier’s valuable forest resources are vulnerable to growth and development. Unfortunately, there is no way for the corridor to cross the county without being bisected by Highway 17 and several other main roads. We recommend that the county guide the corridor through existing or future highway underpasses to support wildlife migration at these intersections.

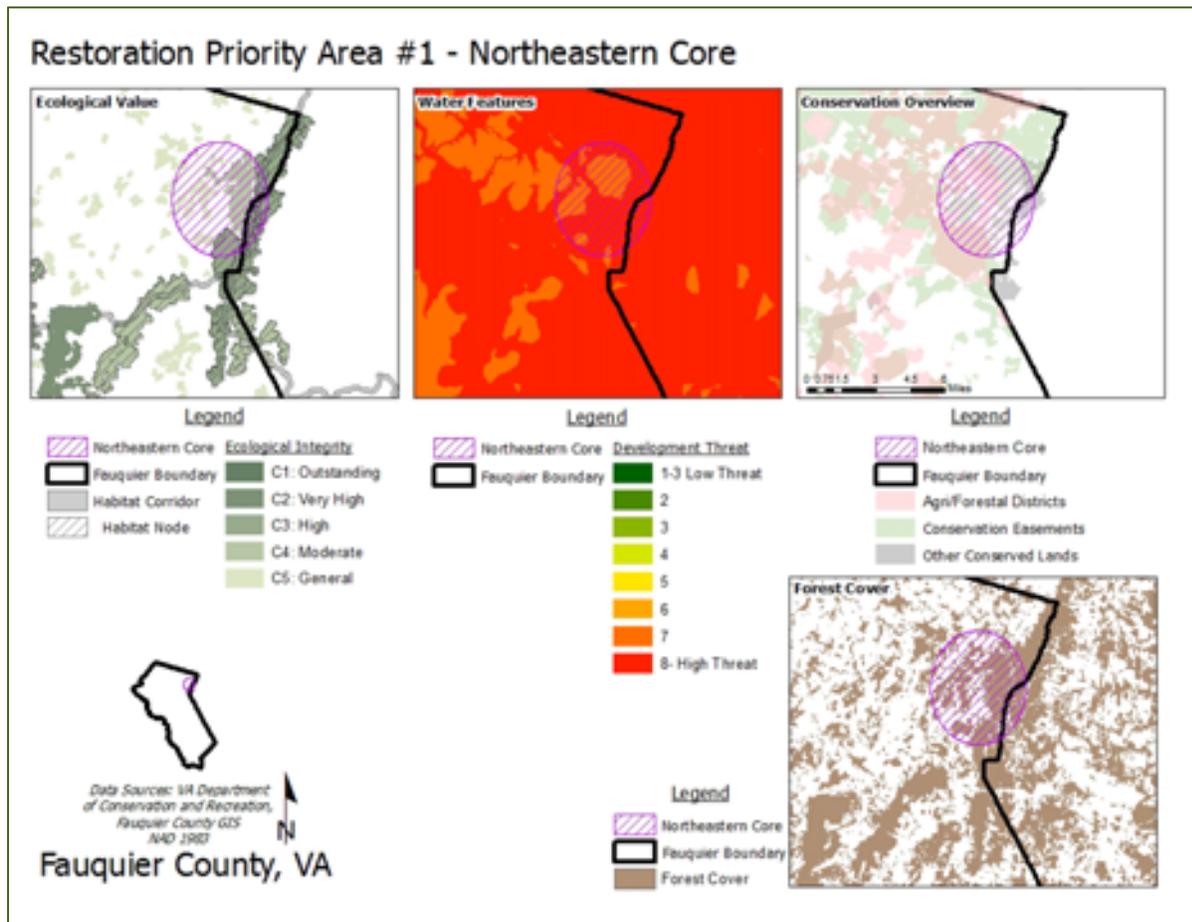
Conservation Priority Area #2 - Southern Corridor



RESTORATION PRIORITY #1- NORTHEASTERN CORE

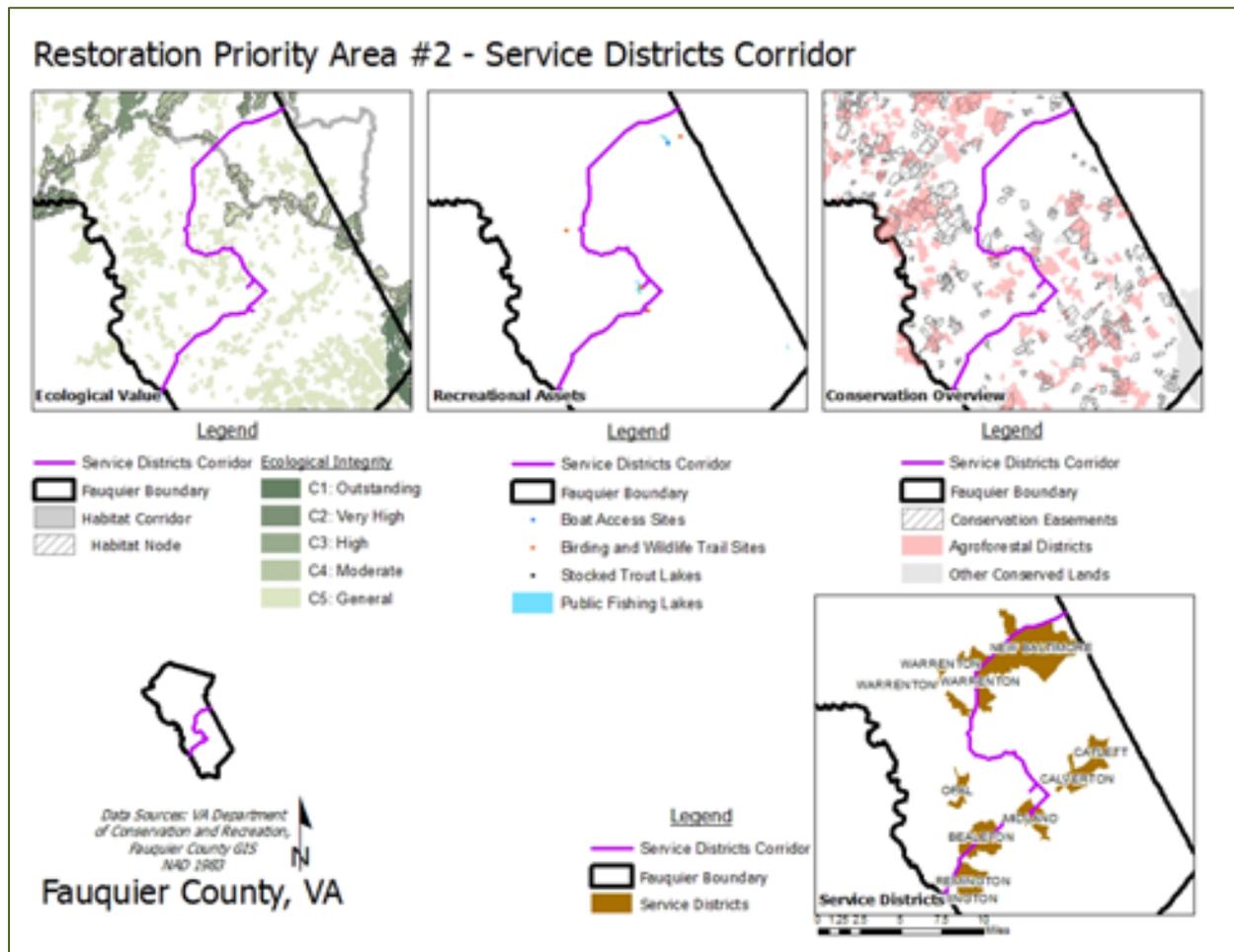
Northern Fauquier County is under great development pressure from Washington DC urban sprawl. Landowners have anticipated this trend by putting much of the northern part of the county into agri/forestral districts and conservation easements. However, most of these easements do not contain forested areas; the cores that do exist tend to be of lower rankings.

The highly ranked habitat nodes that exist in northern Fauquier are located along the county borders. Extending these nodes is easier to accomplish than creating and connecting new cores. Doing so in northeastern Fauquier will provide wildlife habitat that no longer exists in counties closer to Washington DC. It also protects the rural experience that attracts residents and tourists to Fauquier County.



RESTORATION PRIORITY #2- SERVICE DISTRICTS CORRIDOR

Constructing wildlife habitat along a highway corridor is a challenging feat, and admittedly, is not the primary reason we selected this corridor as a priority. This strategy was suggested because of its potential to add green infrastructure to the service districts and connect recreational resources in southern Fauquier. Residents of southern Fauquier have fewer recreational opportunities than those of northern Fauquier; this strategy builds forest resources in and around service districts, thus promoting opportunities close to where people live.

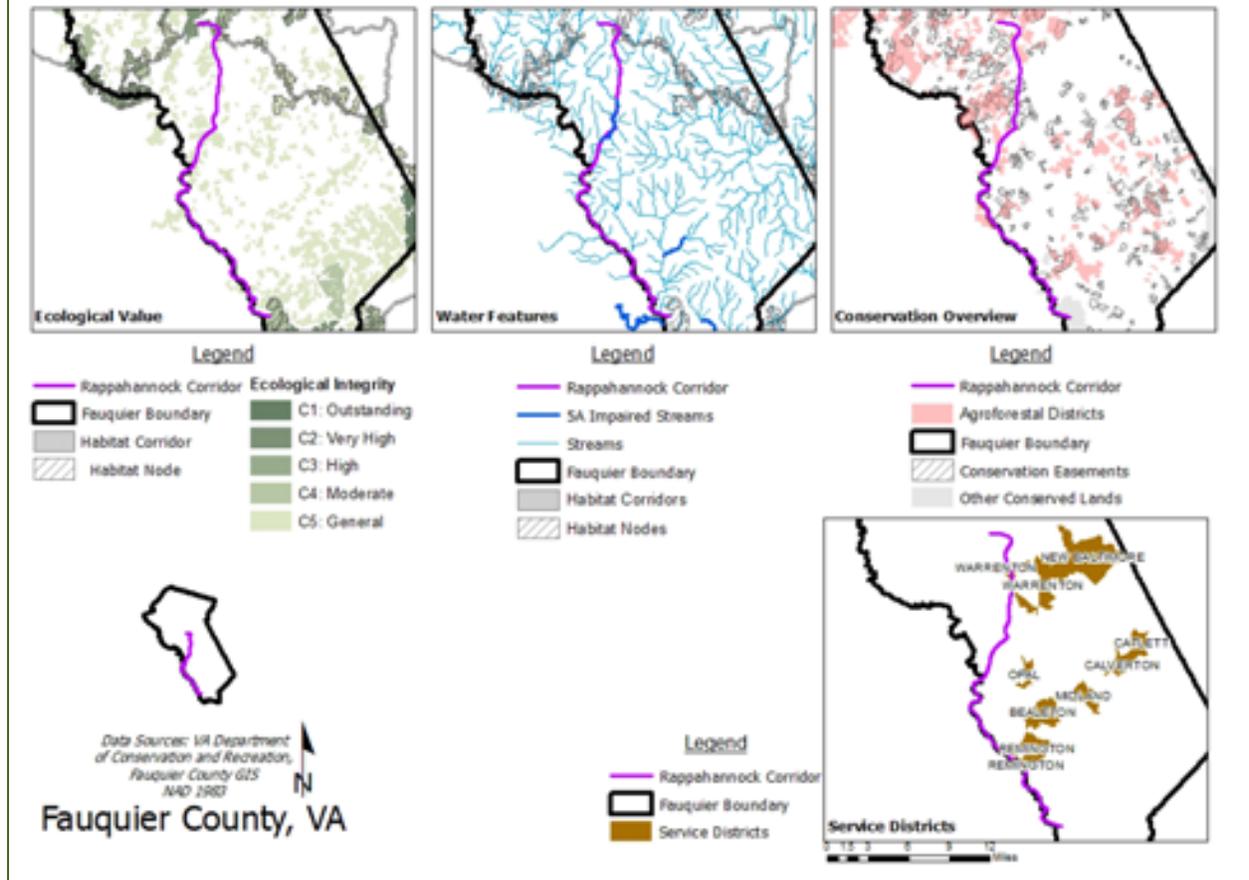


RESTORATION PRIORITY #3- RAPPAHANNOCK CORRIDOR

The third restoration area was chosen as a case study for improving impaired watersheds. The Department of Environmental Quality (DEQ) has declared the Rappahannock River as a 5A impaired stream, the highest level of impairment. Riparian buffers can reduce phosphorous in streams by up to 99% and nitrogen by 10-60% (Hellmund and Smith: 2006). If buffers were placed along the corridor shown below, the water quality of the Rappahannock and other streams in southern Fauquier would significantly improve.

The “Rappahannock Corridor” connects two ecological cores of high importance, but these nodes are far away from each other. Therefore, it is crucial that the county investigate opportunities for more nodes along this corridor, or establish buffer width guidelines that facilitate habitat migration (300 feet is the recommended width).

Restoration Priority Area #3 - Rappahannock Corridor



Conclusion

The previous examples have demonstrated how cores and corridors can be prioritized according to local social and environmental conditions. This approach considers contributing factors in a way that a least cost path analysis cannot. Fortunately, the county has GIS data related to most of these conditions that can provide useful information about these decision-making criteria.

APPENDIX G: CONSERVATION TOOLS RESOURCE

Restoring and conserving the valuable lands of Fauquier County will require a number of tools. Some of these are policy-based, while others emphasize educational strategies. Conserving all of the priority lands will be a long process, and some areas simply may not be feasible to preserve. A partnership between the county and land trust organizations to promote conservation practices will be mutually beneficial. The conservation tools listed below can help to effectively conserve and/or restore these lands, but are most effective when practiced concurrently.

- Mapping- Mapping all of the county's assets can identify which areas are in need of ecosystems services (recreational opportunities, improved economies, cleaner air, cleaner water, wildlife habitat, etc.). Fauquier County has already compiled this data and is using it to make informed decisions about resource conservation. Map products are helpful visualization tools to inform landowners about their individual role in larger trends of land conservation, preservation of rural character, and public health, among other things.

- Landowner Outreach- Education is a crucial component of conserving Fauquier County forests. Agriculture and other land uses are more profitable than timber harvesting or preservation. Because of this, the county will need to make a strong argument for the public benefits that forests provide in addition to financial benefits of timber harvesting or preservation. Dividing this effort with land trust organizations will increase the likelihood that Fauquier County achieves its conservation goals.

- Easements- Conservation easements are agreements through which a landowner is compensated for voluntarily giving up development rights. Easements are held in perpetuity and are therefore the most effective way to conserve land.

There are many land trust organizations that hold land in Fauquier County. These include the Piedmont Environmental Council, the Virginia Outdoor Foundation and the Land Trust of Virginia. Fauquier County GIS Data indicates that there are 1,358 conservation easements in the county (including those created by the Purchase of Development Rights program). Though Fauquier landowners hold many conservation easements, they are primarily located in the northern part of the county and are not forested. Fauquier County and land trust organizations should work together to encourage landowners to reforest these areas, and to create new easements on forested lands not currently in easements.

- Agri/Forestal Districts- Agricultural and Forestal districts, or Agri/Forestal districts, provide incentives to landowners who voluntarily participate in the locally-administered program. Landowners receive tax breaks in return for agreeing to retain their property as a forestal or agricultural use from four to ten years. If they change their land use practices before this period ends, their tax cuts for prior years are revoked. According to GIS data from Fauquier County, there are 33 agri/forestal districts in Fauquier County, preserving 95,028 acres (148.5 square miles) of land. This is equal to around 22% of the county's land resources.

Agri/Forestal districts are an excellent way to encourage preservation of forestry and agricultural uses. However, the short-term nature of their existence makes their long-term efficacy less certain. Conservation easements are the only way to guarantee that valuable lands persist beyond market trends and development pressures.

- Overlay Districts- Fauquier County has established a Conservation Easement Incentive Overlay District to "preserve agricultural resources, historic resources, open space and parks, and

opportunities for future transportation improvements” (Fauquier County: 2012). The district functions as a Purchase of Development Rights program, where developers can pay for conservation efforts in one part of the county in exchange for developing in another part of the county. According to Fauquier County GIS data, there are 96 parcels that have been conserved by the program.

- Proffers Lists- The Fauquier County Board of Supervisors Proffers Policy gives developers suggestions for infrastructure and public services they can provide through proffers. Currently, the list includes schools, parks and recreation, libraries, emergency services, sheriff salaries, transportation, environmental services: landfill and animal shelters (Fauquier County Board of Supervisors: 2008). Developers can also choose to pay the county for these services rather than integrating them into their plans.

Fauquier County can add a modicum of protection to its forest resources by putting forested cores, forested corridors and riparian buffers on the list of proffers. The developer could either offer part of the developed land to be maintained as forests or pay money to a fund. The county could use the funds to either purchase forested land for conservation or reforest land in riparian buffers and habitat cores and corridors. If this policy is used, the Fauquier County planning staff will need to communicate to the Board of Supervisors the importance of Fauquier forestal resources compared to schools, libraries and other proffers.

- Forest Management Plans- Forest Management Plans (FMPs), which are created by foresters of the Fauquier County Forestry Department, guide landowners in managing forested lands. Plans contain an overview of existing forestal resources including tree species, tree size and age, soil types and fire risk. In addition, plans provide an idea of the forest’s broader context by including wildlife habitat, endangered and threatened species, topography, recreation and aesthetics, unique natural features and history. The creation of a plan entails a one to two hour meeting with a forester, one day of fieldwork for every one hundred acres, and one to two days of time mapping and writing. The cost to the landowner is around \$200, and the plan usually covers a ten-year time span.

Currently the main incentive for landowners to create FMPs is reduced taxes; plans are required to qualify for a reduced land-use tax rate. A potential strategy to increase the adoption of FMPs is to actively encourage landowners to create a cost-shared management plan. The National Resources Conservation Service offers a plan entitled CAP 106 that shares both the cost of creation, and the cost of recommendations with landowners (NRCS: 2010).

APPENDIX H: FUNDING RESOURCES

Urban and Community Forestry Assistance Program- [HTTP://WWW.DOF.VIRGINIA.GOV/URBAN/INDEX-UCF-ASSIST-GRANTS.HTM](http://www.dof.virginia.gov/urban/index-ucf-assist-grants.htm)

The Urban and Community Forestry Grant Assistance Program is designed to encourage projects that promote tree planting, the care of trees, the protection and enhancement of urban and community forest ecosystems, and education on tree issues in cities, towns and communities across the nation.

Grants are awarded by the Virginia Department of Forestry and the United States Department of Agriculture (USDA) Forest Service to encourage local government and citizen involvement in creating and supporting long-term and sustained urban and community forestry projects and programs at the local level.

Governor's Agriculture and Forestry Industries Development Fund (AFID) - [HTTP://WWW.VDACS.VIRGINIA.GOV/AGRIBUSINESS/AFID.SHTML](http://www.vdacs.virginia.gov/agribusiness/afid.shtml)

AFID grants are made at the discretion of the Governor with the expectation that grants awarded to a political subdivision will result in a new or expanded processing or value-added facility for Virginia grown agricultural or forestal products. The amount of an AFID grant and the terms under which it is given, are determined by the Secretary of Agriculture and Forestry and approved by the Governor. An AFID grant is awarded to a political subdivision for the benefit of the company, with the expectation that the grant will be critical to the success of the project.

Grants are made upon an application by both the locality and the business beneficiary for a project under the following conditions:

- The business beneficiary is a facility that produces "Value-added agricultural or forestal products,"
- A minimum of 30% of the agricultural or forestry products to which the facility is adding value are produced within the Commonwealth of Virginia on an annual basis in normal production years
- The grant request does not exceed \$250,000 or 25% of qualified capital expenditures (whichever is less)
- The applicant provides a dollar-for-dollar matching financial commitment (cash or qualified in-kind)
- A performance agreement is executed between the applicant and the company to ensure fulfillment of promised job creation, capital investment and purchase of Virginia grown agricultural or forestry products
- Public announcement of the project is coordinated with the Governor's Office

Planning Grants from the Governor's Agricultural and Forestry Industry Development Fund - [HTTP://WWW.VDACS.VIRGINIA.GOV/AGRIBUSINESS/PLANNING.SHTML](http://www.vdacs.virginia.gov/agribusiness/planning.shtml)

AFID Planning Grants give local governments the flexibility to undertake the kind of planning, study, or local initiative they think best to grow and support agriculture and forestry-based businesses in their community and region. The planning grant program also provides a greater voice in local economic development to agriculture and forestry stakeholders by requiring that any

grant funded program be implemented by a board, committee or working group representing agriculture and/or forestry interests in the locality.

The competitive grant program allows individual localities to apply for up to \$20,000 in matching funds, or up to \$35,000 for multi-jurisdictional applications, to undertake efforts that support their agriculture and forestry-based businesses. These efforts might include developing a strategic plan for agriculture and forestry economic development, creating new local policies and zoning ordinances that better support these industries, or funding feasibility studies and predevelopment work for new facilities that bring significant and lasting benefits to the local agriculture and forestry sectors.

National Forest Foundation Matching Awards Program -

[HTTP://WWW.FS.USDA.GOV/DETAILFULL/MBS/WORKINGTOGETHER/?CID=STELPRDB5252461&WIDTH=FULL](http://www.fs.usda.gov/detailfull/mbs/workingtogether/?CID=STELPRDB5252461&WIDTH=FULL)

The MAP program provides matching funds for direct on-the-ground and citizen-based monitoring projects benefiting America's National Forests and Grasslands. MAP funds can be used to support conservation and restoration projects benefiting wildlife habitat, recreation, watershed health, and community-based forestry. By pairing federal funds—provided through a cooperative agreement with the U.S. Forest Service—with non-federal dollars raised by award recipients, the resources available to nonprofit partners to implement projects are effectively doubled.

The National Park Service Land and Water Conservation Fund -

[HTTP://WWW.DCR.VIRGINIA.GOV/RECREATIONAL_PLANNING/LWCF.SHTML](http://www.dcr.virginia.gov/recreational_planning/lwcf.shtml)

The program provides matching grants to States and through States to local units of government, for the acquisition and development of public outdoor recreation sites and facilities. Grant funds are also available, to States only, for fulfilling the statewide comprehensive outdoor recreation planning requirements of the program.

National Fish and Wildlife Foundation: Acres for America -

[HTTP://WWW.NFWF.ORG/AM/TEMPLATE.CFM?SECTION=CHARTER_PROGRAMS_LIST&TEMPLATE=/TAGGEDPAGE/TAGGEDPAGEDISPLAY.CFM&TPLID=60&CONTENTID=24291](http://www.nfwf.org/am/template.cfm?SECTION=CHARTER_PROGRAMS_LIST&TEMPLATE=/TAGGEDPAGE/TAGGEDPAGEDISPLAY.CFM&TPLID=60&CONTENTID=24291)

The Acres for America program was established to provide funding for projects that conserve important habitat for fish, wildlife, and plants through acquisition of interest in real property.

Environmental Solutions for Communities Grant Program -

[HTTP://WWW.NFWF.ORG/AM/TEMPLATE.CFM?SECTION=CHARTER_PROGRAMS_LIST&CONTENTID=25245&TEMPLATE=/CM/CONTENTDISPLAY.CFM](http://www.nfwf.org/am/template.cfm?SECTION=CHARTER_PROGRAMS_LIST&CONTENTID=25245&TEMPLATE=/CM/CONTENTDISPLAY.CFM)

Wells Fargo and the National Fish & Wildlife Foundation are funding projects that link economic development and community well-being to the stewardship and health of the environment.

Funding areas include:

- * Supporting sustainable agricultural practices and private lands stewardship;
- * Conserving critical land and water resources and improving local water quality;
- * Restoring and managing natural habitat, species and ecosystems that are important to community livelihoods;
- * Facilitating investments in green infrastructure, renewable energy and energy efficiency; and
- * Encouraging broad-based citizen participation in project implementation.

River, Trails and Conservation Assistance Program -

[HTTP://WWW.NPS.GOV/NCRC/PROGRAMS/RTCA/CONTACTUS/CU_APPLY.HTML](http://www.nps.gov/ncrc/programs/rtca/contactus/cu_apply.html)

The mission of the Rivers, Trails and Conservation Assistance program (RTCA) is to assist community-led natural resource conservation and outdoor recreation initiatives. RTCA staff provide guidance to communities so they can conserve waterways, preserve open space, and develop trails and greenways.

Virginia Locality Stormwater Program - [HTTP://WWW.DCR.VIRGINIA.GOV/FORMS/DCR199-211.PDF](http://www.dcr.virginia.gov/forms/dcr199-211.pdf)

WQIF funds are provided, in accordance with the guidelines, to help stimulate nonpoint source pollution reduction through the Virginia Agricultural Best Management Practices Cost-share Program and water quality improvement projects within the regions listed above.

Virginia Outdoors Fund Open Space Lands Preservation Trust Fund -

[HTTP://WWW.VIRGINIAOUTDOORSFOUNDATION.ORG/VOF_LAND-PTF.PHP](http://www.virginiaoutdoorsfoundation.org/vof_land-ptf.php)

The Open Space Lands Preservation Trust Fund assists landowners with the costs of conveying open-space easements and the purchase of all or part of the value of the easements. Open space easements preserve farmland, forest land, and natural and recreational areas by restricting intensive uses, such as development and mining, which would alter the conservation values of the land.

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WATER: POLICIES AND STRATEGIES

Written by Bergen Hubert, Matthew West, Suzanne Matyas

Green Infrastructure (GI) planning aims to identify a community's natural assets. These natural assets include agriculture, open space, water, forests, and cultural resources. Maintaining a strategy that encompasses all of these components is a crucial characteristic of good GI planning. Understanding that these assets cannot be improved without analyzing their connection with each other is the first step in GI planning. Natural assets can easily become degraded or depleted from the growing demands of increased population and development, contamination of pollutants, and improper land use. Some of these effects are irreversible, or remain extremely difficult to decrease or diminish. In Fauquier County's 2012 Comprehensive Plan, this fundamental understanding of the relationship between natural resources and development and the risks associated with the two is made in Chapter 2, Page 1:

"Fauquier County has long realized the critical balance between its natural resources and development. The 1967 Plan discussed these resources and in fact served as a beginning toward ensuring their rational use. Natural resources are in some cases delicate and in most cases finite in their availability, and they will become increasingly critical as the population of the County continues to grow. It is the responsibility of the County to understand and protect the critical balance between the County's natural resources with the public costs and benefits of development."

As a proposed Green Infrastructure plan, this inquiry will further facilitate the goals laid out in Fauquier's Comprehensive Plan. This investigation of the surface water quality of Fauquier County will provide opportunities and obtainable objectives for a better natural healthful condition.

Water not only falls into this natural assets distinction, but it is the essential element to sustain life, making it a high priority in the construction of a GI plan. Fauquier County has a strong history and highly active role in water management planning, including plans of improved surface water quality, stormwater management, and sustaining an adequate groundwater supply. In the scope of this project, surface water quality was made the focus due to time, resources, and priority. Both quality and quantity hold equal importance when studying the health of a watershed, but Fauquier's water quality is the focus of this report.

Both the John Marshall Soil and Water Conservation District (JMSWCD) and the Virginia Department of Environmental Quality (VADEQ) actively sample and test the surface waterways of Fauquier County for levels of macro-invertebrates, nitrogen, phosphorous, and sediment load. According to Fauquier's 2011 Water Plan Report, forty-four segments of twenty-eight streams in Fauquier County were identified as impaired by the VADEQ. With the support of the JMSWCD and their representative Chuck Hoysa, a collaborative plan of action to confront Fauquier County's surface water impairments was established below.



The purpose of this plan is to enhance water quality and integrity of Fauquier in an effort to preserve and in some cases restore clean, sustainable water. It is important to note that by enhancing the water quality of Fauquier County, there will be both economic and health benefits.

Prioritizing the opportunities for improvement led to three main focuses of strategy, which led to the formation of goals, objectives, and actions:

- Promote community appreciation
- Rethink riparian ecosystems

- Implement water standards and better models and practices to follow

GOAL SUMMARY:

Improve and protect the riparian ecosystem to restore water quality to a high standard by working with local farmers and other stakeholders to ensure sustainable and clean water in Fauquier County.

Foster stewardship of Fauquier County's waters by increasing community appreciation and awareness of the county's rich water resources.

Goal 1: Improve and protect the riparian ecosystem to restore water quality to a high standard by working with local farmers and other stakeholders to ensure sustainable and clean water in Fauquier County.

Rationale:

The riparian buffer for a stream plays an integral part in the overall health of a stream. Forested riparian buffers filter pollutants, reduce runoff, and can provide key wildlife corridors. In the scope of this project, it is not feasible to directly improve a streams health, but riparian buffers are a key solution. Improving the riparian ecosystem involves specifically replanting native tree and grass species. Riparian buffers can also provide additional key benefits for uses adjacent to streams, such as controlling flooding events and erosion control. Further benefits for riparian buffers can be found in a report from the University of Nebraska-Lincoln titled "Riparian Buffers for Agricultural Land."



Currently most of the land adjacent to the streams is agricultural uses. There is currently approximately 201,465 acres of agricultural uses bordering the 2,177,112 meters of streams in the county (see appendix 2). Our recommendations regarding riparian buffers focus primarily on farmlands.

One of the biggest resistances to creating mandatory forested buffers along streams is the loss of working lands. It is true that landowners will lose some use of the land, but by protecting the streams they protect the land from further detriments.

Many farmers let their livestock drink from the streams as a convenient and cheap source of water. The constant stress on the streams will ultimately lead to sick livestock because the streams are not properly protected from impairments. In cases where there is no livestock drinking from the stream, but there are crops being planted adjacent to the stream, erosion because of the lack of a vegetated buffer leads to the loss of workable land.

Properly managing riparian buffers needs to be done on a larger scale than by individual properties. A landowner with adequate protection might still have impaired waters due to a lack of a managed riparian buffer upstream. A comprehensive look at a stream as a total system, rather than by individual landowners, is the most effective way to improve water quality. Additionally, riparian buffers are not a total exclusion of use from the land. There are economic uses that are conducive with the riparian buffer's key use, such as lumber and veneer, fiber, hay, nuts, fruit, and berries. (Dosskey, 1997) Spreading awareness to farmers of these additional benefits could help convince some farmers to install the riparian buffers.

Another challenge with installing riparian buffers is the cost. The Virginia Department of Forestry already offers a tax credit to farmers who install and maintain at least a 35-foot buffer and maintain it for 15 years. The farmers are reimbursed 25% of the value of the timber in the buffer, up to \$17,500. The biggest problem with this plan is that the farmers are not reimbursed until after they have spent the money installing the buffer, and even then they never get fully reimbursed for the perceived value of the land that they can no longer use for working lands. Grants could provide upfront incentives for installing riparian buffers to reduce the initial cost.

Objective 1A: Adopt an ordinance protecting 100-foot riparian buffers (See Appendix 5).

Action 1) Draft ordinance proposal using examples and the sample ordinance provided.

Action 2) Hold public hearings, specifically inviting farmers and any major developers adjacent to streams, to discuss the proposed ordinance.

Action 3) Edit ordinance based on public hearings and propose ordinance to the county's Board of Supervisors

Objective 1B: Provide financial incentives for farmers to install and maintain riparian buffers by applying for grants.

Action 1) JMSWCD should apply for grants (see Funding section for suggested list of possible funding). Grants should be specifically for improving riparian buffers based on prioritizations. These grants will also alleviate the financial challenge to the farmers.

Action 2) Make the available funding known in the proposed informational packet.

Objective 1C: Target efforts to increase fencing off cattle from water resources in the most impaired waterways.

Action 1) Prioritize by watershed the most impaired riparian buffers for mailings about best management practices (See Appendix 1).

Action 2) Send information about sources of funding and best management practices to farms with least forested riparian buffers. This information can be included in the information packet with best management practices and available grant money.

Objective 1D: Restore forest cover to 70% within proposed 100-foot buffers to strengthen ecological connectivity.

Action 1) Hold replanting projects in the most impaired watersheds, specifically involving youth projects. Involving youth groups such as boy scouts or 4H clubs can provide both labor and education for the volunteers.

Action 2) Apply for grants to restore riparian buffers, prioritizing those streams in the least forested watersheds. This action is similar to grants for the farmers, but should have a broader target than farmers.

Goal 2: Foster stewardship of Fauquier County's waters by increasing community appreciation and awareness of the county's rich water resources.

Rationale:

The Fauquier County community has an evident passion for the perpetuity of their pastoral landscape and way of life; this passion has been the driving force for maintaining the landscape's agricultural history for many decades. Building esteem for Fauquier's waters, equal to that of its lands, is the strongest and simplest protective measure that can be established. In their Comprehensive Plan, Fauquier County has recognized that "the watersheds within the County are valuable resources" (Chapter 2, Page 7) and furthermore, that it is their "responsibility to protect the critical balance between the County's natural resources" (Chapter 2, Page 1). To better realize this aspiration, it is important for its citizens to have an increased sense of awareness and understanding of their role in affecting County's water security and health. To encourage the citizen stewardship of Fauquier's waters most successfully, both information and education on how to do so must be made easily accessible; instituting a bi-annual newsletter that relays this information, as well as the expansion of youth environmental science programs are the most effective strategies.

The County is currently generating an abundance of water health- related information through the efforts of government and citizen- science agencies. All of the multi- agency information, however, lacks the organization and a user- friendly format that is digestible for the typical citizen. The John Marshall Soil and Water Conservation District already creates an annual report, but it is primarily focused on the progress and undertakings of the agency ("John Marshall Soil & Water Conservation District Annual Reports" 2012). The creation of a widely distributed and online- accessible, bi-annual newsletter that centralizes water health information and is citizen- centric, would empower citizens to be better stewards.



To protect the legacy of Fauquier County's waters, the stewards of its future, the youth, should be more engaged in their environment through Experiential Learning. Experiential Learning as defined by the United Nations Educational, Scientific and Cultural Organization, "engages students in critical thinking, problem solving and decision making in contexts that are personally relevant to them. This approach to learning also involves making opportunities for debriefing and consolidation of ideas and skills through feedback, reflection, and the application of the ideas and skills to new situations" ("Teaching and Learning for a Sustainable Future" 2010).

Experiential Learning has been measured as a successful method of teaching and studies show that exposing children to more outdoor time is better for their overall well- being (Goshen et al. 2007) (See Appendix 3 for Health Benefits). The John Marshall Soil and Water Conservation District currently run some Experiential Learning programs that develop key environmental science knowledge required on the Virginia Standards of Learning Exams and, concurrently, foster good stewardship, but these efforts should be expanded through financial support. Funding to support the construction of environmental science learning areas, for example school gardens, would be the most productive and safest way to foster Experiential Learning for youth; youth programs outside of the school, such as the Boy Scout and Girl Scouts, the Future Farmers of America, and many more could also utilize these areas for their educational benefit.

Objective 2A: Create a condensed, visually- interesting newsletter that informs community members about local water health and provides solutions and opportunities for good stewardship (See Appendix 4).

Action 1) Combine and organize government, John Marshall Soil and Water Conservation District, and citizen science data into one online database that easily accessible for the public. This will increase citizen awareness and will make comprehensive analysis of water quality health more efficient.

Action 2) Use data to create summarized water health reports (pollution and sediment levels) and provide information on corresponding citizen- centric solutions. These solutions should include information that citizens can apply to become more engaged in water conservation, ranging from tips on runoff- reducing lawn care and farming Best Management Practices.

Action 3) Hire a graphic artist to create a short, visual “Fauquier’s Water Health Report” newsletter and publish it bi- annually, to be available in print and online. This newsletter will be the information guide that empowers citizens to make more sustainable water decisions. (See Appendix 4 for Comparisons)

Objective 2B: Expand environmental and water education through grant- funded experiential learning in youth programs.

Action 1) Apply for environmental science youth grants. The grant money can be given based on a performance, a Request for Proposal system or competitions, or they can be based on need, to various youth programs to enhance their science education. (See Funding)

Action 2) Target vacant areas adjacent to schools that can be redeveloped as “Experiential Learning Spaces”. These learning areas will create a safe, outdoor learning environment that can improve the school overall and be used for learning by associated youth programs. (See Appendix 3)

RESOURCES AND FUNDING OPPORTUNITIES

Collection of Environmental Education Grants

The National Environmental Education Foundation “Classroom Earth” resource provides an extensive database of current environmental science learning grants that are available nationally. These grants are funded by a variety groups ranging from the federal government to private companies, and can award grantees with sums in the hundreds to the thousands.

<http://www.classroomearth.org/grants>

Virginia Environmental Education Grants

These grants award \$5,000 to non- government agencies for the betterment of environmental science education. They are chiefly focused on water quality protection, and the promotion of citizen engagement. This would grant is recommended for the funding of the creation and dissemination of the “Water Health Report Newsletter”.

<http://www.vee.org/mini.cfm>

Virginia Resource Use Education Council Classroom Grants

A listing several of grants that are available to further environmental education and stewardship. There are also grants that are available specifically for water- based projects, including many targeted to benefit the Chesapeake Bay. Rewards range from hundreds of dollars to hundreds of thousands.

<http://www.deq.virginia.gov/ConnectWithDEQ/EnvironmentalInformation/VirginiaNaturally/GrantsFunding.aspx>

National Fish and Wildlife Foundation Five Star and Urban Waters Restoration Grant Program

The National Fish and Wildlife Foundation offers grants for restoration and educational programs. The EPA offers \$160,000 of grant money, to be delivered in \$20,000 to \$50,000 blocks. More specifics can be found at the link provided.

http://www.nfwf.org/AM/Template.cfm?Section=Charter_Programs_List&CONTENTID=26237&TEMPLATE=/CM/ContentDisplay.cfm

EPA Sponsored Grants

The EPA offers a wide variety of grants under the umbrella category of 'Water'. These grants range from high priority water infrastructure projects to watershed restoration projects. This variety of project level and funding is useful to consider in order to address site specific opportunities up to larger scale issues that can only be improved with larger projects and funding.

http://water.epa.gov/grants_funding/

VA DEQ Sponsored Grants

The Virginia Department of Environmental Quality offers grants similar to those offered by the EPA, in that they vary in scale and funding. The difference between the two is that the DEQ is focused on Virginia specific issues. Specifically, there are more grants aimed at improving the Chesapeake Bay, as well as grants scaled to the local level.

<http://www.deq.virginia.gov/ConnectWithDEQ/EnvironmentalInformation/VirginiaNaturally/GrantsFunding.aspx>

Chesapeake Bay Restoration Fund Grants

Fauquier County is within the Chesapeake Bay watershed, so improving the water quality of the streams also helps to improve the Bay. The Chesapeake Bay Restoration Fund Grant is funded by the 'Save the Bay' license plates. It is offered for any project that involves education or restoration of waterways. The first link provided is to the application, while the second is a list of grant funding that was awarded in 2012 as reference for the types of projects the grant money is given to.

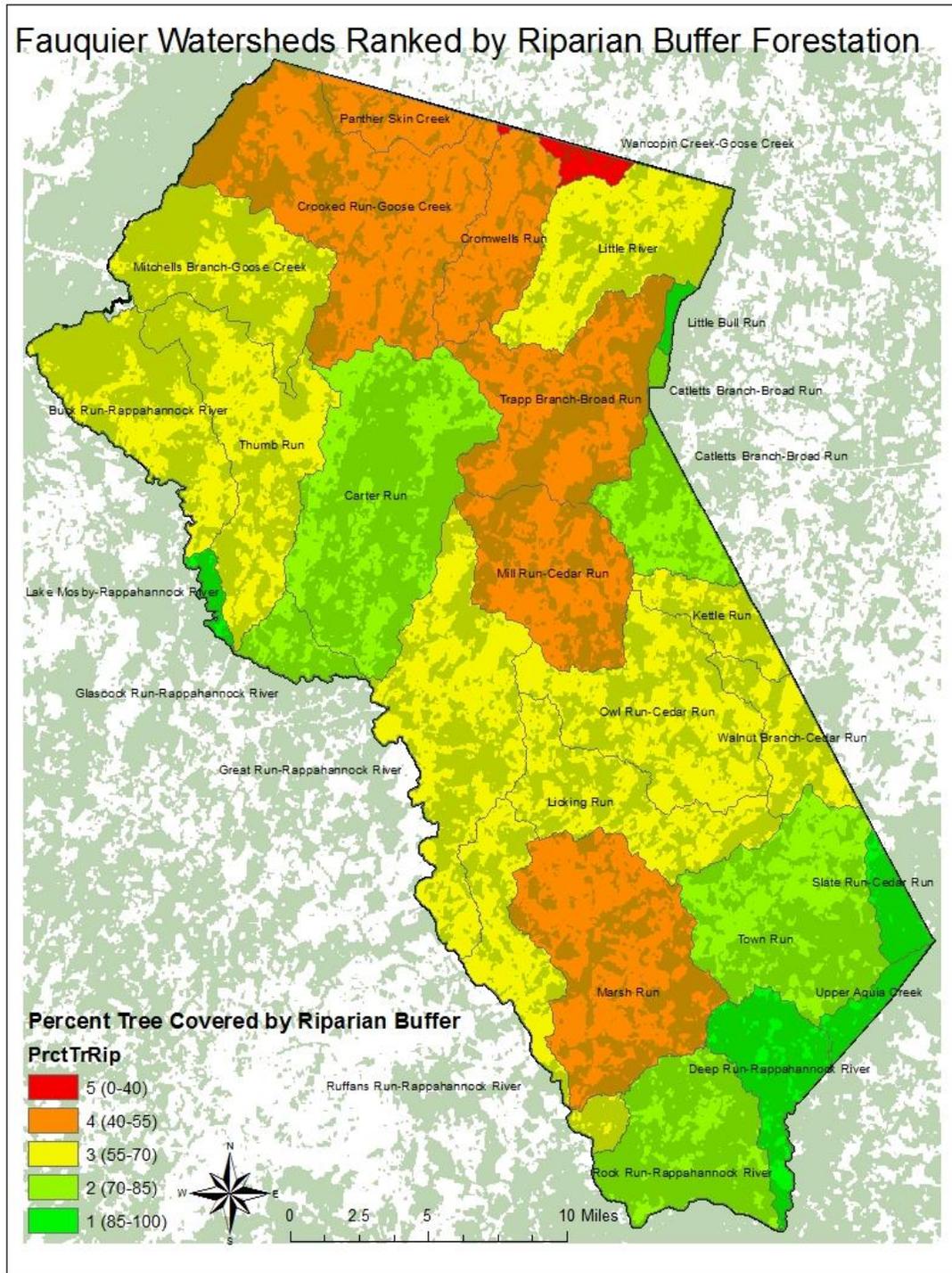
<http://dls.virginia.gov/commissions/cbr.htm?x=fnd>

<http://dls.virginia.gov/commissions/cbr/files/Matrix2012.pdf>

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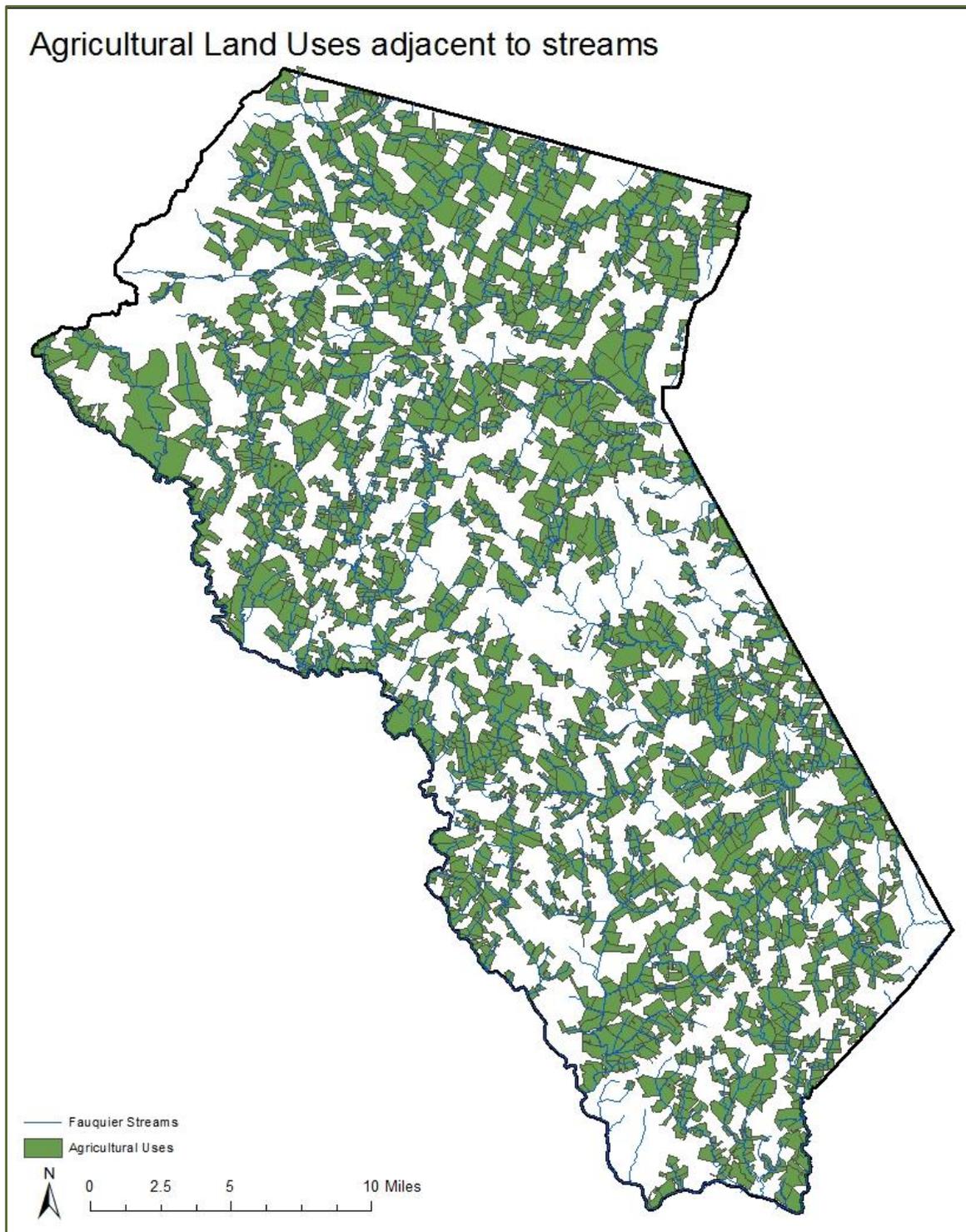
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7. Virginia Department of Conservation and Recreation: Chesapeake Bay Local Assistance. "Riparian Buffers Modification and Mitigation Guidance Manual" http://www.dcr.virginia.gov/storm_water_management/documents/BufferManual_06Rev.pdf.

APPENDIX 1: FAUQUIER WATERSHEDS RANKED BY RIPARIAN BUFFER FORESTATION



Forestation within 100-ft of streams shown as a percentage and then ranked based on HUC12 watersheds. Primary usage is prioritization of riparian restoration.

APPENDIX 2: AGRICULTURAL LAND USES ADJACENT TO STREAMS



Agricultural uses based on tax parcels adjacent to streams.

APPENDIX 3: EDUCATION RESOURCES

SOLs Science Requirements: Comprehensive science testing is done in grades 3, 5, 8, and for when students take Earth Science, Biology, and Chemistry.

http://www.doe.virginia.gov/testing/sol/standards_docs/science/index.shtml

School Garden Benefits: Description of the educational and health benefits of school gardens led by a California State Government initiative.

<http://web3.cas.usf.edu/tbgs/benefitsofschoolgardening.aspx>



Children in Nature Infographic: a visual representation of some of the health benefits children get from spending time outdoors. Provides factual incentives for expanding Experiential Learning Programs.

<http://www.neefusa.org/health/infographic.htm>



APPENDIX 4: NEWSLETTER SAMPLES

Chesapeake Bay Foundation: State of the Bay Report: Provides a good example of a visual, user- friendly newsletter. It is short and available online.

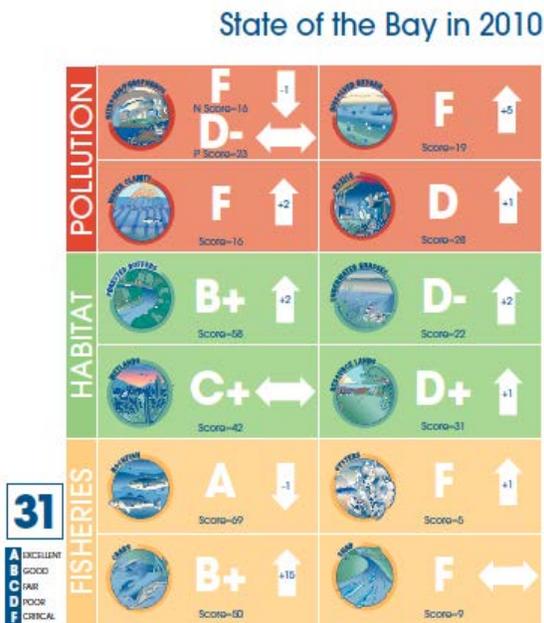
<http://www.cbf.org/about-the-bay/state-of-the-bay>

Washington State Department of Health: Water Tap Newsletter: A good, but less visual example of a water health newsletter that gives citizen- centric solutions and tips.

<http://www.doh.wa.gov/CommunityandEnvironment/DrinkingWater/WaterTapNewsletter.aspx>

COMPARISONS:

SCORECARD



State of the Bay Report 2010 | 3

(CBF's "State of the Bay Report 2010")

July 1, 2011 - June 30, 2012

(JMSWCD's "Annual Report 2012")

APPENDIX 5: EXAMPLE RIPARIAN BUFFER ORDINANCES:

Oakland, Alameda County, California- “The ordinance requires that construction and development projects nearby creeks first obtain a “creek protection permit” from the city. In order to get permit approval, the applicant must meet criteria and guidelines that are intended to either minimize or avoid negative impacts to the creek area and its natural functions” (23).

www.waterboards.ca.gov/sanfranciscobay/publications_forms/documents/bufferreport1204.pdf

www.waterboards.ca.gov/sanfranciscobay/publications_forms/documents/bufferreport1204.pdf

Fremont, Alameda County, California- Ordinance that stated, “No development shall be located within a riparian corridor except for otherwise permitted flood control, erosion control, water supply, transportation facilities, fences or hiking or equestrian trails. ‘Riparian corridors’ are the areas within 200 feet from the center of a permanent or intermittent stream bed” (23).

www.waterboards.ca.gov/sanfranciscobay/publications_forms/documents/bufferreport1204.pdf

www.waterboards.ca.gov/sanfranciscobay/publications_forms/documents/bufferreport1204.pdf

Lafayette, Contra Costa County- “Creek setback policy in their municipal code that prohibits construction of structures within a creek setback area. The creek setback area is determined by calculating a creek setback line based on the creek depth, steepness of bank, and topography of the top of bank” (24). Must show that work is outside of setback area before receiving building permit from the city.

www.waterboards.ca.gov/sanfranciscobay/publications_forms/documents/bufferreport1204.pdf

www.waterboards.ca.gov/sanfranciscobay/publications_forms/documents/bufferreport1204.pdf

Fairfield, Solano County, California- 200-foot buffer zone, called a “stream environment zone” that only applies to major creeks (24).

www.waterboards.ca.gov/sanfranciscobay/publications_forms/documents/bufferreport1204.pdf

www.waterboards.ca.gov/sanfranciscobay/publications_forms/documents/bufferreport1204.pdf

Sonoma County, California- “Sonoma County zoning code provides “streamside conservation area” protection to all waterways that are designated as “riparian corridors” in the Open Space Element of the General Plan. The width of the conservation is determined based upon classification of urban, upland, flatland, or Russian River riparian corridors.” Development is prohibited within these areas, which are generally 100 feet wide, but wider in specified regions.

Napa County, California- “They use slope percentage adjacent to creeks to formulate required setbacks that range from 35-150 feet.” A depth and bank steepness standard was created to determine the rivers to which the policy applied.

Alpharetta, Georgia- Invited developers and public throughout the policy development process. “The Alpharetta ordinance allows flexibility in buffer width, as long as a minimum of 50 feet and an average of 100 feet in width is maintained. In addition, there is an impervious surface setback that must average 150 feet in width and cannot be less than 75 feet in width. Septic tanks and septic tank drain fields are prohibited in this zone” (25).

<http://www.cviog.uga.edu/free-downloads/57.pdf>

<http://www.cviog.uga.edu/free-downloads/57.pdf>

Douglas County, Georgia- Requires thicker buffers (200 feet) beside drinking water reservoirs. Limits development in other ecologically sensitive areas to one house per five acres.

<http://www.cviog.uga.edu/free-downloads/57.pdf>

<http://www.cviog.uga.edu/free-downloads/57.pdf>

Fulton County, Georgia- Also has scaled buffer requirements.

<http://www.cviog.uga.edu/free-downloads/57.pdf>

<http://www.cviog.uga.edu/free-downloads/57.pdf>

AGRICULTURE: POLICIES AND STRATEGIES

Written by Candace Pearson, Clay Kerchof, and You Li

Goal 1: Preserve and maintain Fauquier’s agricultural heritage by preserving the most productive farmlands.
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Rationale: Fauquier’s rolling hills and vast pastoral landscapes are known as “horse-country.” Residents have a deep connection to the land and a sense of pride in the productivity of their farms. The urge to preserve and protect rural lands is so great that individuals regularly volunteer to commit their property to perpetual conservation through one of Virginia’s most successful easement programs. The Virginia Outdoors Foundation currently holds over 70,000 acres of Fauquier in open-space easements (VOF), which represents the highest level of protection from development. However, in our research we noted that though these statistics are extremely high, the protected land is not evenly distributed. Most of these easements are located in the northern part of the county, while the southern part holds only a few (Map 1). In addition, Fauquier’s best agricultural soils lie in the South, so a lack of easements in this area means that the most productive farmlands are currently left vulnerable (Appendix 1). This localized use of easements is explained by how the northern part of the County is generally more affluent. Northern landowners are attracted to easements because they benefit more directly from the tax incentives conservation easements offer. Farmers in the southern part of the county often do not have enough income for the tax incentives to have an impact. This suggests that the County cannot rely on conservation easements alone to protect the County’s most productive farms.

The County is aware of this challenge and has formulated a unique strategy to use its zoning powers to protect Fauquier’s rural character. It aims to “direct growth and development into the County’s nine service districts” (Comprehensive Plan: 2012) by prioritizing services such as water treatment and other infrastructure inside growth districts and establishing a sliding scale subdivision provision for rural lands surrounding the growth districts. The theory is to incentivize dense growth in targeted areas so that rural lands are less pressured by development. In practice, however, these regulations are troubled by the same issues as conservation easements; there is no surety that the lands that are most agriculturally productive are the ones that are protected. In fact in our analysis, we discovered that growth districts in the south 1) converged with the prime agricultural soils 2) often consumed the area’s most functional farms and 3) allowed for unwarranted density near productive farms.

If designating an area as a growth district is to be an agricultural conservation tool, the location should be decided based on an analysis of assets and resources. The location of prime agricultural soils and water recharge areas are examples of factors that should be considered. In addition, growth districts will only absorb development that would have spread to rural areas if they are planned for high density. Growth boundaries that are unnecessarily large create opportunities for sprawling, low-density development. Such development conflicts with the county’s vision of compact, livable communities and creates additional infrastructure and maintenance costs.

We used Remington as a case study to demonstrate how an understanding of the agricultural assets can be used to inform decisions about changing a Growth District. Included in Appendix 1 are details on how we would suggest re-evaluating the size of an existing service district and how using a form-based code can better serve the needs of forming compact, dense development. Appendix 2 is a sample application for form-based code review, showing that the system can still be streamlined and easy to follow for developers.

GOAL SUMMARY

Goal 1: Preserve and maintain Fauquier’s agricultural heritage by preserving the most productive farmlands.

Goal 2: Further economic viability of small farms by responsibly utilizing agri-tourism business models.

Goal 3: Prioritize local food production as an economic development strategy.

Objective 1A: Adjust service district boundaries, consulting data on the location of current working farms and prime agricultural soils.

Action 1) Refer to prime agricultural soil and working farm data (Map 3) to determine where service district boundaries conflict with agricultural interests (Appendix 1).

Action 2) Draw new boundaries that prioritize agricultural assets and protect undeveloped land (Appendix 1, Maps 3 &5)

Action 3) Designate land removed from the service district as an Agricultural Development Zone overlay, designed to promote productive agricultural uses (Map 5). This ensures a local food source for service districts.

Objective 1B: Promote denser development within growth areas to absorb pressure to develop from working farmlands adjacent to service districts.

Action 1) Replace R1 and R2 designation inside growth districts with R4 to make town denser and allow for greater growth. This will be used to promote a “livable” pattern of development centered on walkability. Build off of Bealeton’s plan for a “Mixed Use Special District” or Marshall’s urban design plan for direction on how to create denser, mixed use development plans.

Action 2) Encourage developers to submit cluster development site plans in area between service district and ‘Agricultural Development Zone’ (Map 5)

Goal 2: Further economic viability of small farms by responsibly utilizing agri-tourism business models.

Rationale: Agri-tourism offers Fauquier County one of its greatest opportunities for preserving its rural character while expanding its farm economy. The County has already begun leveraging its rural setting as a tourist attraction. It has 26 wineries, 9 pick-your-own farms, and 4 farmers’ markets (Fact Sheet: 2009), all of which attract visitors from outside the County. These seasonal businesses bring additional profits to farmers and market their products by raising awareness. The county benefits from the increased tax revenue of these sales. In some cases, farmers rely on the money brought in from visitors within a period of three or four weekends to fund their farming operation for the rest of the year. Better marketing and targeting untapped markets will bring in even more revenue and make Fauquier a destination people will consider season after season.

Agri-tourism development and the preservation of the county’s rural lands can and should go hand in hand. As a part of an agri-tourism growth strategy, there must be policies to protect the county’s rural landscapes. Proper infrastructure that supports visitation needs to be in place that is sensitive to the viewscape and unobtrusive. Measures need to be taken to prevent damage or overuse of key natural assets. A balance needs to be reached between the interests of the farmer and the expectations of surrounding homeowners. These demands necessitate that the County acknowledge Agri-tourism as a legitimate presence and establish appropriate guidelines.

Objective 2A: Take advantage of the County’s proximity to DC to market Agri-tourism experiences to a larger, more diverse audience.

Action 1) Use results of current research study on “how to appeal to ethnic markets” to educate farmers on marketing techniques (Hollin Farm: 2011). Use part of The Virginia Department of Agriculture and Consumer Services grant for this education process.

Action 2) Connect to tourism companies located in the DC region with resources that accommodate targeted demographics.



Stribling Orchard Pumpkin Picking

Action 3) Install signage and infrastructure to aid a diverse range of tourists.

Objective 2B: Establish Best Management Practices Protocol for Agri-tourism Businesses (vineyard sample in Appendix 3) so that farmers can have a guide for voluntary measures they institute to mitigate their impacts on their neighbors and the environment.

Action 1) Fauquier Agricultural Development hold community meetings and work sessions to hear landowners and farmers concerns about agri-tourism impacts.

Action 2) Adapt Protocol based on input from #1.

Action 3) Create an award program based on finalized Protocol. “Good Neighbor Award” given to businesses that meet criteria in Protocol. Award can be used by the businesses as a commendation or marketing technique.

Goal 3: Prioritize local food production as an economic development strategy.

Rationale: Fauquier County’s comprehensive plan aims “to protect and promote the agricultural industry” (Comprehensive Plan: 2012). Farming in the county has socioeconomic significance by creating 3,500 jobs. Nearly all farms in the county are family-owned (Fact Sheet: 2011), but in recent decades the diversity and profitability of farm products has declined; this threatens the long-term viability of Fauquier’s small farms. This is occurring as the county’s farmers are getting older. Fauquier’s 1998 Farmland Study revealed that the average age for landowners was 61 and that fifty-two percent of farm and forest land is owned by individuals aged 65 or older. Nationally, between 2002 and 2007 the number of farmers over the age of 65 grew by 22 percent; currently, for every farmer under the age of 25 there are five who are 75 or older (Ramde, 2011). This not only means that most of the farmland on Fauquier will need to be transferred hands in the coming two decades, but that there is also a shortage of younger people working the land.

Yet at the same time as farmers are aging, an increase in demand for local and organic food and farm products is part of a growing movement especially among educated and affluent groups in society to 1) eat more healthily and 2) eat food that has been produced ‘sustainably.’ Sustainable food sources were defined by Congress’ 1990 Farm Bill as “an integrated, site-specific system of plant and animal production that will meet food needs, protect and enhance the environment and contribute to their communities’ quality of life” (Jaros, 2000). Many potential farmers see sustainable agriculture as a more secure and stable lifestyle than other professional ventures; young farmers often consider themselves entrepreneurs and see farming as an alternative lifestyle that benefits health and promotes happiness (Ramde: 2011).



Warrenton Farmer's Market

Even in the economic downturn, demand for locally grown and organic foods has stayed strong enough that these new farming pioneers feel confident they can sell their products (Ramde: 2011). Fauquier can strategically position itself to most effectively take advantage of these trends. The County's geographic position itself, gives Fauquier County an advantage to become a destination for local and organic farming. The expanding affluent customer base within the county, in the Charlottesville area, and in the Washington Metropolitan Area all promise to serve as markets for Fauquier's local and organic food production.

In order to encourage young farmers to pursue the opportunities in organic and local farming the county must find ways to offset the high up-front costs. It cannot be assumed that sustainable agricultural practices will produce higher profits for farmers. This reality demands land and equipment be made accessible to potential farmers. Through supporting farmer networkers, the County can enable existing working farmlands to gradually transfer from retiring farmers to beginning ones. Transgenerational relationships aid young farmers because they receive advice, land, and equipment directly from farmers who are retiring. The county can also support the economic viability of organic farming enterprises by providing financial incentives for the production of marketable organic food items and giving farmers access to the most profitable markets. New farmers must be aware of systems and support that will assist them in their movement of food to consumers.

Opportunities for community engagement and business connections are equally as important as adequate financial and resource support for the success of beginning farmers. It is important that Fauquier initiates an effective outreach and marketing campaign to induce potential young and beginning farmers to start-up in Fauquier. The recruitment and development of young farmers is a long-term investment, one that will shape the culture and community of Fauquier for a generation. It is therefore paramount that young farmers can recognize Fauquier as a desirable destination for farming enterprises. Fauquier can promote local, organic farming and preserve its working farmlands by aligning the interests of local agriculture with the interests of people, especially young people, interested organic farming and the local foods movement.

Objective 3A: Provide financial incentives for organic farming to attract a younger farmer base and diversify local agriculture.

Action 1) Establish agricultural development overlays on high-quality soils and working lands adjacent to new growth district boundaries (see Objective 1A, Action 3); stress the importance of agricultural diversity during the zoning process. These overlays differ from Rural Agriculture / Conservation Districts, because they are directly tied to financial incentives that promote the diversification and localization of agricultural products.

Action 2) Supplement land assessment tax deductions with direct monetary payments to farmers to establish local and organic farming operations within the agricultural development zones; this incentivizes the diversification of Fauquier's agricultural products and will encourage local farming near the County's most densely populated districts; this does not aim to cover all costs but is rather a mechanism with which to attract new farmers and connect them to the county's network of food producers and distributors.

Action 3) Conduct annual assessments to evaluate relevant investments; farm extension agent develops unique relationships with local and organic farmers to specifically address and recognize their interests and needs.

Action 4) Apply to loans and grants from the US Department of Agriculture targeted at promoting the success of a new generation of farmers.

Objective 3B: Cultivate a farmer support network by providing professional development resources.

Action 1) Establish Fauquier chapter of Virginia's FarmLink and establish new "Farming Networks Coordinator" in order to provide visible channels of trans-generational farmer connections; in addition coordinator and farm extension agent should connect with Fauquier youth and encourage interest in organic and local farming in public schools, regional community colleges, along with in 4H programs and clubs.

Action 2) Farming Networks Coordinator holds workshops for current farmers on how to use Farmlink in order to connect with prospective young farmers.

Action 3) Hire college and graduate school summer intern to design and format important websites and sources of information about farming incentives, opportunities, distribution systems and support networks within the county; purpose to expand young farmer agricultural outreach visibility and accessibility through a more active social media presence.

Action 4) Include information and brochures in displays like farmers market, farm tours and county fairs in order to promote awareness of FarmLink program and reach out to prospective young farmers attending farmers markets and farm tours.

RESOURCES

1. **SIP Certification Program:** As an alternative to our vineyard protocol, this is a pre-existing vineyard certification program, called “Sustainability in Practice” that has had much success in California. It has sections that help vineyards address Conservation and Enhancement of Biological Diversity, Vineyard Establishment and Management, Soil Conservation and Water Quality, Water Conservation, Energy Conservation and Efficiency, Air Quality, Social Equity, Pest Management, Continuing Education, and Product Assurance and Business Sustainability. It has a few requirements a farmer must implement and a series of other best practices measures that the owner can choose from, but he must implement enough practices to achieve 75% of the available points. Our impression was that this Protocol was very comprehensive at ensuring sustainability, but did not focus on how to improve community relations.

Sustainability in Practice:

<http://www.vineyardteam.org/files/sip/SIP%20Vineyard%20Standards%202012.pdf>

2. **1998 Fauquier County Farmland Study** assessed the characteristics and personality of Fauquier’s agricultural landowners and identified risks and challenges. It identified that Fauquier farmers were aging and that there was a lack of youth interested pursuing farming as a career. Furthermore, there was a generally a strong desire to preserve working farmlands but many felt that they lacked flexible enough tools. Though this study is rather dated, its in-depth look provides insight into the unique challenges that Fauquier faces.

Fauquier County Agricultural Development.:

<http://www.fauquiercounty.gov/documents/departments/agdev/pdf/finalreport.pdf>

4. **Columbia Pike Form Base Code** is a prime example of a useful alternative to conventional zoning. Instead of regulating by land use, this kind of code requires developers to make buildings that fit the County’s vision for aesthetics. Our recommendation is for Fauquier to adopt a Code similar to Columbia Pike’s (but more attuned to Fauquier’s small town character). The specificity needed for such a tool is exemplified in this example.

<http://www.columbiapikeva.us/revitalization-story/columbia-pike-initiative/columbia-pike-form-based-code/>

5. **Ethic Market Research Blog:** This blog was done as part of a USDA grant to study how Fauquier agritourism businesses can better market and accommodate ethnic markets from DC. The father and son team, Tom and Matthew Davenport, conducted the research and documented the results of the strategies they implemented. Some of their recommendations include growing different crops, like Asian pears and hot peppers, and utilizing the internet and GPS services to guide non-English speakers. The blog only has a few followers, but the findings are well communicated and easily available for the County to help spread more widely.

Hollin Farm Blog: <http://thoughts-on-farming.blogspot.com/>

VOLUNTEER ORGANIZATIONS

Virginia Outdoors Foundation: The Virginia Outdoors Foundation is established to promote the preservation of open-space lands and to encourage private gifts of money, securities, land or other property to preserve the natural, scenic, historic, scientific, open-space and recreational areas of the Commonwealth. This organization currently holds the majority of conservation easements in Nelson County (8,500 of approximately 10,000).

<http://www.virginiaoutdoorsfoundation.org/>

Future Farmers of America is a co-curricular organization for students in Agriculture, Horticulture, and Natural Resources classes dedicated to inspiring and encouraging a new generation of farmers.

<https://www.ffa.org/Pages/default.aspx>

4-H is a voluntary, informal education program that allows kids to explore agriculture through guided projects. The projects are hands-on and teach kids to become invested in their own communities.

<http://offices.ext.vt.edu/fauquier/programs/4h/index.html>

PARTNER ORGANIZATIONS FOR AGRICULTURE PROGRAMS

The Department of Agricultural Development promotes the agriculture industry within Fauquier County, to increase the economic viability of farming and to advise the Fauquier County Board of Supervisors on matters affecting the agricultural economy and its development. The recommendation to hire a “Food Distribution Coordinator” and a “Farming Networks Coordinator” would be housed in this Department. It is also the agency best poised to disseminate the recent research on how pick-your-owns can tap into ethic markets.

<http://www.fauquiercounty.gov/government/departments/agdev/>

Fauquier County Virginia Cooperate Extension Agents connect local farmers to the latest research, educational demonstrations and grants. They provide education through programs in Agriculture and Natural Resources, Family and Consumer Sciences, 4-H Youth Development, and Community Viability.

<http://offices.ext.vt.edu/fauquier/>

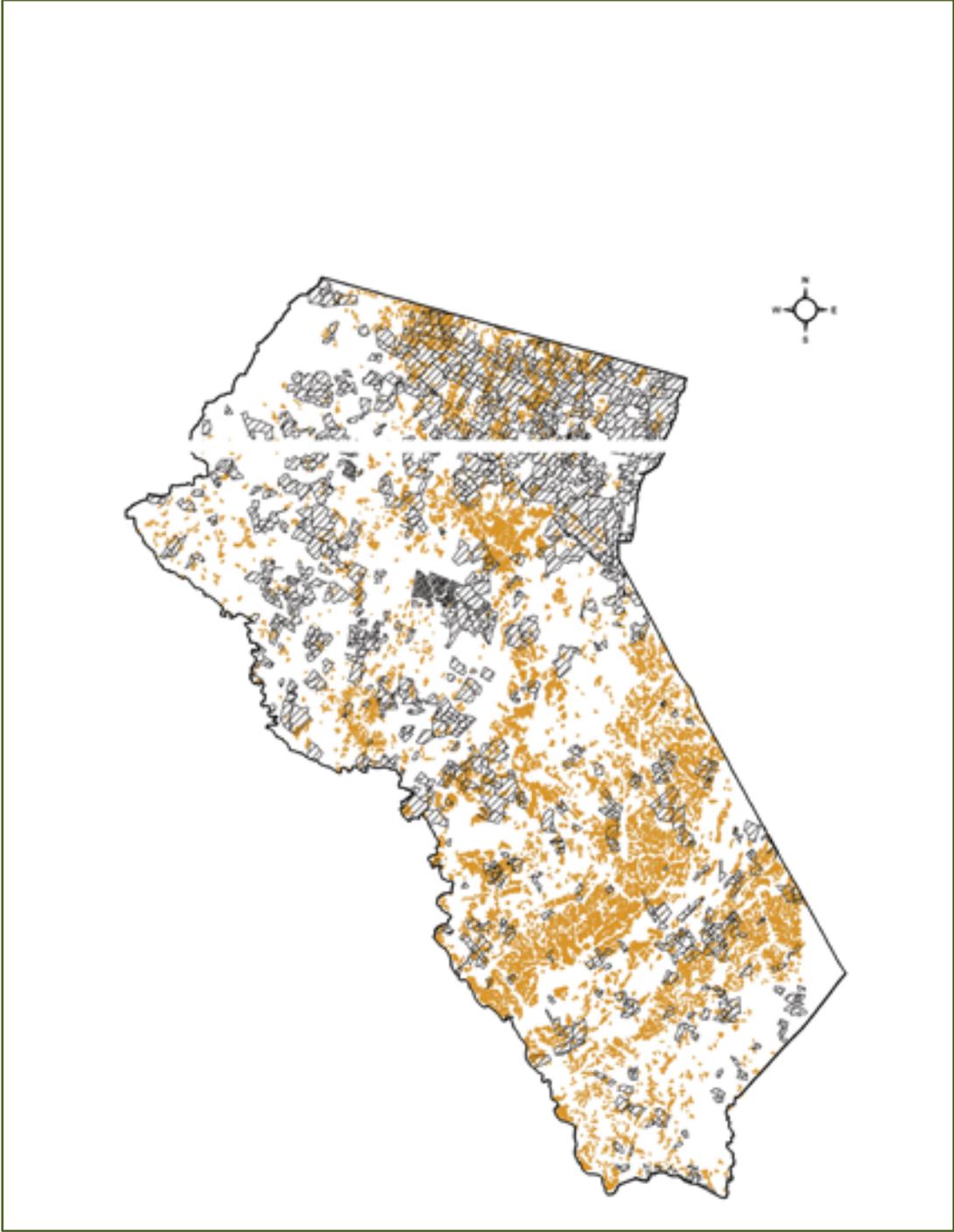
The Fauquier Tourism Board helps to attract visitors and promote Fauquier’s recreational opportunities. It is instrumental in advertising Agritourism as an exciting attraction.

<http://www.fauquiertourism.com/>

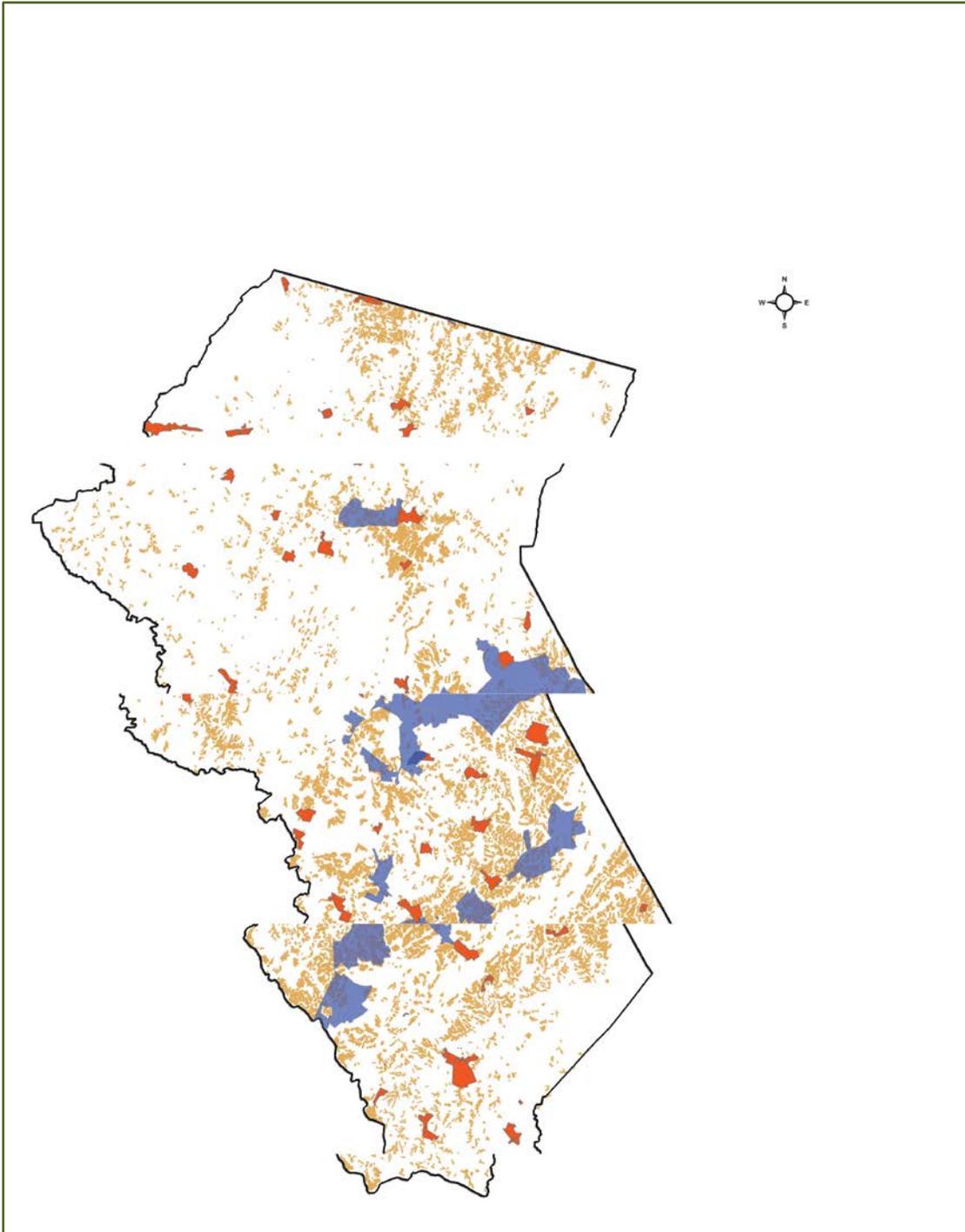
Farmlink is an online resource that links young emerging farmers with those who are considering retiring in the next 15 years. The young farmers can benefit from the expertise, equipment, and land that may otherwise have been sold off, making the transition to farming much easier. Older farmers benefit from knowing that their farms will remain in its original use and in the hands of someone that they personally mentored.

<http://www.farmlink.net/en/about-farmlink/>

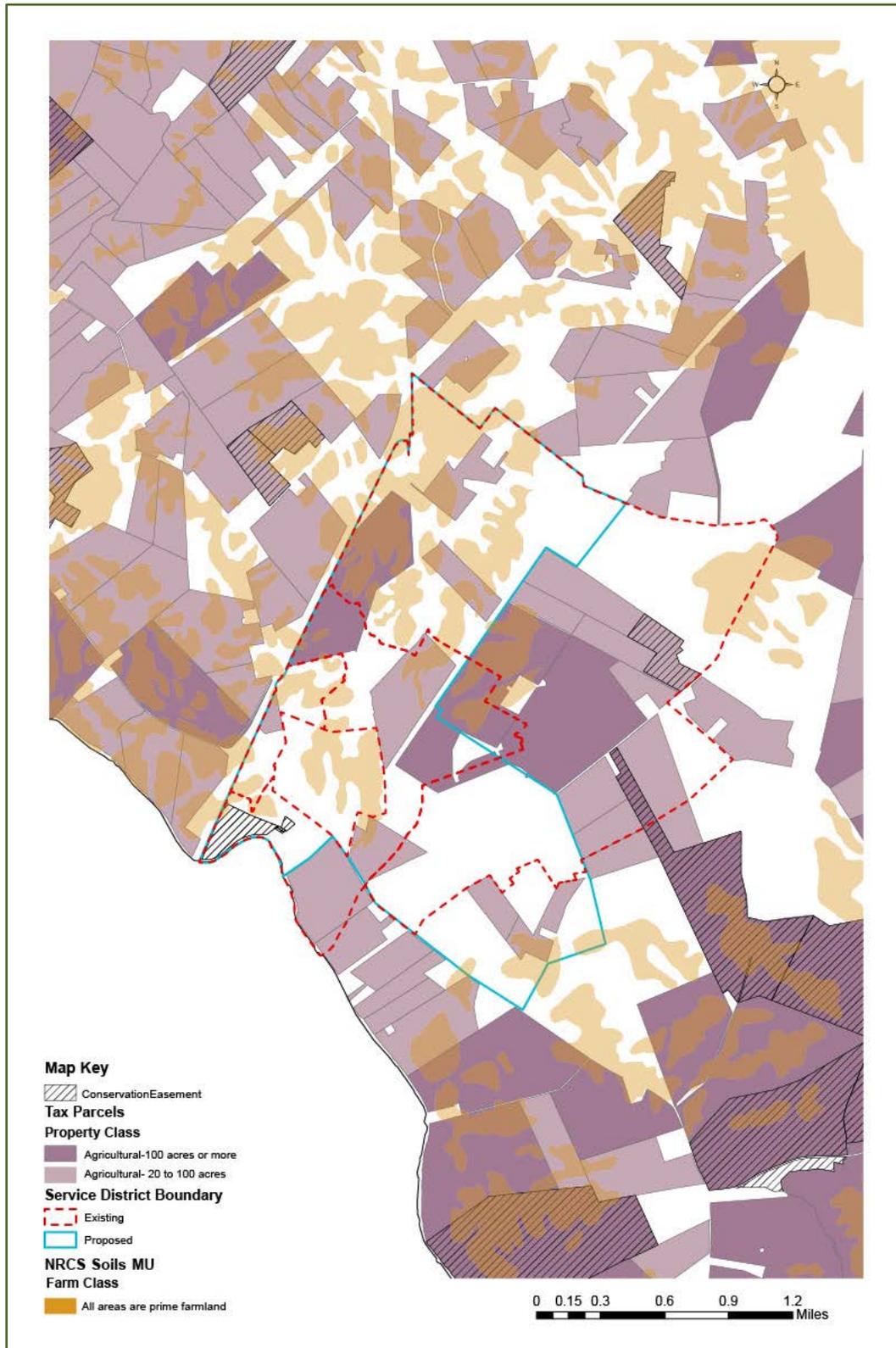
MAP 1: PRIME AGRICULTURAL SOIL AND CONSERVATION EASEMENTS



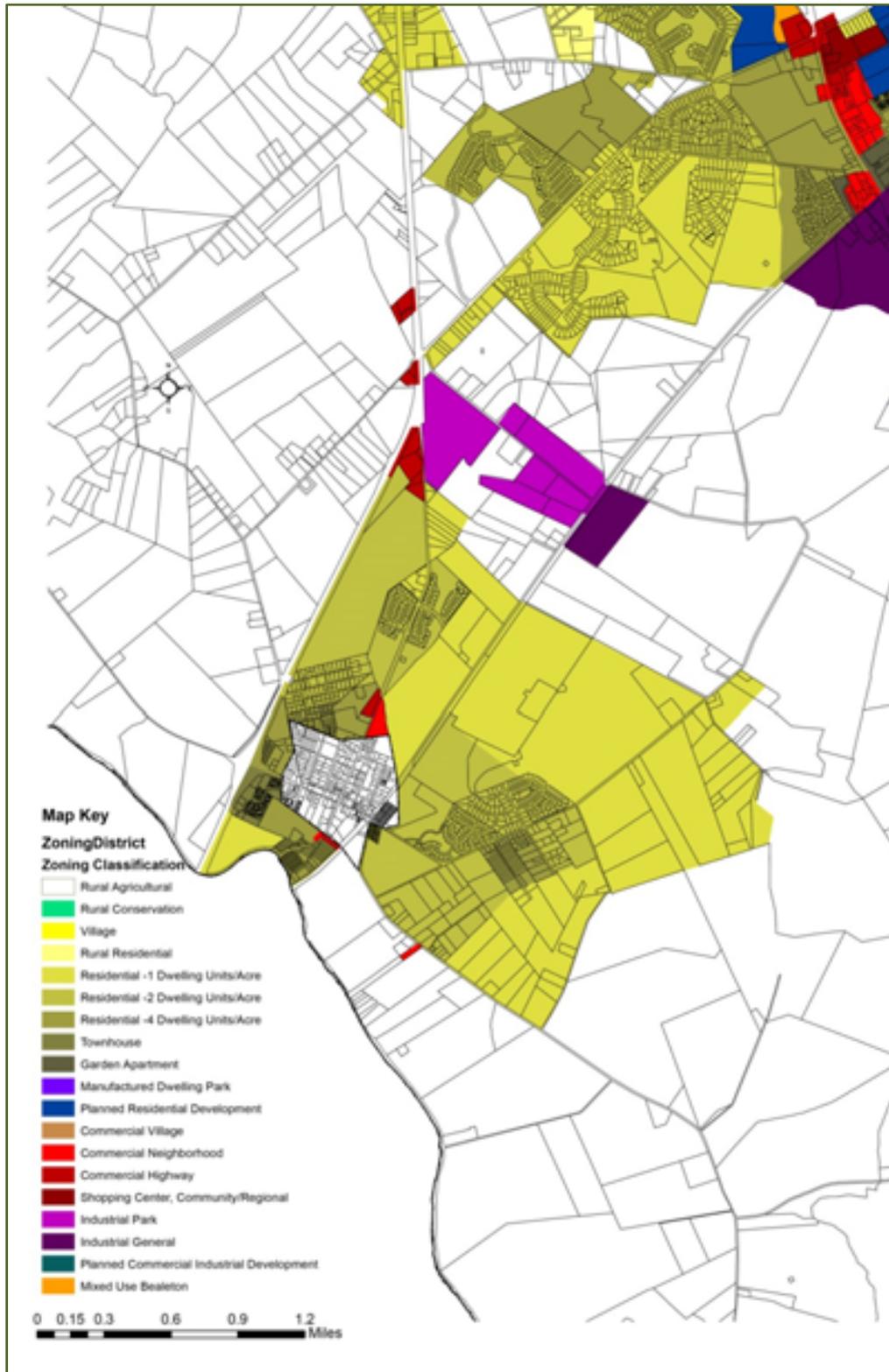
MAP 2: PRIME AGRICULTURAL SOIL AND SERVICE DISTRICTS



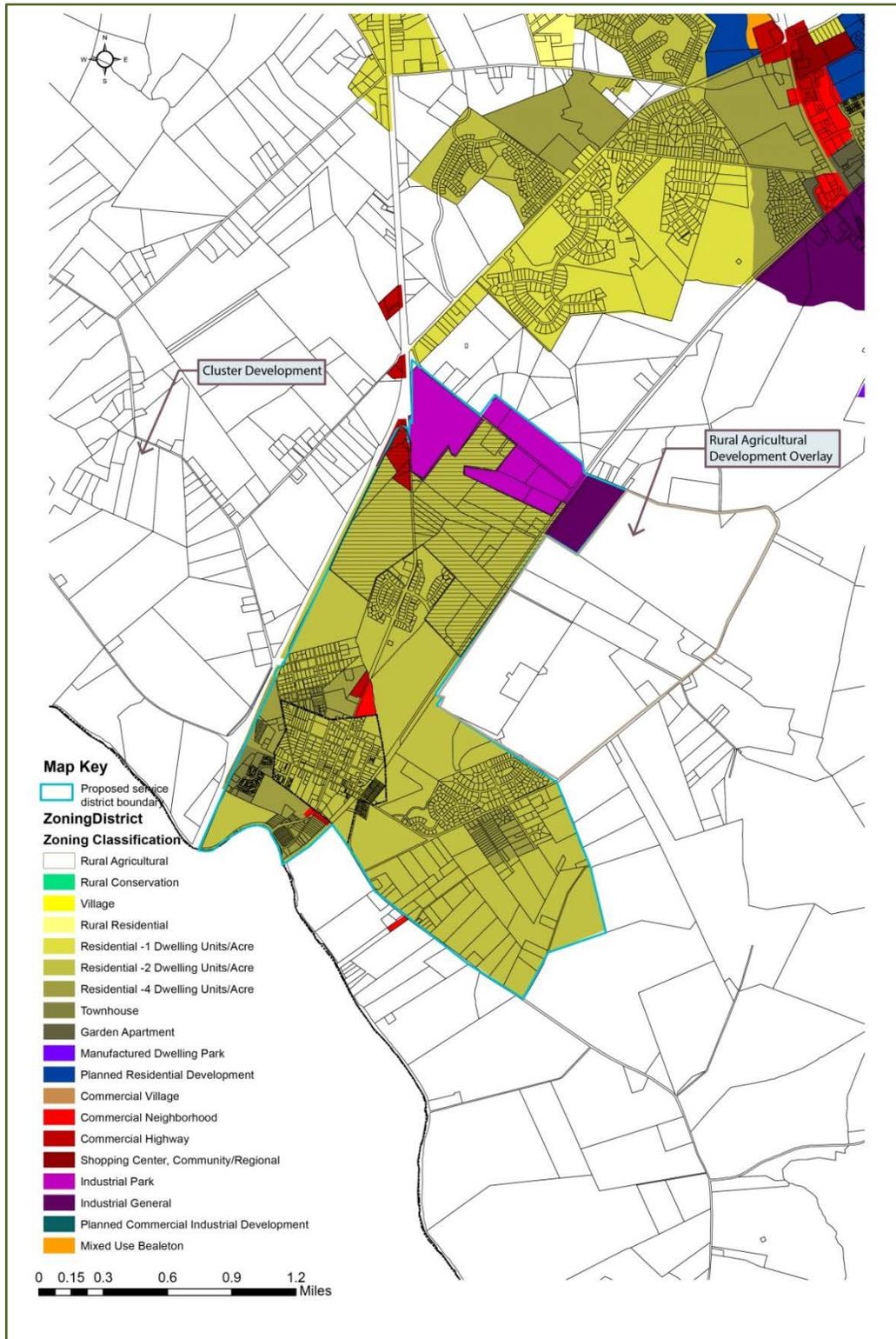
MAP 3: PRIME AGRICULTURAL SOIL AND FARM SIZE OF REMINGTON



MAP 4: ZONING AND OLD BOUNDARY OF REMINGTON



MAP 5: ZONING AND RECOMMENDATION OF NEW REMINGTON BOUNDARY



FUNDING

The U.S. Department of Agriculture provides a diverse range of loan and grant opportunities for local government agencies, non-profit organizations and individual farming businesses. They range in amount, requirements and category. They provide funding possibilities for the full array agricultural development strategies proposed in this plan. Further information on all of these grant opportunities are available for download at <http://sustainableagriculture.net/publications/> under the Local and Regional Food Systems tab. These grants were all catalogued in *The National Sustainable Agriculture Coalition's Guide to USDA Funding for Local and Regional Food Systems* published in April 2010.

1. Specialty Crop Block Grants

“The Specialty Crop Block Grant Program (SCBGP) provides grants to help states improve the competitiveness of their specialty crops (fruits, vegetables, tree nuts and nursery crops) and develop better produce distribution systems.” Although SCBGP funds go through state departments of agriculture, these departments can partner with nonprofit groups, community-based organizations, producers groups, or colleges and universities. Local partnerships can seek for the state to apply for funds. “Applications by states should describe how the project potentially impacts and produces measurable outcomes for the specialty crop industry and/or the public rather than a single organization, institution, or individual. Grants can supplement existing programs or start new projects in areas including “buy local” campaigns, nutrition, product development, or research.

“The SCBG program is expected to receive \$55 million in fiscal years 2010 through 2012. Minimum awards to states are \$100,000. Contact your state department of agriculture to discuss project ideas. To find your state contact and learn more about the program and what it has funded, go to: www.ams.usda.gov/scbgp. No matching funds are necessary.”

2. Farmers Market Promotion Program

Farmers' Market Promotion Program (FMPP) grants are designed to increase marketing opportunities for farmers to sell directly to consumers through farmers' markets, community supported agriculture (CSA) farms, retail markets, and other direct marketing initiatives. FMPP grants can go to non-profits, agricultural cooperatives or producer associations, local governments, economic development corporations, regional farmers' market authorities, public benefit corporations, and Tribal Governments.

FMPP will fund a variety of projects including those that are focused on:

- increasing consumer food knowledge and market access
- developing new farmer marketing cooperatives
- extending market seasons through hoop houses
- building a sustainable supply chain to get food from farms to markets.

“The FMPP will have \$5 million to disburse in FY 2010 but its budget is anticipated to double to \$10 million in FY 2011. The minimum award per grant is \$2,500 and the maximum is \$100,000. Proposed projects can last up to two years. Note that beginning in 2011, FMPP will not award any organization grant funds for two consecutive years. For example, 2011 recipients will not be eligible for FMPP grants in 2012. To read the full application requirements and look at programs funded in the past, go to the FMPP website: <http://www.ams.usda.gov/FMPP>. There are no matching funds requirements.”

3. Federal State Marketing Improvement Program (FSMIP)

“The Federal-State Marketing Improvement Program (FSMIP) provides funds to state departments of agriculture or other similar state agencies to develop innovative approaches for marketing agricultural products. The grants can be used to conduct projects in collaboration with nonprofit organizations, community, or producer groups that solve practical marketing problems facing small and medium-scale producers. Some different topic areas include:

- determining the best method for processing, packaging, and distributing agricultural commodities
- exploring new markets and researching consumer needs
- determining the costs of marketing agricultural through different channels
- developing more efficient marketing methods
- improving the standards of quality, grade, and packaging to encourage consistency in commercial practices.

“In FY 2009, the USDA awarded \$1.3 million dollars in FSMIP funds and will award another \$1.3 million in FY 2010. Applications must come through state departments of agriculture and similar state agencies. However, producer groups, economic development, and nonprofit organizations often work with their state departments of agriculture to develop and implement FSMIP proposals and the USDA encourages collaborative applications.

“Organizations interested in developing a proposal should contact their state department of agriculture. You can find the contact information for your state department of agriculture at www.nasda.org. FSMIP grants are typically awarded to one year projects, but longer projects of up to two years in duration are also considered. To read the full application requirements, go to the FSMIP website www.ams.usda.gov/FSMIP. Requests for FSMIP funds must be matched, dollar for dollar, from any non- federal source. The match funds may consist of cash or in-kind contributions, state appropriations, or resources contributed by the FSMIP project partners, such as nonprofits or farming organizations.”

4. Rural Cooperative Development Grant

“The goal of the grant is to improve local businesses in rural America through cooperative development. RCDG will provide grant funds to organizations providing technical assistance to new or existing rural cooperatives. Some eligible uses of funds include:

- providing training and education on financial management, accounting, and cooperative law to established cooperatives
- conducting feasibility studies and organizational guidance to new cooperatives
- assessing the need and evaluating the potential support base for newly developing cooperatives

“Any nonprofit or higher education institute is eligible to apply. However, to be considered competitive for this program, organizations should have expertise in establishing rural cooperatives, and show a commitment to working in underserved rural areas. In the fiscal year 2009, the RCDG program received \$5.9 million, and in FY 2010 it received \$11.4 million in federal funding. RCDG Application Information RCDG applications are listed at Grants.gov and are accepted online or on paper at your local Rural Development offices. You are strongly encouraged to contact your local office for assistance with the grant. To find your local Rural Development office, go to http://www.rurdev.usda.gov/recd_map.html”

5. Community Facilities Grant Program

The Community Facilities Program (CF) provides grant funds to build or acquire “essential community facilities” in rural areas with no more than 20,000 residents. Note: this program is different from other RD programs which can be in communities as large as 50,000. Local governments, non-profit organizations and

federally-recognized Native American Indian tribes are eligible to apply.

“The project must not be a commercial endeavor and must serve the community as a whole. This means, for example, that a community kitchen that allows various small local businesses to process and then sell their products would not qualify for a grant, but that a kitchen owned by the school district that processed local produce for a school breakfast and lunch program would be eligible. Grants can go to projects including, but not limited to: publicly owned farmers markets, facilities and equipment used by public agencies or not-for-profit distribution networks, cooking schools, and community food banks.

6. Rural Business Enterprise Grants

“The purpose of the Rural Business Enterprise Grants (RBEG) program is to foster the development of small and emerging business enterprises⁵ in rural areas through grants to public entities, nonprofit organizations, and federally recognized Indian Tribal groups. Grant funds may be used for a variety of projects to build local and regional food systems including land development, road and building construction, the purchase of equipment, training and technical assistance, and the start and/or operation of a revolving loan fund. RBEG funds cannot be used for the growing, cultivation, and harvesting of an agricultural commodity.

“There were nearly \$39 million available for RBEG projects in FY 2010... RBEG applications are listed at Grants.gov and are accepted online or at local Rural Development offices. Funding decisions are usually made at district or area offices and applicants are strongly encouraged to contact their state or local office for assistance. To find your local Rural Development office, go to: http://www.rurdev.usda.gov/recd_map.html

“The RBEG process begins with a pre-application. After determining the order of funding priorities at the beginning of the fiscal year, the Rural Business – Cooperative Services office will determine eligibility and request applicants to submit formal applications. There is no set minimum and maximum for grant amounts, however smaller grant projects are prioritized. Applicants for grants to establish a revolving loan fund must include details on their experience operating a revolving loan program, proposed projects, and financial ability to operate a revolving fund and plans for leveraging.”

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APPENDIX 1: REMINGTON CASE STUDY

I. A case study about Remington was inspired by a visit to the town along with our analysis of GIS data on land use, conservation and zoning. Within Remington, buildings were categorically underused, and the town lacked a critical density necessary for the emergence of a vibrant town center. While many bikers and tourists of historic sites visit district, the town does not provide a diversity of attractions to draw visitors to the town itself. Yet Remington shows potential as a distinct economic and community center for the southwestern part of Fauquier. Through strengthening the bond between urban form and the preservation of farm lands, Remington can develop a stronger, more cohesive sense of place and become a destination for visitors. This case study provides a roadmap for how Fauquier can strengthen the bond between urban community and agriculture.

II. Conservation easements are the common means of permanently protecting rural land uses in Fauquier. While they are widely prevalent in the northern portion of the county, they are conspicuously absent in the south, where much of the County's prime agricultural soils are located. On average, landowners in the northern part of the county are more affluent, so the tax breaks are substantial enough to warrant placing the land under easement. In the southern part of the County, it is more common to see land put up for sale and sold to the highest bidder, which is often a developer. For those to whom easements do not provide significant tax breaks, development threats can be addressed through the Purchase of Development Rights (PDR). PDRs have proven to be a more successful means of farmland preservation than conservation easements in southern Fauquier. The use of PDRs can be expanded for undeveloped lands zoned as residential located within the Remington service district. PDRs are only one of the options for preserving undeveloped land in and around Remington, and this case study explores 3 new strategies.

III. An analysis of land use and zoning in the Remington service district reveals that the majority of land remains undeveloped. Of the district's 1398 acres, only 259 are developed. The majority of land in the district (937 acres) is zoned for low-density residential but only a small portion of that (186 acres) is developed. The supply of residentially-zoned land far outstrips the need/demand for it. Land is underutilized in the county's service districts and the county's foreseeable growth does not demand the kind of space currently provided. Some of these lands also contain some of Fauquier's best agricultural soils. It is therefore in the county's best interests to not develop this land and low-density residential sprawl—this kind of development is the most expensive for the county to maintain. Not only does it cost the county more to provide utilities, but sprawling development degrades the Fauquier's rural character, which is clearly stated as a primary goal for the county.

The county and the service district would be better served if this land were used for agricultural purposes. For this reason, we propose that this category of undeveloped land within the service district should ideally be 1) down-zoned for agricultural uses, 2) removed from the service district and 3) placed in a new Agricultural Development Overlay.

We recognize that down-zoning is a and has been met with strong public opposition in the past. For this reason we provide alternative measures that accomplish the same goal. Lands removed from the service district would channel development into more restricted boundaries. This could reduce the risk of low-density greenfield development. An Agricultural Development Overlay would be placed on top of undeveloped lands removed from the service district (whether they are zoned for agriculture or residential uses). This overlay would correspond with a financial incentive to attract new farmers interested in growing local and organic produce. This ties into a theme of agricultural diversification and preservation along with a more general goal of sustainability.

The production of local and organic food is an ideal land use for the overlay areas because of their proximity to the center of population. If the purpose of local food is to decrease the distance between the location of food production and that of consumption, then it is only logical to encourage the production adjacent to the county's residential areas. The aim is then to increase availability of nutritious foods in the service district.

IV. As suggested in Map 4, a significant piece of land in the northeastern portion of the district can be down-zoned from low-density residential to agricultural. The district boundary is re-drawn as well. While the town center and residential development to the northern and east are kept within the district boundary, the northeastern quadrant is removed. This quarter of the current district serves primarily agricultural purposes already—and if the county desires to preserve agricultural land uses, it should take as much action as possible to realize that goal. The new boundary does not remove all undeveloped land from the district but rather removes only the areas that already serve agricultural uses. This proposal also aims to conform zoning with land use so as to better preserve the agricultural uses.

V. In addition to farmland preservation, Remington should adopt an official form-based develop code (FBC) to promote denser and pedestrian-friendly development. This can be a useful tool for cultivating a more livable and desirable physical environment. FBCs provide an alternative to conventional single-use zoning. While single-use zoning often results in disconnected sprawl, form-based codes allow for denser mixed-use development. FBC's provide local governments the means to more reliably achieve specific development goals and objectives.

Remington should have public spaces conducive to gathering, sidewalks enjoyable to walk on and building frontages that provide access to a diverse range of commercial attractions. The central town already boasts several stately buildings, but they are underutilized. Before new commercial spaces are developed, existing structures should be reused. 'Dead spaces' such as surface parking lots should be repurposed or retrofitted for a more diverse array of uses. Specific ratios addressing building height, frontages, appropriate materials and set-back should all be addressed. The code is a regulatory tool rather than an advisory and relies heavily on community input. The quality of a FBC's outcomes is dependent upon the community's vision and quality of objectives and goals. In addition to a tool for the improvement of Remington's physical form, it can also be a mechanism for community engagement.

APPENDIX 2: COLUMBIA PIKE FORM BASED CODE APPLICATION SUBMISSION CHECKLIST

The following items must be included with any application under the Form Based Code. Eleven (11) full-size copies *; one (1) reduced size (11x17 paper); and one (1) CD with digital copies in PDF format of all materials must be turned in no later than 4:00 p.m. on the Final Filing Deadline (Special Exception Use Permit only). (Applicants are encouraged to discuss their applications with the Columbia Pike Initiative Coordinator prior to submission.) The submitted copies must be put in order as per the Submission Checklist. Late applications will not be accepted. If you have any questions about these requirements, or the filing schedule for applications, please contact the Columbia Pike Initiative Coordinator at 703.228.0068 for assistance.

*Unless the Columbia Pike Initiative Coordinator indicates that additional copies are needed for staff review related to parks/open spaces and historic resources.

1. Completed application form with signature. _____
Applications must include:
2. Disclosure Statement _____
(must be notarized)
3. Description of Proposed Use (Details) _____
(Can be provided on application or on separate attachment)
4. Statement of Consent by Property Owner _____
(This is required if the applicant is a tenant, occupant or a contract owner. Include name, address and phone numbers, e-mail address of property owners.)
5. Plat or site plan of property _____
drawn to scale, on _____ (size) paper, showing topography, existing and proposed buildings, parking, driveways, and entrances to property. Separate signage and landscape plans (including tree replacement details) are required.
6. Floor plans _____
Drawn to scale, showing all sub-grade, at-grade, and above grade interior spaces.
7. Elevations _____
Drawn to scale showing each unique façade, with sufficient detail to show the structural and architectural design characteristics of any structures. Separate window and door illustrations for each unique opening are required. Any additional drawings, plans, sketches or photographs pertinent to the request. Drawings should be to scale on 24 x 36 paper.
8. Evidence of notification of affected civic association(s) _____
(Copies of notices sent and delivery confirmation)

APPENDIX 3: VINEYARD BEST PRACTICE PROTOCOL

Fauquier wineries are considered some of the best in Virginia. The county is home to award winning Cabernet franc, Chardonnay, and Rieslings. However, it's not just tour groups and local wine drinkers that appreciate the wineries' presence; these businesses also preserve the agricultural use of land that is so ingrained in Fauquier heritage. Winemakers are stewards of the rolling hills and misty mornings that make its landscape so famous. As a part of being good stewards of this land, the following are voluntary measures that can be implemented to preserve the rural nature of the countryside. Wineries will benefit from the reputation for sustainability and good community relations that these guidelines will help you to achieve. To make good on our word, we have established a "Good Neighbor Award" for those who institute enough practices to score a 15 or higher in both categories. This award would be a strong marketing tool and help to establish good character among the community in which you operate every day.

Community Relations Measures	Description	Point Value
Install Full Cutoff Light Mechanisms	Use only luminaries that have no direct up-light (reducing light pollution) and limit the intensity of glare in the region between 80°and 90°	1
Noise Proof Event Areas	Use soundproofing treatments on event rooms	1
Fully fence Property Boundaries	Install and maintain fenced boundaries to prevent visitors from trespassing onto neighboring property	2
Maintain tree buffers along Property Lines	Maintain vegetated buffers along property boundaries, or in strategic locations to shield neighbors' view of event areas	2
Provide Traffic Assistance for Large Events	Hire an off-duty police officer to direct traffic along busy roads for event of 150 people or larger	1
Train Employees on Alcohol Safety	Have servers complete the online TIPS Alcohol Training & Certification Program	4
Closing Times	Designate the Closing Time for any Special Event to be 9:00 p.m. Monday through Thursday, 11:00 p.m. Friday and Saturday, and 10 p.m. Sunday	4
Limit Large Events	12 Events per year of up to 250 guests. One event per year of up to 500 guests	5

Sustainability Measures	Description	Point Value
Lighting	Install fluorescent fixtures	1
Conserve Water	Practice deficient irrigation, Cover or move inside crush and press operations to eliminate “baking” of waste material on equipment.	3
Sustainable Wastewater Plan	Use pond process water for vineyard and/or landscaping irrigation	2
Meet commercial septic standards	<p>Meet Health Department Standards for to accommodate largest events. http://www.vdh.state.va.us/EnvironmentalHealth/ONSITE/technicalresources/</p> <p>Winery Drain fields associated with septic tanks generally plug quickly due to the high load of solids in the wastewater. The acidic nature of winery wastewater, its high soluble oxygen demand, and its low phosphorus and nitrogen content make it very hard to support a microbial population that can adequately digest sugars and other organics. This website provides guidance on how to calculate and draw plans that accommodate the special requirements of wineries.</p> <p>http://www.eco-nomic.com/Septic%20Systems%20for%20Commercial%20Wineries%20Car%20Washes%20Kennels%20etc.htm</p>	4
Buildings and Tanks:	<p>Insulate jacketed and cold stabilization wine tanks</p> <p>Install strip curtains on conditioned buildings with high traffic</p> <p>Reduce heat gain on tanks with solar screens or building insulation</p> <p>Insulate refrigerant lines</p> <p>Use night air cooling</p>	3
Refrigeration	<p>Replace air cooled condensers with evaporative condensers</p> <p>Install premium efficiency motors</p> <p>Variable speed drives on pumps and centrifugal fans</p> <p>Insulate glycol lines</p> <p>Shift electrical use to off-peak times</p>	2
Cover Crops	Use cover crops like zorro fescue, clovers, and triticale to help control erosion, increase filtration, and add nutrients	3
Filter Strips	Install strips of plants planted parallel or adjacent to vine fields, or along waterways to slow and reduce run-off. Strips cover either 75% of downhill field boundaries or 100% along on property waterways.	2

NATURE-BASED RECREATION IN FAUQUIER COUNTY

Written by Jasmine Amanin, Laura Burden, Jae Won Ha

GOAL SUMMARY

Goal 1: Incorporate more nature-based recreation within the service districts including pocket parks and trails to provide green space opportunities as a way to improve health of the community in Fauquier County in the spaces they live in.

Goal 2: Increase public awareness of and engagement with trails, parks, and green space so access and usage is spread across demographic, economic, and geographic barriers.

GOALS AND OBJECTIVES:

Goal 1: Incorporate more nature-based recreation within the service districts including pocket parks and trails to provide green space opportunities as a way to improve health of the community in Fauquier County in the spaces they live in.

Rationale: While Fauquier County has many opportunities for nature-based recreation, (including sixteen wineries and farms, eleven of which are pick-your-own) the county has little in the way of publicly accessible open spaces. According to Fauquier’s comprehensive plan, over ninety percent of the county is characterized by open space. These open spaces surround Fauquier’s five service districts, in which the county has allowed for population growth. The surrounding agricultural lands are almost all privately owned, excluding Sky Meadows State Park and the C.F. Philips Wildlife Management area. In addition, the county is characterized by an in-migration of inhabitants from the neighboring D.C. metropolitan area. In order to ensure that these inhabitants locate in areas designated for growth, the county must focus its efforts on incorporating green spaces into the service districts where people live. These green spaces can be in the form of pocket parks and trails.

Nature-based recreation enhances the quality of life for inhabitants and improves the overall health of the community. In addition, nature based recreation has economic benefits. Open Space, in the form of parks, forests, and trails can increase property values. Park within “1,500 feet of a home increased its sale price between \$845 - \$2,262” (Economic Benefits of Recreation, Open Space, Recreation Facilities and Walkable Community Design, 2010). People are more likely to spend money in places that have trees. This could dramatically affect the nature of Fauquier’s service districts. Currently, southern Fauquier is characterized by its lower income residents and sprawling development. Providing access to nature based recreation in these areas of the county can improve and diversify the service districts’ economic base. The service districts can employ businesses that cater to their different recreational activities. For instance, the Town of Remington already has a bike trail that passes through the town’s center. Business can cater to this unique recreational activity and capture a large consumer base.

Currently, the service districts are zoned to include a fixed percentage of open spaces. These percentages vary based on the nature of the residential or commercial development. In addition, the current zones include private lawns and golf courses as a part of the open space percentages. One means of enhancing the number of publicly accessible recreational green spaces is to impose a service district open space requirement. This requirement deals specifically with public open spaces, and therefore would not include yards or golf course. In this way, the county can easily consider incorporating publicly accessible green spaces into the places where people live through connected trail networks and pocket parks.

In the service districts, the nature based recreation that is available is not supported by proper management and adequate signage. Places including, Kelly's Ford Wildlife Management Trail and the Rappahannock River are located off major highways. The two are difficult to access because they have not been properly managed. In addition, while Fauquier County has several trails in its Southern region, these trails are also privately owned and managed. Standardizing these trail management guidelines will help ensure that the trails are all managed properly and encourage more residents to utilize the them.

Fauquier County can better serve its residents by incorporating green spaces into its service districts. The county has managed to conserve beautiful scenic viewsheds and much of its agricultural lands. By incorporating more opportunities for recreation where people live the county can enhance the quality of life for inhabitants and enhance the economic viability of their service districts.

Objective 1: Adopt specific service district requirements that will designate 20% of growth area to the conservation of green spaces, trails, and parks.

Task 1): Adopt map of high value areas prioritizing cores, corridors, and specific value areas (such as water quality concerns) capitalize on existing green recreational space (Appendix A).

Task 2): Adopt service district open space requirement (Appendix E) which would dictate open space requirements based on the needs for development and priority assets within the service district.

Task 3): Choose areas where pocket parks and trails are most feasible for the county, utilizing Map B (Appendix B) for the considerations we have given the various economic-demographic areas, and access-need based areas.

Responsible parties: Fauquier County Parks and Recreation, Fauquier County Planning Department, Board of Zoning appeals.

Objective 2: Adopt standardized trail design and maintenance (management) to encourage private trails to conform to Fauquier County standards, to improve the pre-existing parks and trails, and to allow new public trails to be constructed with the new standards as priority.

Task 1): Adopt Design Maintenance Standard for privately and publicly owned trails (Appendix C).

Task 2): Provide a trail design and Management guide to allow private owners to consider changing to *Fauquier County Trail Design and Maintenance Standards*

Task 3): Give Certificate of Excellence for the *Fauquier County Trail Design and Maintenance Standards* (and associated advertising) that would further promote the trail or park.

Responsible parties: Fauquier County Parks and Recreation, Virginia Department of Game and Inland Fisheries Association, and private park/trail owners.

<p>Goal 2: Increase public awareness of and engagement with trails, parks, and green space so access and usage is spread across demographic, economic, and geographic barriers.</p>
--

Rationale: Fauquier County has a many trails and parks, but they are somewhat disjointed. It is particularly notable when comparing northern Fauquier to southern Fauquier. The majority of open green spaces in the southern portion of Fauquier are owned privately. In addition, many of the existing trails are privately owned and managed. This may discourage some walkers or bikers in the area. Particularly notable is Remington. While they advertise routes, the management and advertisement of said routes is not consistent.

Unfortunately there is not a place to greet the many bikers that travel through Remington, which would encourage them to stop. The advertised walking trail does not have a pedestrian friendly streetscape.

Another issue concerns the historical preservation of many sites and trails. Fauquier has a large number of civil war areas including: the Town of The Plains, Rectortown, Marshall (historic Salem), Buckland Races, Delaplane (Piedmont Station) , Catlett's Station, Rappahannock Station, Chapman's Mill, Thoroughfare Gap, Old Jail Museum, Spilman-Mosby House, Warrenton Cemetery. However, many of these sites lack proper infrastructure for visitation. These places could be included in a connections route throughout the county if they had more desirable visitation sites. Also, many of the sites fall into two categories discussed above such as Rappahannock station, which has unsuitable stops along the trail and is difficult to access. The website (<http://www.nps.gov/frsp/rapp.htm>) which outlines the tour has a very complicated map and series of stops which must be accessed by car, as opposed to linking into a trail network.

It is also notable that Fauquier is divided demographically between North and South. While the County's estimated median household income in 2009 was \$88,305, almost \$29,000 more than the Virginia median, this data is skewed because of the variation between Northern Fauquier and Southern Fauquier. This distinction is largely because of where Fauquier's growth is coming from. Northern Fauquier, like Loudoun County, benefits from its location as a commuting suburb for Washington D.C. However, since the southern portion of Fauquier is primarily rural, there is not as much focus on green infrastructure around and in the towns of southern Fauquier. These southern towns would thusly benefit from the green space.

Studies show that "property values and real estate revenues rise 10 to 30 when green spaces are preserved, raising property values without raising tax rates. Properties near green spaces sell faster and for more money." This helps to explain what is going on in Northern Fauquier and gives us a method to promote the same development in Southern Fauquier. Additionally the quality and size of parks have an impact on the economic value of the area, "one study conducted in Greenville, S.C., found that attractively maintained small and medium parks have a positive influence on neighboring property values. However, it also found that such parks that are not improved or well-maintained had negative impacts on residential property values" (The Economic Benefits of Recreation, Open Space, Recreation Facilities and Walkable Community Design, 2010).

Additional green space will allow for healthy living. Trails and green space create walkable communities and a desirable streetscape. "Being physically active is more than a personal decision; community design and the availability of open spaces and recreation areas strongly influence how active people are." Additionally, "people living in walkable neighborhoods get about 35-45 more minutes of moderate-intensity physical activity per week, and are substantially less likely to be overweight or obese, than do people of similar socio-economic status living in neighborhoods that are not walkable." (The Economic Benefits of Open Space, Recreation Facilities and Walkable Community Design) The community will also benefit from improved air quality. Trees absorb pollutants and VOCs, filter runoff, and cool the city - helping to reduce the heat island effect.

The trails themselves--meant to be a connective measure--are not mapped by any of their respective websites so it is difficult to determine a network to follow to hike, bike or fish in Fauquier. There are plans to connect much of Fauquier with consistent trails, however it would seem that actual progress between various service districts is slow going. The Fauquier County Connections Plan, adopted in 2007, outlines the importance of bike and walkways and points out current trails, but has few additions to make these trails more interconnected and usable. The connections noted are along highway routes that connect the service districts, and have limited bike infrastructure. One good case study of these trails is based out of Remington. While Remington has a map and brochures encouraging walking and various biking tours, the infrastructure for these routes are lackluster, and do not encourage one to stop and enjoy the town of Remington.

Objective 1: Inform the public about the various trails, parks, and green space recreation in their area to promote accessibility, usage, and conservation.

Task 1): Create a brochure with maps linking the trails and parks including information on directions from the maps provided.

Task 2): Create signage at parks and trails to better advertise them.

Task 3): Arrange events at various parks (especially as they are opened, enhanced, or re-designed.) to bring the public directly to these spaces.

Responsible parties: Fauquier County Parks and Recreation. Cost will be free, printing charges for findings - \$5,000, signage at parks - \$5,000 (possible state and local grants). Grants for FTE who will digitize the privately owned trails, and other non-digitized maps.

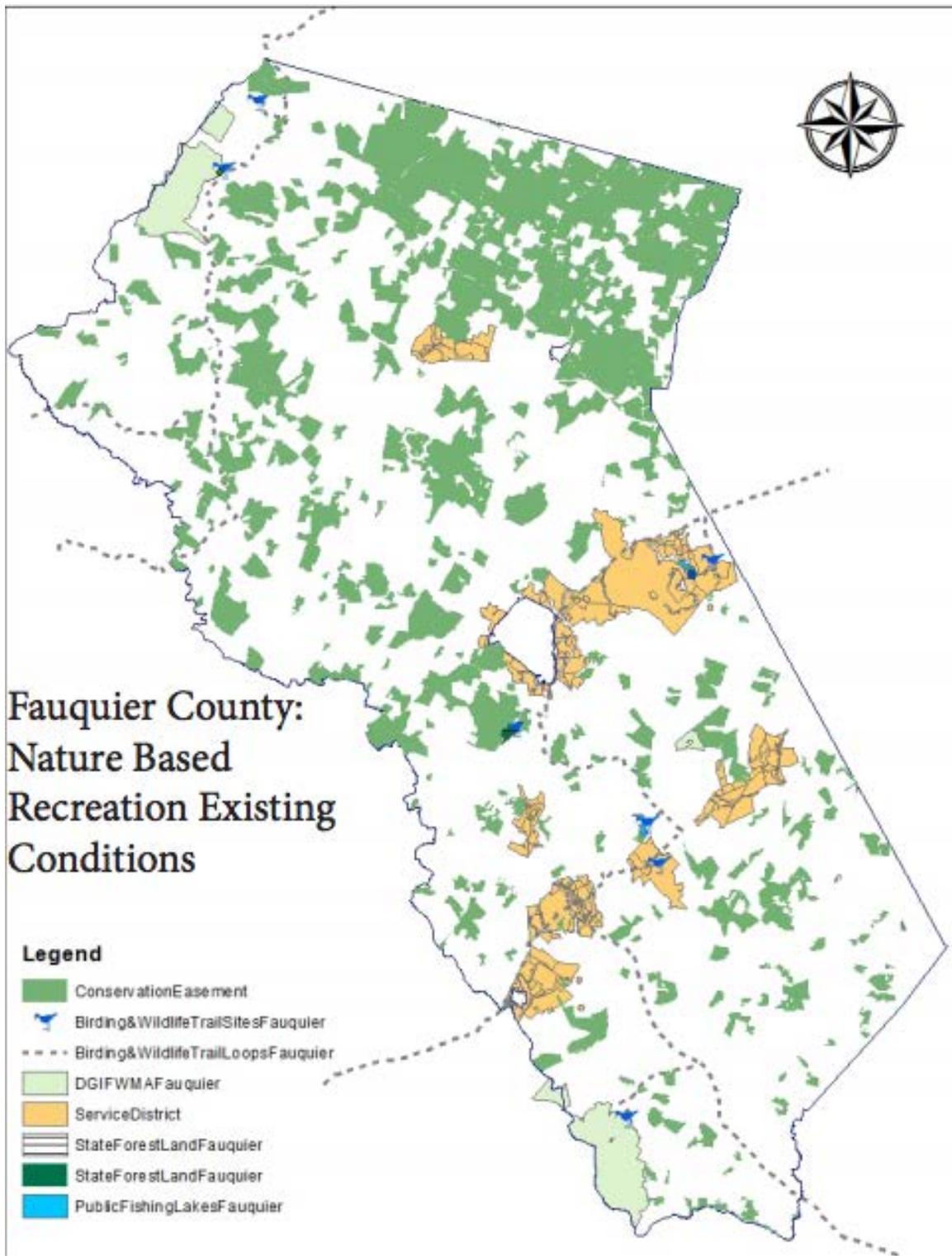
Objective 2: Adopt our best practices for future endeavors that will greater connect pre-existing parks.

Task 1): Hire an employee who can digitize connective trails and parks in Fauquier County, which will advise the county on feasible locations for future endeavors for greater connectivity.

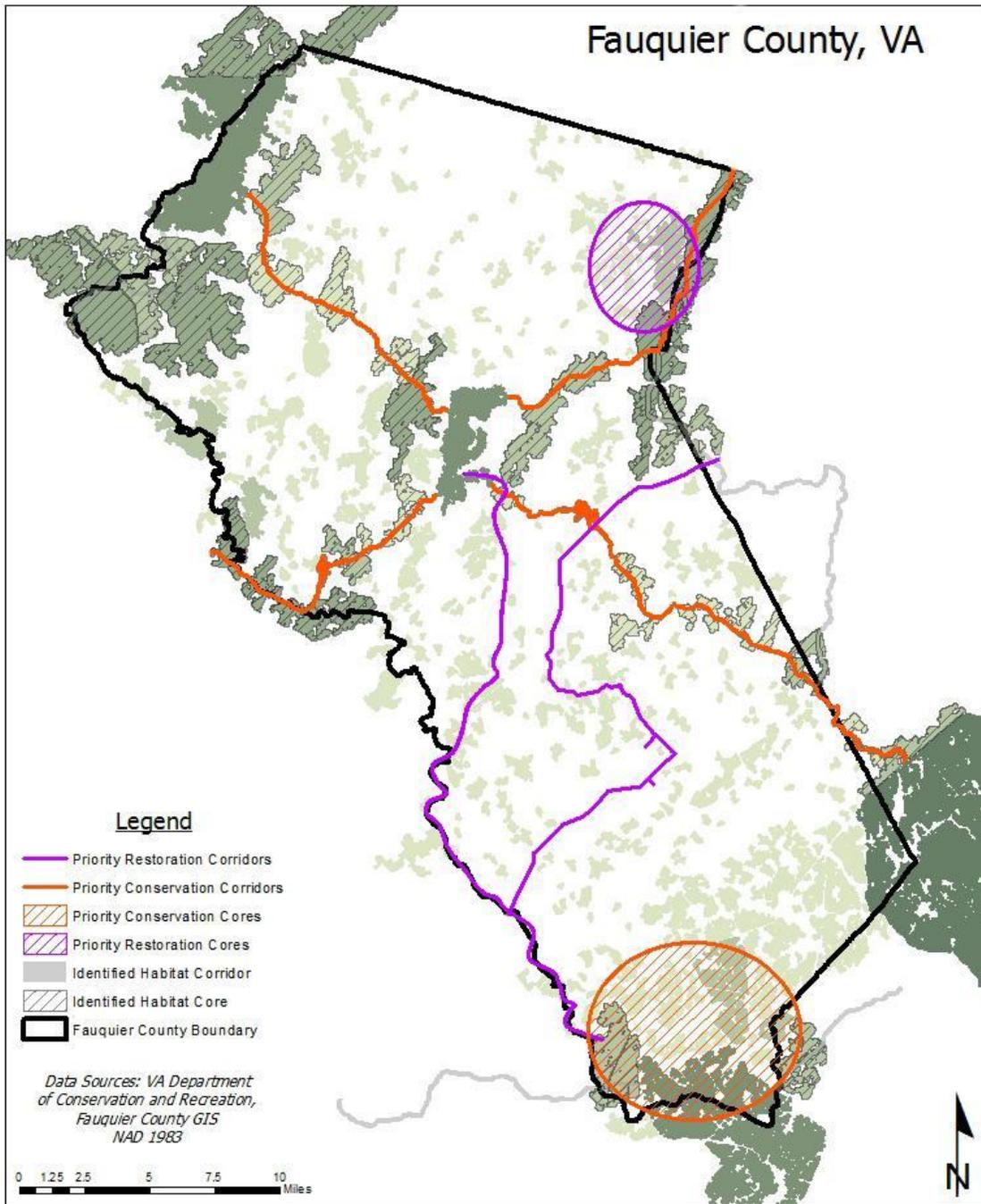
Task 2): Adopt best practice (Appendix D [Vint Hill],) for developers to follow Fauquier's desires for parks and green spaces, including exhibiting the county's design standards.

Responsible parties: Fauquier County Parks and Recreation, Fauquier County Planning Department, Individuals seeking to develop in Fauquier County, Private park/trail owners.

APPENDIX A: MAP A - HIGH VALUE CORES, CORRIDORS AND WATER QUALITY



APPENDIX B: MAP B - "FEASIBLE PARKS AND TRAILS"



Conservation and Restoration Cores and Corridors

APPENDIX C: FAUQUIER COUNTY TRAIL DESIGN AND MAINTENANCE STANDARDS

Trail Design is important as a way to “insure that the route offers optimum scenic, geographic, historic, cultural and biological sites to provide a variety of diverse habitats for the trail user to experience. Trail design is the critical connection to make the trail sustainable, to reduce impacts to the natural environment, and to minimize future trail maintenance” (Richards 10).

There are certain features which should be included in a trail:

1. Ridgeline - avoid high cost of grades and slopes, also give views to countryside.
2. Bluffs and Cliffs - few construction problems, attractive vistas
3. Stream Bottoms - moisture for wildlife and plants not found in upland areas - however can also have issues with mud, can be solved with stepping stones or boardwalks.
4. “Points of Interest”
 - a. Geologic features (bluffs of sandstone or limestone)
 - b. Hydrological features (ponds or lakes)
 - c. Cascades or waterfalls
 - d. Historic and cultural features
 - e. Large of interesting trees

It is also important to be aware of places to avoid

Active farmland
Old home sites with wells or cisterns
Construction problem areas with very rocky or steep slopes
Wetlands or swampy areas
Area of exotic invasive vegetation such as privet or multiflora rose thickets
Stay at least 25 feet from the edge of a stream to prevent impacting the resource
Property boundaries - should stay 100 feet away from adjacent landowners if possible

There are 6 different kinds of trails

1. Single file backcountry hiking trails
 - 4 ft wide by 8 ft tall trail corridor zone
 - Trail tread constructed at 24” and reduced to 18” over time
 - Vegetation cleared several time per year
2. Nature trails
 - 6 ft wide by 8 ft tall trail corridor zone
 - Trail width of 3 ft with clearing of 12 ft diameters (group pause)
3. Mountain Bike trails
 - “Single track” - trail follows same guidelines as the backcountry hiking trails.
4. Equestrian trails
 - 8 ft wide by 10/12 ft tall trail corridor zone
5. Greenway trails
 - Walking path - minimum width of 5ft and require a no bicycle sign.
 - recommend 6 ft for two way path
 - Bicycle path - minimum one way width is 6 ft
 - minimum two way width is 10 ft
 - To accommodate all about 12 ft is achievable.
6. Americans with Disabilities Act compliant trails
 - Wheelchair accessible trail surfaces should not exceed 5% slopes and have a cross slope of greater than 2% and are required to have firm and stable surface.

Also include “Trail Support Facilities”

Trailheads
Toilets

Water

Kiosk sign with maps showing where you are on the trail, points of interest on the trail, trail routes (color coded) and various terrain features.

Paint Blazes

Marks trails

Different colors for different trail routes, or points of interest (should be included on trail map)

Trail signs

Provide direction, mileage or education information

Should include signs directing from the road leading to the trails

Trail Bridges

Large rocks to complex boardwalks

Need to be structurally sound to hold trail users

Trail Maintenance

Remove hazardous trees

Clearing the trail seasonally to keep clear

'Deberming' the trail (removing the berm)

Replacing structures - ensuring that structures are sound overtime

Closing off user-created trails (removing desire trails)

Sources Cited for Guide:

Richards, Bob. Pathways to Trail Building. Tennessee Department of Environment and Conservation and Recreation Educational Services Division. Nashville, TN. 2007. Web.
<<http://atfiles.org/files/pdf/TNpathways.pdf>>

"Services." Trail Design Specialists. Trail Design Specialists, 2012. Web. 14 Oct. 2012.
<<http://www.traildesign.com/services/>>.

For many other useful resources visit:

<http://www.americantrails.org/resources/trailbuilding/index.html>

APPENDIX D: BEST PRACTICES FOR FAUQUIER COUNTY

Vint Hill is a successful, master planned, and mixed-use community that offers a diverse living and working environment with over 140 acres of open space and parkland in Fauquier County. We suggest any development partners, investors, and businesses interested in developing and preserving recreational open spaces, parks, and trails in Fauquier County to utilize Vint Hill's key strategies:

- Vint Hill has conveyed over 100 acres of open space to an established conservancy for preservation.
- Vint Hill's future plans include a 40 acre park with additional trails, an outdoor amphitheater, and other amenities.
- Vint Hill has Planned Commercial Industrial Development (PCID) zoning approval for 3.1 million square feet of commercial development including 250 continuing care assisted and independent units, and 200,000 square feet of retail in a village center, which are designed with a park-like atmosphere.
- Vint Hill embraces both private and public investments.
- The Vint Hill EDA entered into an early non-binding three-way agreement with the University of Virginia and George Mason University representing the first significant step towards a partnership with two major universities.
- Vint Hill community is conveniently located and easily accessible. Vint Hill is located on the eastern boundary of Fauquier County and Prince William County.
- The Vint Hill Vision is to redevelop the former Vint Hill Farms Army base into an exceptional mixed-use community of enduring quality (A way to redevelop currently underserved or abandoned open spaces into vibrant trails and other nature-based recreation).
- Vint Hill manages its parks and open spaces effectively through resources and advices from the Fauquier County Department of Parks and Recreation.

For more detailed information, visit the following website:

http://www.vinthill.com/uploads/documents/development_options.pdf

Based on these strategies Vint Hill has used, here are the suggestions of what we think the developers in Fauquier County should follow:

- Convey at least 25% of open space to an established conservancy for preservation.
- Adopt future plans that include a 20 acre park with additional trails and other public facilities, activities.
- Have both the private and public support for the developments.
- Make developing trails, parks, and open spaces visible and easily accessible for residents and visitors.
- Cooperate with the Fauquier County Department of Parks and Recreations to better manage, promote, and preserve the developed trails, parks, and open spaces.

Source: <http://www.vinthill.com>.

APPENDIX E: ZONING REQUIREMENTS, PROPOSED CHANGES AND POCKET PARK STANDARDS

1 Fauquier County's current open space requirements.

Zone	Zone Code	Open Space Requirement
Rural Agricultural	RA	85 percent of gross site area shall be in non-common open space unless a special exception satisfying the standards of Section 5-2601 is approved.
Rural Conservation	RC	85 percent of gross site area shall be in non-common open space unless a special exception satisfying the standards of Section 5-2601 is approved.
Village	V	
Rural Residential	RR-2	35%
Residential-1 Dwelling Units/Acre	R-1	25%
Residential-2 Dwelling Units/Acre	R-2	20%
Residential-3 Dwelling Units/Acre	R-3	15%
Residential-4 Dwelling Units/Acre	R-4	15%
Town House		
Garden Apartment		
Manufactured Dwelling Park		
Planned Residential Development	PRD	Not less than 25 percent of the gross area of the PRD shall be in open space, except that PRDs with fewer than 20 acres located along the main street of a Service District as identified in the Comprehensive Plan, may have lesser open space as approved by the Board.
Commercial Village		
Commercial Neighborhood		

Commercial Highway		
Shopping Center, Community Regional Industrial Park		
Industrial General		
Planner Commercial Industrial Development	PCID	The development plan for the PCID district shall provide for a minimum of 10% of the total site as open space.
Planned Development Mixed Use	PDMU	The development plan for the PDMU District shall provide for a minimum of 20% of the total site as open space

2 Proposed Requirements: Service District Open Space Requirement

20% of all growth areas shall be conserved in publicly accessible open space recreational units including parks, trails, and pocket parks (not including golf courses or front lawns). All pocket parks shall be in a ¼ mile radius to residential developments, and easily accessible on foot.

3 Pocket Park Standards (taken from Visalia, California) ¹

Size: ½ to 1 acre, except where a smaller “niche” park for protection or preservation of an oak tree or other natural feature may be desirable

Service Area: Approximately ¼ mile radius.

Population Served: Resident population of approximately 500-1000 persons

Location/Orientation:

- Centrally located within the residential/mixed-use development and/or easily accessed by residents or workers, without the use of vehicles, generally within 5 -10 minutes
- Frontage required on one, but preferred on two or more local streets
- Visible from residents/businesses facing or siding, but not backing to, the park
- Minimum street frontage of 100 feet
- Consideration given in residential areas to use by and interests of the young children and the elderly

¹ "Pocket Park Development Standards." *City of Visalia California*. N.p., 7 Feb. 2005. Web. 15 Nov. 2012. <<http://www.ci.visalia.ca.us/about/default.asp>>

- In business or commercial areas, corners or vacant lots may be desirable; unique situations involving road or railroad abandonments or rights-of-way reductions may present other opportunities

Access: By foot or bicycle; should not require parking. Must be ADA accessible

Parking: None required or desired

Minimum Development Features):

- Turf and landscape plantings to promote shade over at least 25% of area*
- Support amenities such as benches (in shade and sun), bike racks, trash receptacles

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For many other useful resources on trails visit:

<http://www.americantrails.org/resources/trailbuilding/index.html>

HISTORY AND CULTURE: POLICIES AND STRATEGIES

Written by: Demi Skipper and Luhan Zhou

Fauquier County is an area that is abundantly rich in historical and cultural resources. The county contains more than 700 historically recognized sites. However, only 120 of these sites are listed within the historic sites appendix within the comprehensive plan. With our research, we hope to begin to identify, categorize and protect the 700 historic sites that are present in Fauquier County.

Our investigation focused on more specifically considering each of the 13 historical Civil War sites by looking at their accessibility, approachability, and protection of view sheds and education of visitors to each of the sites. With these factors, the county can create more social appreciation of the county, as well as help to use these sites as stepping stones for visitors to other beautiful natural resources.

We understand the preservation of natural resources is of utmost important, especially to the citizens of Fauquier County. Yet it is our job to help the people understand that historical and cultural centers can also double as both beautiful places to stop and rest as interconnected networks of wildlife preservation. In order do this, we hope to gain the attention of the Fauquier County Planning Department, as we understand they have taken steps in their comprehensive plan to place more organization of their historic sites for the future, yet little physical evidence has been shown that changes have been made thus far. Within the comprehensive plan, it states that "Fauquier County contains more than seven hundred sites, places, and areas of historic significance. Identification, categorization, and protection of these historic sites and areas will require further work than that presented in this section." Therefore, we believe that more detailed maps, and new buffer standard codes, Fauquier county can have a "head start" in the continued efforts to protect and educate visitors of the historic sites that are present.

These historical and cultural areas of interest will also help to promote tourism to the area and to allow the area to be better prepared for individuals who may visit the county. Currently, many of the citizens of Fauquier County could learn more about the need to protect Civil War sites as naturally beautiful areas that should not be devoid of trees. Better mapping of these sites can assist in identifying specific view sheds and natural assets of the area. With new understanding and protection for these Civil War sites, additional economic benefits can occur such as purchase of natural foods and services that individuals will want as they visit the sites or bike through the bike paths throughout the county.

GOALS

Goal 1: Identify locations for historical civil war sites and churches within the county.

Goal 2: Protect historical sites and their viewsheds.

Goal 3: Develop historical sites as a tourism and education resource.

Goal 1: Identify all locations for historical civil war sites and churches within Fauquier County.

Rationale: Currently, the main tool for identifying these sites is the Civil War Maps brochure, created by the county, as well as the Fauquier County Website. The county's website does not include a civil war maps brochure does not appear on the website and the website does not list clear directions as to where each of these sites are located. Listing of historic churches would also help to promote visitation and tourism. Although this information can be found on the internet, it is not all in one place. Thus, it is likely that people have been further discouraged from visiting the historical sites of Fauquier County because all of the information was not readily available to them.

Objective 1: Create a new, updated map with coordinates in order for visitors to more quickly map where each historic Civil War site is located, using a GPS location.



Old Signage



New Proposed Signage

Goal 2: Protect historical sites and their view sheds.

Rationale: Statistics indicate that the County is steadily losing its historic building stock. According to the U.S. Census, between 1940 and 2000, the County experienced a loss of almost 35% of its 5,296 pre-1940 residential buildings. The County also lost a considerable number of its historical barns, silos, and other agricultural outbuildings during this same fifty year period. Another 150 historic homes were demolished or came off the tax rolls between 2000 and 2006. Fortunately, several citizen and county efforts are underway to document and protect these limited resources, such as the 1866 train depot was saved from demolition by the Remington Community Partnership.

It is important to further investigate how to protect these sites since historical sites can double as historical records for remembrance and education as interconnected networks of wildlife preservation. In order to achieve this, these sites should be linked to natural landscape around the county as these historical sites play a role in a larger context and also help in connecting trails, open space and parklands.

Besides preserving historical sites themselves, protecting rural view sheds from sites is also an important part of our second goal, not only for the ecological network connection, but also for the experience of visitors. Standing in a rural trail, while facing to a recycling center is definitely not an ideal experience for visiting a historical site. This type of incompatible development which does not consider the viewshed destroys the natural beauty of historical sites. Many historic sites may become further degraded without protective action (See Appendix 4).

Objective 2a: Create a buffer standard using previously successful buffer standards from other counties. (See Appendix 2)

Objective 2b: Create a point system in which the buffers and their current standards can be rated in order to begin to make positive changes to the sites. (See Appendix 4)



Civil War Site



Civil War Site with Buffer Standard

Goal 3: explore opportunities for developing historical sites as a tourism and education resource.

Rationale: Historical buildings and areas present towns and county's with many opportunities for cultural tourism. People that wish to visit old towns and historic sites would spend a lot of money in those communities. However, visibility, accessibility, education and proper management are huge concerns for existing historical sites. Currently, Fauquier County is nowhere near their full potential in promoting historical sites as tourist sites. After visiting many of the civil war trails and historical churches in the area, it is clear that there is currently very little knowledge of their existence.

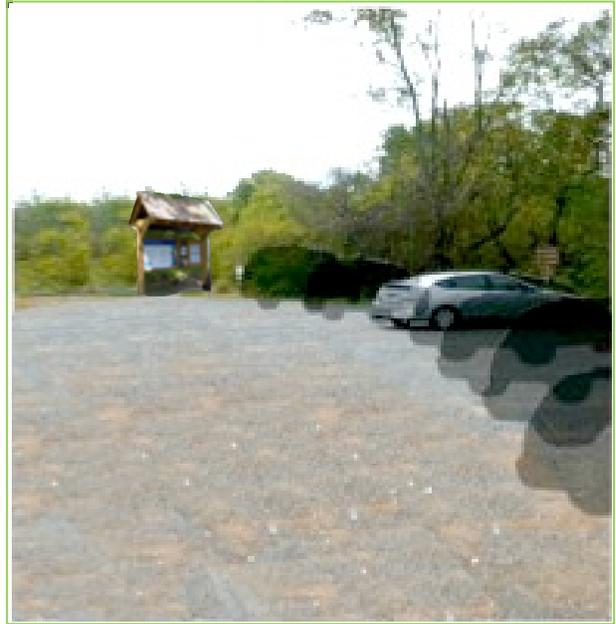
Many of these problems are potentially rooted in low visibility, accessibility and education of the residences and visitors around the areas. For example, Blackburn's Ford is a Civil War site with a nice trail and is close to a beautiful water source with very few visitors. Currently, there is very little to read about the area and any info pamphlets that had once been there had not been replenished.

We hope that with our first two goals in place, the sites can replenish their brochures and create a clear understanding of the location of the site on the Fauquier County website in relation to the highway.

Objective 3: Educate elementary and Middle School students about the main means for sparking interest in historic Civil War Sites. This education and history that is gained by the students will spark interest in other sites, as well as carry on to other families and other schools.



Original Parking and Info



Newly Proposed Parking and Info

RESOURCES AND FUNDING OPPORTUNITIES

1. Virginia Open-Space Lands Preservation Trust Fund (VOSLPTF)
Website: http://www.virginiaoutdoorsfoundation.org/VOF_land-ptf.php
Contact: Bob Lee, Virginia Outdoors Foundations

This source of funding could assist in the financial coverage of residents of Fauquier County who live adjacent, or in the vicinity of a historic Civil War Site. This way, those residents could gain support to help to pay for conservations easements in order to conserve the natural view sheds near all historic Civil War sites in the area. Funding costs for this grant generally include: appraisal services, legal fees as well as part of the easement's entire fee.

2. American Battlefield Protection Program
Website: http://www.cr.nps.gov/hps/hpg/state_reports.html

Contact: David Dowling, Virginia Department of Conservation and Recreation

This source of funding truly matches perfectly with the funds needed for our particular goals. Within this grant, the program has loaned funds anywhere from \$1,000 to \$110,000 in order to protect the land and other historic value of all historic battlefield sites. These grants are allocated by state and are generally granted to anyone who hopes to reach goals within the following categories that is deemed fit: Historic Research on a particular battlefield or battlefields, Cultural resource surveys in the area, archaeological digs and surveys or the area, national register of historic places documentation or further nomination to the site, battlefield acquisition plans and preservation planning, local land use planning in order to protect the site, as well as public education.

“The American Battlefield Protection Program (ABPP) promotes the preservation of significant historic battlefields associated with wars on American soil. The goals of the program are 1) to protect battlefields and sites associated with armed conflicts that influenced the course of our history, 2) to encourage and assist all Americans in planning for the preservation, management, and interpretation of these sites, and 3) to raise awareness of the importance of preserving battlefields and related sites for future generations. The ABPP focuses primarily on land use, cultural resource and site management planning, and public education.”

3. Civil War Battlefield Acquisition Grants
Website: <http://www.nps.gov/history/hps/abpp/>.<<http://www.nps.gov/history/hps/abpp>>
Contact: Leon App, Virginia Department of Conservation and Recreation

The land and water conservation fund allocates funding in order to acquire or preserve any threatened Civil War battlefield lands. In the case of Fauquier County, this money would go to helping to protect any of the 13 sites from further disrepair to the landscape or to the view sheds within the area.

4. Historic Resources (DHR) Incentives and Grants
Website: <http://www.dhr.virginia.gov>
Contact: Virginia Department of Historic Resources

This funding source works to give money for historic resource incentives and grants that would be used for easements and archeological research. We feel that our project would definitely fit under those two categories, are our project is focused on significant historical sites in which easements are desperately needed and archeological surveys could be conducted.

5. American's Historical and Cultural Organizations: Implementation Grants (Environmental Education)
Website: <http://www.neh.gov/grants/public/americas-historical-and-cultural-organizations-implementation-grants>

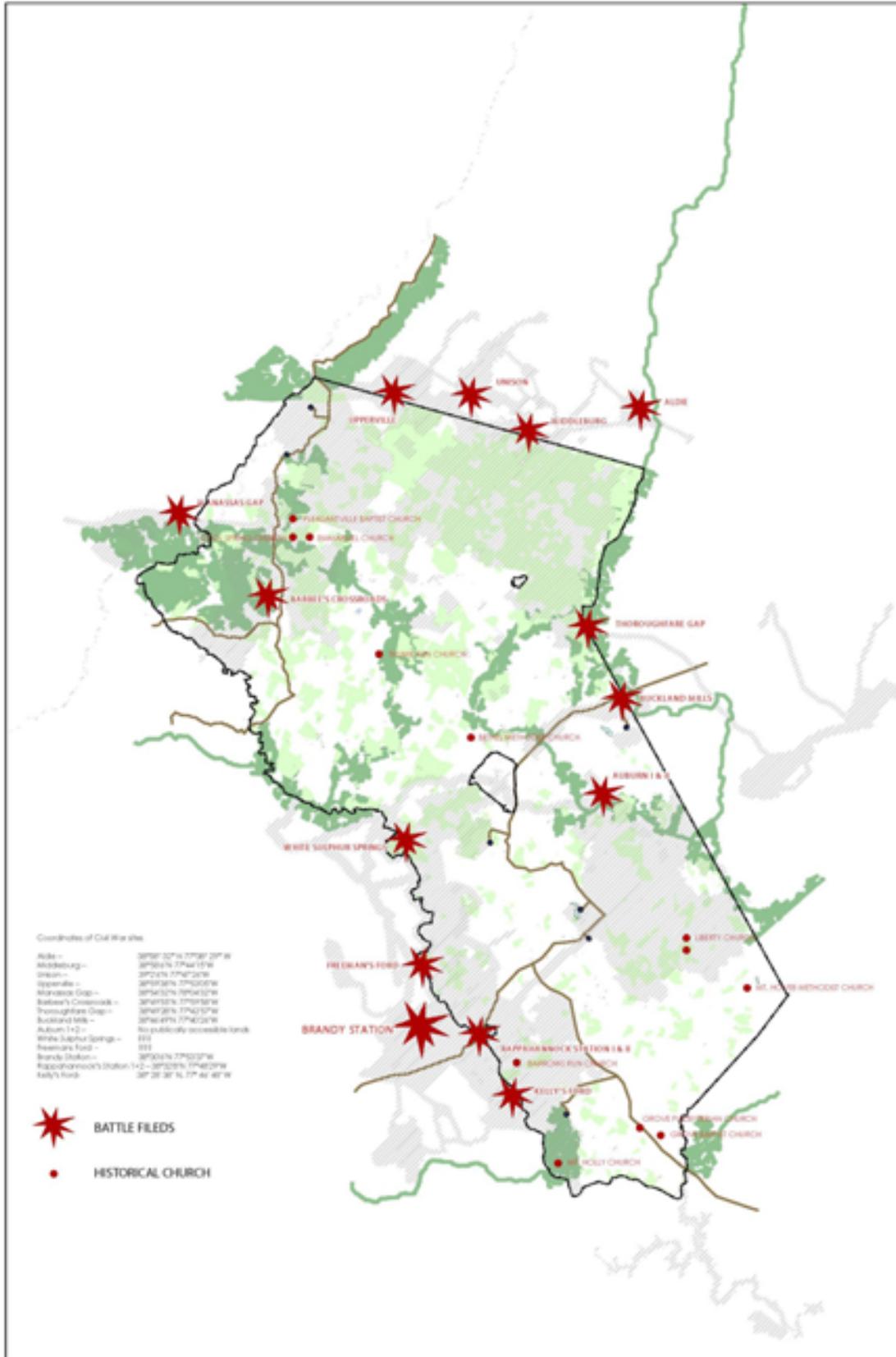
"America's Historical and Cultural Organizations grants provide support for museums, libraries, historic places, and other organizations that produce public programs in the humanities. Grants can support exhibitions at museums or other venues, interpretations of historic places, book or film discussions, live presentations, and interpretive websites."

6. Virginia Resource Use Education Council Classroom Grants
Website:
<http://www.deq.virginia.gov/Connectwithdeq/environmentalinformation/virginianaturally/grantsfunding.aspx>
This grant would specifically assist in the educational goal (3) to allocate funding to Elementary and Middle School students to further educate them on the history and culture of Civil War Sites.

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APPENDIX 1 – NEW CIVIL WAR MAP



APPENDIX 2 – PROPOSED HISTORIC BUFFER STANDARD

Buffer Standard for Historic Sites in Fauquier County

Intent

The criterions of this section are proposed to protect and preserve the integrity of the historic architecture, landscape, and their context to further protect public views of these assets along the public rights-of-way.

Applicability

The standards of this section will hereby apply to all sites (existing and future) listed on the National Register of Historic Places.

Demolition

No demolition of a historic structure or site may occur until an exception has been approved in accordance with the provisions of Fauquier County.

Moving

No moving or relocation of a historic structure or sites shall be permitted until Exception paperwork has been approved in agreement with the Fauquier County. Relocation should not be

Considered unless it is found as the only alternative to its immediate demolition.

New Construction : Exterior Alterations

No new construction located on a historic structure or site or significant exterior alteration of a

historic structure or site may occur until a Special Exception has been approved with Fauquier County. The applicant must demonstrate that all proposed renovations are consistent with the National Register of Historic Places (NRHP) such that the structure shall remain listed on the NRHP following the completion of the proposed new construction and exterior alterations.

Nearby Development

All subdivisions, offices, commercial and industrial structures that are located within a 300 foot radius of a historic site shall be reviewed by the Fauquier County Planning board in order to review and determine the overall impact of the new structure on the current historic landscape of the site. Additionally, the Planning office with work to minimized through the location of vehicular access points, screening/buffering and other site design tool

APPENDIX 3 – AMERICAN BATTLEFIELD PROTECTION PROGRAM

American Battlefield Protection Program Authorization as of 2009 16 U.S.C 469k-1 (16 U.S.C 469k-1 replaces 16 U.S.C. 469k) § 469k-1. AMERICAN BATTLEFIELD PROTECTION PROGRAM.

(a) Purpose- The purpose of this section is to assist citizens, public and private institutions, and governments at all levels in planning, interpreting, and protecting sites where historic battles were fought on American soil during the armed conflicts that shaped the growth and development of the United States, in order that present and future generations may learn and gain inspiration from the ground where

Americans made their ultimate sacrifice.

(b) Preservation Assistance-

(1) IN GENERAL- Using the established national historic preservation program to the extent practicable, the Secretary of the Interior, acting through the American Battlefield Protection Program, shall encourage, support, assist, recognize, and work in partnership with citizens, Federal, State, local, and tribal governments, other public entities, educational institutions, and private nonprofit organizations in identifying, researching, evaluating, interpreting, and protecting historic battlefields and associated sites on a National, State, and local level.

(2) FINANCIAL ASSISTANCE- To carry out paragraph (1), the Secretary may use a cooperative agreement, grant, contract, or other generally adopted means of providing financial assistance.

(3) AUTHORIZATION OF APPROPRIATIONS- There are authorized to be appropriated \$3,000,000 annually to carry out this subsection, to remain available until expended.

(c) Battlefield Acquisition Grant Program-

(1) DEFINITIONS- In this subsection:

(A) BATTLEFIELD REPORT- The term 'Battlefield Report' means the document entitled 'Report on the Nation's Civil War Battlefields', prepared by the Civil War Sites Advisory Commission, and dated July 1993.

(B) ELIGIBLE ENTITY- The term 'eligible entity' means a State or local government.

(C) ELIGIBLE SITE- The term 'eligible site' means a site--

(i) that is not within the exterior boundaries of a unit of the National Park System; and

(ii) that is identified in the Battlefield Report.

(D) SECRETARY- The term 'Secretary' means the Secretary of the Interior, acting through the American Battlefield Protection Program.

(2) ESTABLISHMENT- The Secretary shall establish a battlefield acquisition grant program under which the Secretary may provide grants to eligible entities to pay the Federal share of the cost of acquiring interests in eligible sites for the preservation and protection of those eligible sites.

(3) NONPROFIT PARTNERS- An eligible entity may acquire an interest in an eligible site using a grant under this subsection in partnership with a nonprofit organization.

(4) NON-FEDERAL SHARE- The non-Federal share of the total cost of acquiring an interest in an eligible site under this subsection shall be not less than 50 percent.

(5) LIMITATION ON LAND USE- An interest in an eligible site acquired under this subsection shall be subject to section 6(f)(3) of the Land and Water Conservation Fund Act of 1965 (16 U.S.C. 4601-8(f)(3)).

(6) AUTHORIZATION OF APPROPRIATIONS- There is authorized to be appropriated to the Secretary to provide grants under this subsection.

APPENDIX 4 – PROPOSED BUFFER STANDARD POINT SYSTEM

5 Points – Easement located on and around the site with clear evidence that easement is effective and functioning as a buffer to urban technological growth.

4 Points – Easement located near the site, but easement either does not seem to cover the site or does not seem to be functioning for all view sheds.

3 Points – No easement present in or around the site, but adequate protection for the view sheds seems to have taken place.

2 Points – No easement present in or around the site, and little to no protection for the view sheds seems to have taken place.

1 Point – No easement present in or around the site and absolutely no protection for view sheds has taken place.