

# ADVANCING STRATEGIC CONSERVATION IN THE COMMONWEALTH OF VIRGINIA

*Using a Green Infrastructure Approach  
to Conserving and Managing  
the Commonwealth's Natural Areas,  
Working Landscapes, Open Space,  
and Other Critical Resources*



## EXECUTIVE SUMMARY

**By Mark Benedict, Will Allen and Ed McMahon**

The Conservation Fund, Center for Conservation and Development

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# THE VIRGINIA GREEN INFRASTRUCTURE SCOPING STUDY

## Executive Summary

The time is ripe for the Commonwealth of Virginia to embrace a proactive approach to conservation. Policy makers and citizens alike are recognizing the importance of natural resources and working landscapes to the ecological and economic vitality of the state and its communities and have indicated through word and action that they are searching for ways to make a financial commitment to protecting Virginia’s resources. Furthermore, a number of state agencies, coordinating entities, and nongovernmental organizations are engaged in conservation programs and initiatives that could become part of a statewide strategic conservation approach.

This is the Executive Summary of the Report for The Conservation Fund’s Virginia Green Infrastructure Scoping Study. Please see the full report for more details on the Study’s findings and recommendations.

## Background

In the summer of 2002, The Conservation Fund (the Fund) received funding from the Virginia Department of Forestry’s Urban and Community Forestry Assistance Program to investigate the institutional capacity, support, and structure for a statewide green infrastructure network. In doing so, the Fund looked at the current institutional capacity, support, and structure within the state government, as well as the programs and resources available from other public and private entities working statewide and regionally in Virginia. Funding for this grant was matched with

support from the Virginia Environmental Endowment and the Brunckhorst Foundation.

It was our premise, in proposing the project, that green infrastructure “can provide Virginia with a strategic framework for land protection and growth while promoting smart growth and smart development.”<sup>1</sup> As we received guidance for the scoping study from public and private conservation professionals in Virginia, it became evident that we needed to create an even broader framework to ensure buy-in at the state, regional, and local levels. Although ecological features represent their fundamental building blocks, green infrastructure networks can also encompass working landscapes and other cultural and historic features. Strategic conservation ensures that all assets of conservation value are incorporated into the framework to enhance and increase the effectiveness of Virginia’s conservation programs. As a result, we have entitled this report “Advancing Strategic Conservation in the Commonwealth of Virginia: Using a Green Infrastructure Approach to Conserving and Managing the Commonwealth’s Natural Areas, Working Landscapes, Open Space, and Other Critical Resources.”

The product of this work is a set of recommendations for the Commonwealth of Virginia, the Virginia Department of Forestry (DOF), and other state agencies on how best to establish a programmatic framework for strategic

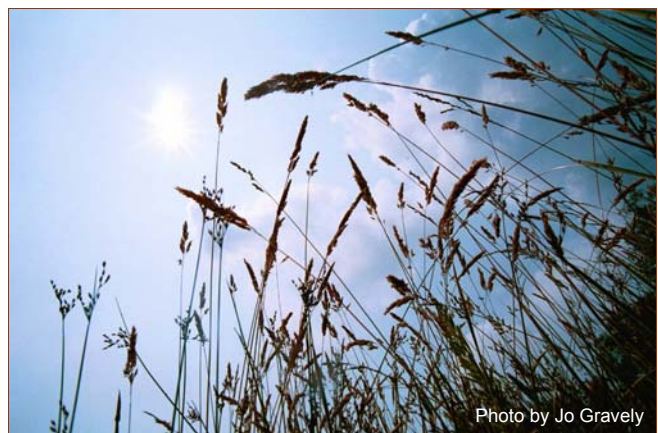


Photo by Jo Gravely

conservation in the state. These recommendations are not intended as a set of specific guidelines for how a group interested in implementing a green infrastructure initiative should do so. It does not cover issues about how to balance the needs of conservation and land-use planning or what sets of data to use when creating a green infrastructure network nor does it offer recommendations regarding local actions or the types of support for local actions needed at the state and regional levels. Rather, it is meant to offer guidance on steps the Commonwealth can take—specifically, the Department of Forestry, which funded this report, and its partner agencies—to be more strategic in its approach to conservation.

We believe the first step is to begin to institutionalize the knowledge various players have about the activities that are taking place and about what works (and what does not) in the state by establishing a body that would meet regularly to discuss opportunities for furthering green infrastructure through strategic conservation (what we have called a “leadership forum”). This is discussed under the section “Leadership for Advancing Strategic Conservation” in the Executive Summary and further elaborated on in the Findings and Recommendations sections of the full report. It will be up to whoever decides to take on the task of convening such a forum to determine the organizations that should be included, and then up to the leadership forum itself to determine how to craft a green infrastructure approach, what criteria to use for selecting the elements of a green infrastructure, and, perhaps most important how to involve the wide range of other organizations that should be involved in a Commonwealth-wide effort—including the many local organizations that would be essential to a “bottom-up” approach.

This Executive Summary encapsulates the main

findings of the final report developed by the Fund to advance strategic conservation through the application of green infrastructure concepts and practices. The findings and recommendations summarized here are discussed in more detail in the full report.

## Methodology

The project commenced with an assessment phase. The Fund staff held a series of meetings with individuals from state and regional agencies and organizations involved with land conservation in Virginia. At these meetings, the Fund spoke with participants about their conservation programs and resources, the opportunities and challenges they faced, gathered information on strategic conservation projects occurring at the state, regional and local levels, and obtained feedback on the need for and benefits of taking a

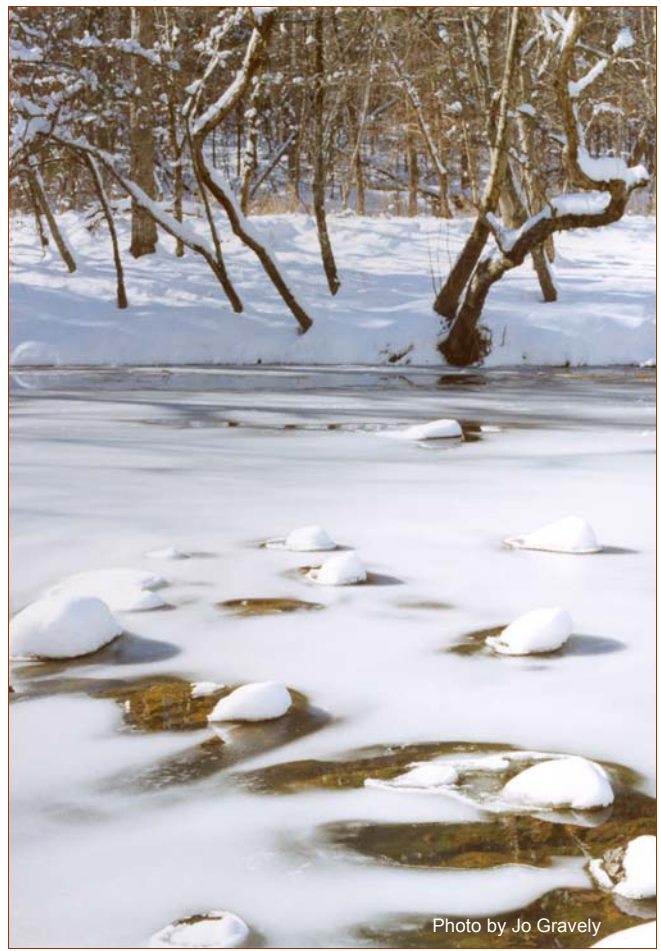


Photo by Jo Gravely

green infrastructure approach to strategic conservation. Among the organizations involved in these discussions were state government agencies, regional planning district commissions, land trusts and other statewide and regional conservation organizations, and other nonprofit organizations. In addition to these interviews, the Fund conducted a meeting with key stakeholders to review the draft and discuss the findings and

recommendations. This meeting provided an opportunity not only to review the draft, but to air opinions about various strategies that might be taken to advance strategic conservation in the state. Comments of participants and other reviewers were incorporated into the findings and recommendations included in the final report.

To further analyze conservation planning opportunities, the Fund collected digital data on

Virginia's conservation lands and agricultural-forestral districts. Project staff also collected information on strategic conservation projects and activities taking place at the state, regional, and local levels within the state, as well as citizen surveys and other information revealing the scope of Virginia's conservation challenges and public awareness of and concern about related issues.

The recommendations in this report are derived from the Scoping Study's assessment results.

They draw from the experiences of those involved in statewide and regional projects in Virginia. In addition, the recommendations draw on the experience of the Fund and its staff in working with states, regions, and localities on green infrastructure initiatives nationwide. In particular, the report draws on the lessons learned as the states of Florida and Maryland have embarked on statewide green infrastructure initiatives.

Associated with the primary project objective, the Fund also committed to inform community, regional and state leaders of the benefits and opportunities of using a green infrastructure approach to strategic conservation.

Accordingly, the Fund has delivered presentations on smart conservation/smart development in Fluvanna County, Page County, Rappahannock County, Ashland, Blacksburg, Paige City, Loudoun County, Purcellville,

Orange County, and Leesburg, as well as at James Madison University, at the Virginia Natural Resources Leadership Summit and to representatives of several Virginia land trusts at the National Land Trust Rally. Representatives from Virginia state and local agencies and from several Virginia NGOs also participated in October 2003 in "Green Infrastructure: A Strategic Approach to Natural Resource Planning and Conservation," a four-day course offered by The Conservation Fund in partnership with the U.S. Fish and Wildlife Service.

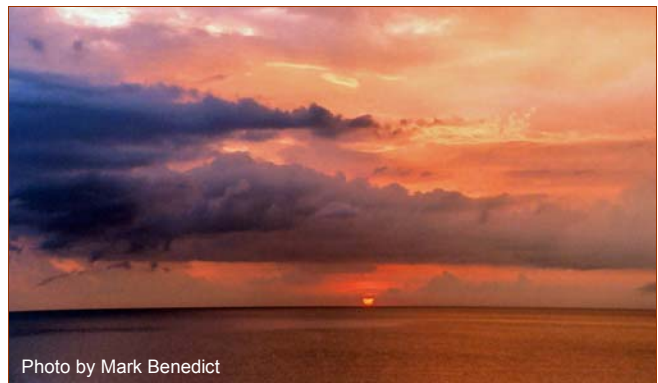
### **Participating Agencies and Organizations**

Chesapeake Bay Foundation  
Chesapeake Bay Program  
The Nature Conservancy  
NPS Rivers, Trails and Conservation Assistance  
Piedmont Environmental Council  
Thomas Jefferson Planning District Commission  
Trust for Public Land  
Virginia Conservation Network  
Virginia Department of Conservation and Recreation  
Virginia Department of Environmental Quality,  
Coastal Program  
Virginia Department of Forestry  
Virginia Department of Game and Inland Fisheries  
Virginia Department of Transportation  
Virginia Outdoors Foundation  
Virginia's United Land Trusts  
Virginia Urban Forest Council

## About The Conservation Fund

The Conservation Fund is a national, nonprofit land conservation organization that forges partnerships to protect America's legacy of land and water resources. Through land acquisition, community planning, and leadership training, the Fund and its partners demonstrate sustainable conservation solutions emphasizing the integration of economic and environmental goals. Since 1985, the Fund has protected more than 4 million acres of open space, wildlife habitat, and historic sites across America.

The Conservation Fund's Center for Conservation and Development (CCD) addresses the increasing consumption and fragmentation of America's land by changing the way land is developed and conserved in America. The CCD aims both to protect significant natural resources *and* to build better communities — increasing returns on investments while protecting resources. Working with the private sector, the conservation community, and public officials, the CCD seeks to improve land protection, land planning, and land use in America through demonstration, planning, and education.



***To learn more about The Conservation Fund  
or to obtain a copy of the full report entitled  
"Advancing Strategic Conservation in the  
Commonwealth of Virginia,"  
call 703-525-6300 or  
visit the Fund's website at  
[www.conservationfund.org](http://www.conservationfund.org).***

## About the Authors

The report on the Virginia Green Infrastructure Scoping Study was written by Mark A. Benedict, Ph.D., William L. Allen, III, and Edward T. McMahon, J.D., of The Conservation Fund.

Mark Benedict is Senior Associate for Strategic Conservation at The Conservation Fund. Dr. Benedict is a scientist with over 20 years experience in natural resource planning and management. He is considered a national expert on green infrastructure and greenways, and has written numerous documents and conducted many courses and workshops on these topics. Dr. Benedict was the Executive Director of the Florida Greenways Commission, Director of the Florida Greenways Program, and Senior Scientist at the University of Florida where he served as co-principle investigator on the development and application of a GIS decision support model to design Florida's statewide greenways system. Previous to his current position, Dr. Benedict was Director of the Fund's Conservation Leadership Network and Liaison to Non-Governmental Organizations at the U.S. Fish and Wildlife Service's National Conservation Training Center. Dr. Benedict has a B.S. from Duke University, and an M.S. and Ph.D. in botany/plant ecology from the University of Massachusetts.

Will Allen is Director of Strategic Conservation and Geographic Information Services at The Conservation Fund. Mr. Allen provides strategic conservation services and GIS mapping solutions to in-house staff and partner organizations, including foundations, public agencies, land trusts, and other nonprofits. Mr. Allen has also designed and instructed in numerous workshops and courses on the use of GIS in resources planning and has conducted a diversity of projects using GIS to evaluate conservation resources and guide land use decisions. He is a founding member of the Society for Conservation

GIS and a member of the American Planning Association. Mr. Allen has a B.A. in Urban and Regional Planning from Stanford University and an M.A. in Regional Planning from the University of North Carolina.

Edward McMahon is the Vice President of The Conservation Fund and Director of the Fund's Center for Conservation and Development. He has served on the Maryland Greenways Commission, the Pennsylvania Greenways Commission and the Board of the National Trust for Historic Preservation. Mr. McMahon is also the co-founder and former President of Scenic America, a national nonprofit organization devoted to protecting America's scenic landscapes. The author of eight books and countless articles, Mr. McMahon is considered a national authority on greenways, green infrastructure, and other conservation issues. He continues to speak at numerous conferences, workshops, and courses throughout the country on a wide range of conservation issues. He has an M.A. in urban studies from the University of Alabama and a J.D. from Georgetown University Law School.

On behalf of The Conservation Fund, the authors would like to thank Lydia Bjornlund, principal of Bjornlund Communications in Oakton, Virginia, who helped to write, edit, and revise the report. The Fund would also like to thank Jo Gravely, a freelance photographer based in Durham, North Carolina, for her design and photography contributions. In addition, The Fund would like to thank the many people who donated their time to share information about their organizations and projects, reviewed the first draft of the report, and met to discuss draft recommendations.

# VIRGINIA'S LAND USE ISSUES AND OUTCOMES

## Land Consumption and Development Patterns

Land consumption rates are at an all time high in Virginia, and developers are converting working lands and open space to other uses at an increasingly rapid rate. Between 1992 and 2000, 381,000 acres of forestland was cleared for development. Northern Virginia and the Chesapeake Bay watershed continue to lose as many as 100 acres per day, primarily due to residential and commercial development. Virginia also lost nearly 450,000 acres of prime farmland from 1987 to 1997—about 5 percent of the state's total farmland. In a 1997 study, the American Farmland Trust ranked Virginia's Northern Piedmont as the second most threatened farmland region in the nation. Furthermore, 50 percent of Virginia's wetlands have been converted to other uses, and 61 percent of the state's environmentally sensitive areas are unprotected and at risk of being lost forever.

Recent data also indicate that the rate of land consumption continues to outstrip the state's rapid population growth. The state is losing rural land at a rate 2.5 times faster than population growth—some 45,000 acres a year. At the



Photo by Jo Gravely

current rate of growth, over 1.37 million acres of land will be developed in Virginia in the next 20 years, and over 2.7 million acres will be developed in the next 40 years. This translates to the development of an area slightly larger than all of the land that has been developed in the Virginia's previous 400 years of history.

More alarming than the quantity of land lost to development is the pattern of this land consumption. Like many other states, the Commonwealth of Virginia faces increasing urbanization. Growth is occurring beyond Virginia's cities and suburbs in areas once considered rural. Too often, this happens without land-use plans or other tools in place to guide development and minimize its negative impact. The result is sprawl.

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*In Virginia, rural land is currently being developed at a rate of 2.5 times that of population growth, and in some places is being developed at a much greater rate.*

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This haphazard approach to land development has a number of detrimental consequences. The loss and fragmentation of land result in a decline in the number of species and the way in which natural systems function. As forests and other working lands are fragmented into smaller and smaller parcels, resource availability, economic viability, and the recreational and aesthetic quality of these lands suffer.

The development of forested lands, wetlands, riparian zones, and other natural areas reduces their capacity to perform their natural functions—controlling floods, trapping sediment, filtering out toxins and excess nutrients, and supporting wildlife and plant species—and threatens the health of the environment. Development has hindered nature's ability to respond to climatic



Photo courtesy of Ed McMahon



Photo courtesy of Ed McMahon

changes and has reduced population viability for wildlife by reducing genetic diversity and limiting movement.

In addition to these ecological consequences, there are also social, political, and economic consequences of the consumption of open lands and the resulting loss of green space. Development comes at a significant and sometimes hidden cost. By undermining the natural air and water purification functions of natural lands, development makes it more difficult (and hence more expensive) for communities to meet air and water quality standards. From a political standpoint,

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***In a recent survey of Virginia residents, 82 percent of respondents said they believe that Virginia's natural areas will soon be lost forever unless we act now to save them.***

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haphazard development and the accelerating conversion of open space have generated a large and growing anti-growth constituency. This diverts attention from the real issue facing communities, which is not *whether* to grow, but *how* and *where* to grow.

The change in land ownership is also creating new challenges for Virginia's state agencies. For example, new owners and residents often have

different attitudes about forestry and traditional forestry methods and often support more restrictive regulations that impact logging operations. A recent GIS analysis conducted by the Department of Forestry concluded that 3.1 million acres of Virginia's 15.4 million acres classed as commercial timberland can no longer be considered rural enough to allow sustainable management for forest products. As land values increase, long-term forest management becomes economically unviable.



Photo by Ryan Hagerly/USFWS

## The Economic Benefits of Conservation

Virginia’s working lands, wetlands, riparian areas, wildlife habitat, and other open spaces are critical resources that improve the lives of Virginians over the long term. The benefits of these resources include abundant wildlife; an attractive and healthy environment; adequate, high-quality water supplies; and recreational opportunities.

Virginia’s economy relies heavily on its natural resources. Working lands—and the forestry and agriculture they support—contribute a multitude of products and represent an important benefit to Virginia’s economy. Agriculture directly employs over 235,000 people in Virginia and accounts for \$19.5 billion in economic activity, 11 percent of the state’s economy; the forest products industry provides an additional 228,000 jobs and \$9.8 billion. And Virginia’s seafood industry, which brings in \$465 million annually—is clearly dependent on abundant wetlands and clean streams and rivers.

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*The real issue is not whether to grow, but how and where to grow.*

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Natural resources are also important assets for tourism. Virginia ranks in the top ten tourist destination states, largely due to its historic, cultural, and natural resources. In 2000, Virginia hosted more than 32.8 million visitors (defined as people who stayed overnight or for whom Virginia was their destination). These travelers spent nearly \$13 billion, representing a payment of nearly \$1.1 billion in state and local taxes.



## Virginia’s Current Land and Water Conservation Commitments

Historically, Virginia has made progress toward protecting and conserving its vital land and water resources. Over 12.9 percent of Virginia’s land base (3.26 million acres) is currently in some form of protection. The federal government owns 74.2 percent of these conservation lands; the state 19.9 percent; the local government 3.6 percent; and private entities, 2.3 percent. The U. S. Forest Service is the largest holder of conservation lands in Virginia. *(See table, Virginia Conservation Lands by Ownership and Type.)*

The Commonwealth has made further commitments to preserve its natural and cultural resources. The Chesapeake 2000 Agreement commits Virginia and its neighbors to “permanently preserve from development 20 percent of the land area in the Chesapeake Bay watershed by 2010.” A recent estimate indicates that to reach Virginia’s share would require the protection of an additional 432,536 acres within Virginia’s portion of the Chesapeake Bay watershed. Virginia is currently at 16.9 percent of the Bay goal.

The Commonwealth of Virginia is also considering a statewide goal to protect 15 percent of land in the Commonwealth by 2014. Over 12.9 percent of this land has been permanently protected to date; it will cost an estimated \$59.2 million per year (through 2014) to protect the remaining 527,820 needed to attain this goal. Virginia also

has committed to establishing 8,000 acres of permanent conservation easements under the Conservation Reserve Enhancement Program (CREP), administered by the Department of Conservation and Recreation, and to place at least 500 properties in perpetual historic preservation easements by 2007.

<b>Virginia Conservation Lands by Ownership and Type</b>			
<b>Ownership</b>	<b>Total</b>	<b>Percentage of Conservation Lands</b>	<b>Percentage of State Land</b>
<b>Federal</b>	2,422,070	74.2	9.6
<b>State</b>	649,248	19.9	2.6
<b>Local</b>	115,873	3.6	0.5
<b>Private</b>	75,489	2.3	0.3
<b>Total Conservation Lands</b>	<b>3,262,680</b>	<b>100.0</b>	<b>12.9</b>
<b>Total Acres in Virginia</b>	25,270,000		
<i>Notes:</i>			
<i>Federal lands owned or managed by DoD, NPS, USFS, and USFWS.</i>			
<i>State lands owned or managed by Virginia DGIF, DCR, and DOF as well as VOF fee and easement properties</i>			
<i>Local lands owned or managed by city and county governments.</i>			
<i>Private lands owned or managed by The Nature Conservancy and other nonprofits.</i>			
<i>Totals do not include agricultural-forestal districts, which are under temporary protection (no perpetual easement).</i>			
<b>Type</b>	<b>Total</b>	<b>Percentage of Conservation Lands</b>	<b>Percentage of State Land</b>
<b>Public Conservation Lands</b>	3,187,191	81.9	12.6
<b>Private Conservation Lands</b>	75,489	1.9	0.3
<b>Agricultural-Forestal Districts</b>	626,623	16.1	2.5
<b>Total Conservation Lands</b>	<b>3,889,303</b>	<b>100.0</b>	<b>15.4</b>
<b>Total Acres in Virginia</b>	25,270,000		
<i>Notes:</i>			
<i>Totals in this table include agricultural –forestal districts, which are under temporary protection.</i>			
<i>Acreage estimates for both tables current as of January 2004, except Ag-Forestal District data, updated January 2002.</i>			
<i>Any new lands acquired since those dates not included in totals.</i>			
<i>Does not include some historic preservation easements and Conservation Reserve Enhancement Program lands.</i>			
<b>Source:</b> 2002-2003 Biennial Report of the Virginia Land Conservation Foundation, January 2004; VDOT Agricultural-Forestal Districts GIS Layer, January 2002; and DCR Conservation Lands Database GIS Layers, January 2004.			

# ADVANCING STRATEGIC CONSERVATION THROUGH GREEN INFRASTRUCTURE

## A Strategic Approach to Land and Water Conservation

The current rate and pattern of land consumption in Virginia and the shortfall between Virginia’s conservation goals and its progress to date clearly demonstrate that the Commonwealth needs a more strategic approach to conservation: a statewide approach that promotes systematic thinking about the planning and protection of natural resources and working landscapes as they relate to development.

Strategic conservation offers the Commonwealth of Virginia an effective strategy to address today’s conservation challenges. Strategic conservation advocates a systematic approach that is:

- ⇒ *Proactive.* The protection of land is done as part of a planning effort that identifies opportunities and priorities in advance of conservation action rather than reactive conservation in response to an individual, identified threat.
- ⇒ *Holistic.* The focus is on the protection of an interrelated system of conservation lands rather than piecemeal protection of individual parcels.
- ⇒ *Multifunctional.* Protection is based on criteria for multiple functions and purposes, rather than on individual criteria, such as species presence, recreation value, viewsheds, etc. This ensures that the whole is greater than the sum of its parts

- ⇒ *Integrated with other efforts.* Rather than occurring in isolation, protection of land is planned within a framework that connects and complements other conservation efforts.

Taking a more comprehensive, proactive approach to conservation provides a number of immediate benefits to communities. It provides a tool for environmental and social benefits that are good for nature, people, and the economy.

Strategic conservation:

- ⇒ Protects and maintains the values and functions of natural ecosystems;
- ⇒ Sustains working landscapes;
- ⇒ Reduces opposition to development;
- ⇒ Provides predictability and certainty;
- ⇒ Reduces costs for built infrastructure.

## What Is Green Infrastructure?

Green infrastructure is an approach to strategic conservation that is growing rapidly in popularity and application. The term can mean different things to different people. This report recognizes the use of the term both as a noun and as an adjective. Used as a *noun*, green infrastructure refers to an interconnected green space network (including natural areas and features, public and private conservation lands, working lands with conservation values, and other protected open spaces) that is planned and managed for the natural resource values it provides and for the associated benefits it confers to human populations. Used as an *adjective*, green infrastructure refers to a process that promotes a systematic and strategic approach to land conservation at the national, statewide, regional, and local scales while encouraging land planning and land use practices that are good for nature and for people.

Moreover, the term *green infrastructure* should be given a broad interpretation to include aquatic resources as well as the many types of resources on land (natural areas, working lands, open spaces, etc.). In fact, the staff of the Virginia Coastal Program has used the term *blue infrastructure* to translate the green infrastructure approach to preserving and conserving the state’s coastal aquatic resources. For the purposes of

conservation planning effort—can provide Virginia with a strategic framework for land protection and land use, a framework that will sustain natural ecosystem values and functions and integrate the needs of fish, wildlife, and human communities; and enable agencies and organizations to work together to guide future growth toward areas that are good for both people and nature.

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***Green infrastructure is our nation’s natural life support system—an interconnected network of waterways, wetlands, woodlands, wildlife habitats, and other natural areas; greenways, parks and other conservation lands; working farms, ranches and forests; and wilderness and other open spaces that support native species, maintain natural ecological processes, sustain air and water resources and contribute to the health and quality of life for America’s communities and people.***

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this report, however, green infrastructure assumes the incorporation of all of the state’s natural resources. Virginia’s coastal zone and inland waterways represent some of the Commonwealth’s best assets and should be incorporated into any statewide green infrastructure initiative.

Green infrastructure is different from conventional approaches to conservation because it looks at conservation values and actions in concert with land development and growth management. Other conservation approaches typically are undertaken in isolation from—or even in opposition to—development. In addition, green infrastructure employs planning, design and implementation approaches similar to those used for roads, water management systems, and other community support facilities.

Green infrastructure—a single, holistic, strategic

Many people believe that green infrastructure represents the next generation of conservation action because it forges an important connection between the conservation of land and the use of land. Traditional land conservation and green infrastructure planning both focus on



environmental restoration and preservation, but green infrastructure also concentrates on the pace, shape, and location of development and its relationship to important natural resources and amenities. Unlike more conventional conservation approaches, green infrastructure strategies actively seek to plan land use and land conservation *together* in a way that is consistent with natural environmental patterns. In doing this, it provides a framework bringing together diverse public, private, and nonprofit stakeholders in strategic conservation.

## SUMMARY OF FINDINGS AND RECOMMENDATIONS

The Fund conducted research on conservation organizations, programs, and practices in Virginia. This research reveals that there are a multitude of commendable conservation initiatives and activities currently underway at the state, regional, and local levels. The challenge is to organize what is already taking place into an integrated, strategic, and systematic approach.

### Strategic Conservation Projects and Activities

Throughout the Commonwealth, conservation planning and implementation projects are already underway at the statewide, regional, and local scales. Several state agencies are actively involved in the effort to conserve Virginia's natural resources and working landscapes. For example, in September 2002, the Virginia Department of Forestry Resource Foresters (now Assistant Regional Foresters) developed an action plan that identified forestland conservation as the priority of the Department. The plan states, "There is a need to clarify DOF priorities, possibly redefining Conservation of the Forest Land Base and making it the overarching priority of the agency." During the fall and winter of 2002–2003, the Strategic Management Team established a new vision for the Department of Forestry: "We envision forest resources that support and enhance a healthy living environment." The group met again in March 2003 and discussed land conservation in the context of the new vision.

The Department of Conservation and Recreation (DCR) has made land and water conservation a priority. As the lead agency for the Virginia Outdoors Plan and the Virginia Land Conservation Foundation, DCR has ample experience with various aspects of strategic conservation planning

for the state. Through the Conservation Reserve Enhancement Program and other programs, DCR also serves as a liaison to citizens and conservation-minded NGOs.

The primary mission of the Virginia Department of Game and Inland Fisheries (DGIF) is to manage wildlife and inland fish populations to serve the needs of the Commonwealth. DGIF offers a wide array of programs, publications, training and educational opportunities, and technical assistance on species conservation and management. Perhaps even more relevant to strategic conservation through green infrastructure is DGIF's Comprehensive Wildlife Conservation Strategy, an initiative mandated by the federal Conservation and Reinvestment Act (CARA).

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***"Our central focus and priority should be maintaining a base of forestland which will provide continued resources that support and enhance a healthy living environment."***

— Virginia Department of Forestry, *New Vision/ Forestland Conservation Discussion Paper*, Assistant Regional Foresters, April 4, 2003

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The Virginia Coastal Program, a network of partners coordinated through the Virginia Department of Environmental Quality (DEQ), is also involved in strategic conservation. As part of its overall effort to identify the best remaining coastal resources, it has contracted with DCR's Natural Heritage Program to undertake the Virginia Conservation Lands Needs Assessment (VCLNA) for the Coastal Zone, which identifies ecologically significant cores and corridors that can be prioritized for various protection and management needs. One goal of VCLNA is to train coastal planning district commissions to use this tool, so that they, in turn, can help local

communities develop a picture of important areas that should be protected. Communities can also use the assessment tool to mesh their priorities and needs with those of the state and develop a plan for local action. VCLNA also has set a goal to involve agencies in the development of complementary data sets to address a broad range of protection objectives. The Virginia Coastal Program also has served as a pilot for NOAA's Marine Managed Area National Inventory.

Digital data and GIS capacity—both key to strategic conservation through a green infrastructure approach—are available from a number of state agencies and other sources. DCR's Virginia Conservation Lands Needs Assessment is already engaged in using GIS to model a statewide green infrastructure network in Virginia. DCR's Conservation Lands Database, Conservation Sites Database summarizing biodiversity on a landscape scale, and natural heritage resources database represent key resources for a strategic conservation initiatives featuring green infrastructure.

DGIF's Fish and Wildlife Information Service (VAFWIS), Aquatic GAP project, Anadromous Fish

database, and Threatened and Endangered Species Waters database provide critical information on aquatic and terrestrial species locations. In addition, DGIF's work on the Comprehensive Wildlife Conservation Strategy

brings together federal, state, regional, local, and private partners to review the current status of and trends in wildlife and land protection and develops implementation strategies. The Strategy helps partners prioritize projects and show the need for additional funding.

The Virginia Department of Transportation (VDOT) also has funded several programs to gather data on Virginia's landscapes and has expressed interest in having a plan that would help it determine where to spend its mitigation dollars.

Finally, a number of statewide and regional conservation nonprofits and other nongovernmental organizations are "ready and willing" to work with the Commonwealth on a new strategic

conservation direction. In addition to The Conservation Fund, The Nature Conservancy, the Trust for Public Land, and Virginia's United Land Trusts (VaULT) all have experience in working on conservation resources in Virginia.

### **Virginia Conservation Lands Needs Assessment**

The Virginia Conservation Lands Needs Assessment (VCLNA) is a flexible, widely applicable tool for integrating and coordinating the needs and strategies of different conservation interests, using GIS to model and map land conservation priorities and actions in Virginia.

The Virginia Department of Conservation and Recreation (DCR), with funding assistance from the Virginia Coastal Program of the Department of Environmental Quality, has completed the first iteration of the VCLNA Natural Landscape Assessment for Virginia's Coastal Zone. Based on land cover data derived from satellite imagery, VCLNA's focus is on identifying ecologically significant cores and corridors that can be prioritized for various protection and management needs. The Natural Landscape Assessment data layer is meant to complement other conservation interests and needs.

The VCLNA could help provide the spatial framework for strategic conservation in Virginia, helping to coordinate and integrate diverse conservation actions and target funding to priority areas. It could help DCR identify the conservation lands that would make up the state's ecological network, help DOF identify critical working lands, and help the Virginia Coastal Program identify and integrate green and blue infrastructure networks. The VCLNA can also help support local land use and conservation activities.

While there is clearly much work being done to further the Commonwealth of Virginia’s conservation goals, conservation activities are hampered by the lack of a unified, statewide strategic conservation plan that includes a spatially explicit framework (a green infrastructure network) for determining priorities for on-the-ground investments. The Virginia Outdoors Plan provides a good starting point for a statewide conservation planning initiative, particularly in offering specific land conservation recommendations for each planning district commission, but it only has site-by-site and facility-by-facility data per planning district

commission (PDC) and remains focused primarily on recreation. A further impediment to its use as a strategic conservation tool is that so many independent conservation organizations are involved in implementing the suggestions put forth in

the Plan. To strengthen the VOP as the statewide strategic conservation plan, it will not only need data on individual conservation sites and features by PDC, but will also need maps showing their relation to one another within the PDC and across PDC boundaries.

The work currently being accomplished by the Virginia’s United Land Trusts (VaULT) in concert with several state agencies and other conservation partners, may also serve as a stepping-stone for statewide strategic conservation. VaULT’s Linking Lands Workshops—a series of six regional workshops cosponsored by DOF, DCR, DGIF, the Virginia Department of Historic Resources, Scenic Virginia, and Preservation Alliance of Virginia—produced a series of recommendations for conservation



actions. Published in January 2004, VaULT’s *Heritage Virginia: A Strategic Plan for the Conservation of the Commonwealth’s Natural and Cultural Resources* identifies statewide strategies designed to give guidance to Virginia’s private, non-profit land trust community—working together and in concert with state, regional, and local governments; business and industry; and community organizations—to conserve Virginia’s heritage.

A strategic approach that includes maps such as those generated by DCR’s Virginia Conservation Lands Needs Assessment can help Virginia

integrate conservation action and target limited funds to priority areas. The Virginia Land Conservation Foundation (VLCF) and DEQ’s Coastal Program are funding the VCLNA specifically to provide a framework for setting funding priorities and allocating Virginia’s

scarce resources. This would help the Commonwealth and its communities avoid having their conservation and development agenda influenced by the goals and priorities of any one agency, organization, or individual and would provide a powerful mechanism for benchmarking progress toward desired ends. Better documentation of the progress made to date and what is currently underway on the state, regional, and local levels can help Virginia maximize its existing resources and identify potential new federal and other funding sources.

## Recommendations

- ⇒ The Virginia Department of Forestry should become the model for applying strategic conservation and green infrastructure principles and practices to preserving forest resources on a statewide basis.
- ⇒ The Virginia Department of Forestry and other state agencies should expand upon current conservation-related efforts taking place in Virginia toward a statewide strategic approach to conservation.
- ⇒ The Virginia Conservation Lands Needs Assessment should be expanded statewide and serve as the foundation for the Commonwealth's green infrastructure network. The Virginia Coastal Program should continue to utilize the VCLNA to integrate the green and blue infrastructure networks within the Coastal Zone. The Virginia Department of Game and Inland Fisheries should work with the Department of Conservation and Recreation to incorporate relevant information from the Comprehensive Wildlife Conservation Strategy and other resources to enhance the VCLNA. The Virginia Department of Forestry, under the new Secretariat of Agriculture and Forestry, should utilize the VCLNA as a framework for identifying critical working landscapes. The

Virginia Department of Conservation and Recreation and other state agencies should support periodic re-running of the green infrastructure network model as new and updated data becomes available.

- ⇒ The Virginia Departments of Conservation and Recreation, Game and Inland Fisheries, and Transportation, and other state agencies should continue to invest in the maintenance and enhancement of critical spatial data for conservation, including the Conservation Lands and Sites layers, the Virginia Fish and Wildlife Information Service, and other spatial databases.
- ⇒ The Governor should support the development of a Virginia Geographic Data Library (VGDL). Modeled after the Florida Geographic Data Library (FGDL), a central repository for data should be developed that facilitates integration of the numerous spatial databases available to support strategic conservation activities as well as other natural resource and planning applications.

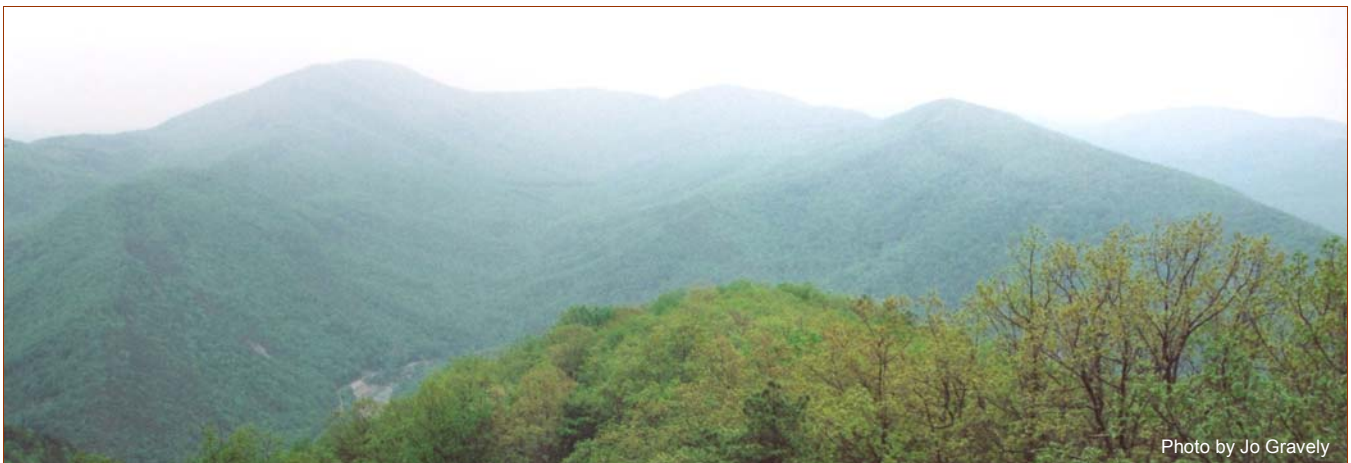


Photo by Jo Gravely

## Leadership for Advancing Strategic Conservation

The Commonwealth of Virginia has the leadership, authorities, and programs in place that could work together to help coordinate, guide, and advance a new statewide, strategic conservation initiative.

The Virginia Land Conservation Foundation (VLCF) is among the mechanisms that could be used to enhance coordination of the conservation activities taking place in the state. With its broad, ambitious scope and the statutory participation of Virginia's natural resources related agencies, the VLCF could serve an important role as an umbrella for advancing strategic conservation in Virginia. The work of VLCF is hampered by the lack of consistent funding for staffing and programs, as the Foundation received no funding in FY2002 or FY2003. DGIF's Comprehensive Wildlife Conservation Strategy, required by and funded with State Wildlife Grant funds, provides another opportunity for agencies to develop a coordinated approach to conservation.

There are several other mechanisms by which Virginia has attempted to coordinate its land conservation programs and maximize related

resources. The Land Conservation Coordination Workgroup (chaired by the Director of DCR) provides a forum for directors of the agencies with land conservation programs (namely DCR, DOF, DGIF, the Department of Agriculture and Consumer Services, the Department of Historic Resources, and the Virginia Outdoor Foundation)

to meet periodically to discuss land conservation issues. The Coastal Policy Team (consisting of agencies under the Secretary of Natural Resources, as well as the Departments of Health, Forestry, Economic Development, and Transportation) has been successful in identifying and addressing issues that cut across agency jurisdictions (e.g., habitat restoration, ecotourism development, stormwater management). Several organizations outside the state government also are involved in coordinating conservation programs and initiatives in Virginia. Founded in 2000, Virginia's United Land Trusts (VaULT) has helped nearly 30 land-trust organizations active in Virginia begin to share information and work more strategically. The

Virginia Conservation Network, an umbrella group for over 100 organizations, also provides a valuable forum for networking and sharing information.

### Virginia Land Conservation Foundation

The Virginia Land Conservation Foundation (VLCF) was established in 1999 by the General Assembly and Governor Gilmore to help fund the protection of Virginia's natural resources. The foundation makes matching grants to state agencies, local governments, public entities, and nonprofit groups for purchasing fee simple title to and interests in real property for land conservation purposes. Part of the VLCF's mandate is to do strategic conservation planning for the state.

VLCF has a very broad and ambitious scope and the statutory participation of Virginia's natural resources related agencies. The director of the Department of Conservation and Recreation is charged with administering, reviewing, and making recommendations on grant applications to the Secretary of Natural Resources and the Virginia Land Conservation Foundation, a 17-member board appointed by the Governor. The board includes representatives from each of Virginia's 11 congressional districts, plus representatives from conservation and agriculture nongovernmental organizations.

When it was created, the VLCF was appropriated \$1.75 million, but since then funding has been minimal. However, given its legislative mandate, the VLCF may be well situated for providing the leadership needed to advance a statewide strategic conservation initiative.

The failure of conservation leaders to come together to focus systematically on strategic conservation for the entire state is among the greatest obstacles that state agencies and other conservation-minded organizations face in their efforts to maximize resources and establish priorities for conservation in the state. The Commonwealth's current conservation leadership structure does not have a common forum with sufficient resources through which to develop and support a statewide strategic conservation program. As a result, the Commonwealth's land and water conservation activities are not well coordinated across agencies, jurisdictions, and geographies. This makes it difficult for state agencies and organizations to integrate their efforts into a comprehensive strategic conservation approach.

As has been seen in other places, capitalizing on existing funding, programs, and resources requires bringing together the wealth of information and players under a common agenda. In Maryland and Florida, for example, the governors formed commissions to establish statewide strategic conservation priorities through a green infrastructure approach. A leadership forum charged with advancing green infrastructure statewide can help the Commonwealth of Virginia maximize existing resources to make strategic conservation a reality.

## Recommendations

- ⇒ The Commonwealth should establish a leadership forum (a commission, task force, coalition, etc.) to guide, coordinate, and support a statewide strategic conservation initiative, patterned after the work going on in Florida, Maryland, and other states.
- ⇒ The leadership forum could be fashioned from an existing conservation coordinating entity (e.g., the Virginia Land Conservation Foundation) or created anew. Due consideration should be given to the structure of the leadership forum and how it will be supported.
- ⇒ State agencies should continue to look for opportunities to work collaboratively on strategic conservation and should enhance opportunities for information and data sharing.
- ⇒ Existing leadership groups charged with and/or currently pursuing land and water conservation initiatives (e.g., the Virginia Land Conservation Foundation, the Coastal Policy Team, and the Chesapeake Bay Program) should be engaged from the outset in any new strategic conservation initiatives.



Photo by Jo Gravely

## Public Awareness and Citizen Engagement

The Commonwealth of Virginia has the leadership, authorities, and programs in place that could work together to help coordinate, guide, and advance a new statewide, strategic conservation initiative.

Surveys indicate that citizens in Virginia recognize the challenges associated with Virginia’s current

rate of land consumption and are willing to support conservation and protection of the state’s valuable resources. In a 2001 survey conducted on behalf of the Trust for Public Land, the Chesapeake Bay Foundation, and The Nature Conservancy, 96 percent of respondents indicated that Virginians owe it to future generations to “protect the land, water, and wildlife for their use and enjoyment”; 89 percent felt that “preserving and protecting open space is important.” Almost as many (82 percent) believe that Virginia’s natural areas will

soon be lost forever unless we act now to save them, and 65 percent support creating a permanent funding source for protecting farms, forests, water quality, and open space. The summary of a workshop undertaken by Virginia’s United Land Trusts (VaULT) reveals that participants from all regions considered the protection and retention of private agricultural and forested lands to be important. In all but the most urbanized areas, this was among the top priorities, as many participants saw these lands

as integral to the character of their community.

Conservation is becoming an increasingly important issue politically. A January 2003 survey of 1,200 Virginia voters found “the highest percentage of voter support (85–90 percent) related to preserving Virginia’s rural character and investing in our agricultural, forestry and natural resource-based industries to keep working farms, forests, and open space.” Yet another survey revealed that 9 out of 10 voters ranked

environmental issues as an important factor when deciding how to vote.

Citizens in some areas of Virginia are more concerned than in others, however. There remain wide regional differences in the level of citizen awareness of the challenges facing Virginia as it deals with rapid growth and development, as well as in public involvement in meeting related conservation challenges. Public awareness initiatives

are important to bring together the citizens of the Commonwealth in achieving the state’s conservation goals.

Some public awareness and citizen involvement activities are underway at the statewide, regional, and local levels. The VaULT Linking Lands Workshops and the Virginia Natural Resources Leadership Institute represent valuable steps toward facilitating an understanding of the conservation-related needs and issues in Virginia,

### VaULT’s Linking Lands Workshops

Organized in 2000 to address the growing interest and number of organizations involved in land conservation, Virginia’s United Land Trusts (VaULT) represents about 30 private land conservation organizations in Virginia. Among its activities is a series of regional “Linking Lands Workshops,” funded in part by the Virginia Department of Forestry and supported by the Department of Conservation and Recreation.

The six regional workshops were designed to provide an assessment of the current status of land conservation in Virginia, identify opportunities for conservation action at the local and regional level, and lay the foundation for a statewide strategic land conservation plan. The workshops represent an effective approach to involving interested parties in state land conservation issues and may serve as a model for further engaging citizens in strategic conservation.

for example. When developing its Virginia Birding and Wildlife Trail, the Virginia Department of Game and Inland Fisheries actively involved local residents in determining which sites to include. The benefits reaped from this approach went beyond finding the sites of most interest to birding and wildlife enthusiasts to increase knowledge about the value of the sites and enthusiasm about their protection. Through this process, local communities were actively engaged in finding ways to manage and maintain the sites they identified for the economic and other benefits Trail users would bring to the area. Some localities within the state, such as Fluvanna County, have also led the way in engaging citizens in a dialogue about the future of their community.

If strategic conservation is to succeed, citizen awareness and involvement programs will need to be expanded to reach more citizens and a diverse constituency. Success will depend, in part, on citizens viewing the effort as a local, grassroots effort to improve their quality of life, not a mandate of the state government. This will require the Commonwealth to carefully target areas in which a green infrastructure approach would further existing conservation initiatives and engage the planning district commissions, local governments, and conservation-minded nonprofit organizations in a way that empowers the local citizenry to make decisions and make progress toward local goals.



## Recommendations

- ⇒ The Commonwealth's state agencies and their conservation partners should take proactive steps to ensure stakeholder input, boost public awareness, and expand citizen engagement in strategic conservation.
- ⇒ The Commonwealth's state agencies and their conservation partners should actively "sell" strategic conservation by linking it to Virginia's critical conservation needs.
- ⇒ The Commonwealth's state agencies and their conservation partners should take advantage of conferences, workshops, and other forums to get the word out about the importance of strategic conservation, current strategic conservation efforts being undertaken by state agencies and NGOs and recommended approaches at various levels.
- ⇒ The Commonwealth's state agencies and their conservation partners should educate and train conservation leaders, elected officials, and the staff of local, regional, and state agencies and conservation organizations about strategic conservation and the green infrastructure approach.
- ⇒ The Commonwealth's state agencies and their conservation partners should design and deliver regional and community-based conservation and land-use visioning workshops that engage participants in identifying their desire for the future of the state and their community as well as engage them in creating a spatial vision or map that can form a basis for future action.
- ⇒ The Commonwealth's state agencies and their conservation partners should develop a statewide strategic conservation/green infrastructure awareness program that highlights the characteristics and benefits of current and planned green infrastructure

projects. The program should be tied to a milestone (such as the Jamestown Celebration 2007) to attract attention and build enthusiasm.

- ⇒ The Commonwealth's state agencies and their conservation partners should develop a communication plan to encourage land preservation and the incorporation of strategic conservation and green infrastructure principles and practices in land use and land development actions.
- ⇒ Landowners and other citizens should be encouraged to consider alternative uses for their lands and to engage in sustainable practices on working lands.

## Funding for Conservation in Virginia

There is a range of funding sources available from various sectors to support conservation initiatives in Virginia. For example, the U.S. Forest Service, the National Park Service, the U.S. Fish and Wildlife Service, the Department of Transportation, the Natural Resources Conservation Service (NRCS), the National Oceanic and Atmospheric Administration (NOAA), and others have programs in place that make available to states and localities a range of funding, training, and technical assistance.

Virginia also has some encouraging new state funding opportunities. The new Parks and Natural Areas Bond Act was passed by overwhelming majorities in the Virginia House of Delegates (95-3) and the Senate (40-0) before being approved by voters in November 2002 with a 69 percent vote. The measure makes available \$119 million in general obligation bonds for parks and natural areas. Over \$36 million is directed toward land conservation; the remaining \$83 million is to be used for improvements at nearly

all of Virginia's 34 state parks. Furthermore, in 2002, the General Assembly authorized \$20 million in bonds for the Department of Conservation and Recreation for land acquisition.

But funding remains an issue. The Commonwealth lags far behind its neighbors in making land and water conservation a funding priority. According to the U.S. Census Bureau, Virginia ranks 50<sup>th</sup> among all states in per-capita spending on natural resource protection, state

### New Conservation Funding for Virginia

Although funding remains a critical issue in the state, new funding mechanisms may make additional funds available to provide start-up support for strategic conservation planning and implementation. For example, The New Parks and Natural Areas Bond passed by voters in November 2002 offers \$119 million in general obligation bonds for parks and natural areas. Over \$36 million is directed toward land conservation; the remaining \$83 million is to be used for improvements at nearly all of Virginia's 34 state parks. The bonds will create 10 new natural areas preserves and expand 8 existing preserves to protect critical habitat, and will be used to acquire 3 new state parks and increase the size of 11 existing parks.

parks, and historic preservation. In 2001, Maryland spent \$121 million on land conservation, North Carolina spent \$58.5 million; Virginia just \$9.6 million.

Faced with budget difficulties in recent years, Virginia has continued to cut already limited funding for conservation initiatives. General funds for natural resources have declined 48 percent since FY2000, from \$145 million to \$76 million in FY2004. The percentage of general funding made available to natural resources also has declined during this time—from 1.27 percent of the general fund in FY2000 to just 0.60 percent in FY2004. The Governor's Natural Resources Funding Commission issued a report in

October 2003 declaring that “there was unanimity among Commission members that the current budget appropriations ... does not provide the revenue necessary to address the Commonwealth’s constitutionally established core responsibility to protect our natural resources.”<sup>2</sup>

Many programs—including land conservation, pollution prevention, water quality enhancement, and environmental education—are chronically underfunded. Because federal grants often require matching funds, reducing the amount of state funds for natural resource and environmental enhancement also undermines the ability of the Commonwealth to obtain federal funding. Moreover, the Commonwealth of Virginia has been slow to make creative and coordinated use of federal resources to support its conservation priorities.

Exacerbating the problem of having to make due with so little funding is the fact that the funding is not maximized through a well-planned and

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*Virginia ranks 50<sup>th</sup> among all states in per capita spending on natural resource protection, state parks, and historic preservation.*

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organized allocation process. Each funding program has specific criteria that help differentiate priorities among potential projects, but without a single voice to determine the state’s priorities as a whole, the Commonwealth cannot know if it is getting the best return on its investment. The funding spent on conservation efforts often results in haphazard conservation, with duplication of efforts in some cases and some serious gaps in others. A spatial conservation framework could help the Commonwealth of Virginia ensure that its funds are being spent on priorities and that the conservation work is undertaken strategically to maximize the dollars spent.

## Recommendations

- ⇒ The Commonwealth’s state agencies and their conservation partners should use green infrastructure practices, including the design of a green infrastructure network, to leverage existing funds, to coordinate efforts and programs, to identify future resource needs, and to direct federal, state, and local funding to the Commonwealth’s priorities.
- ⇒ The Commonwealth’s state agencies and their conservation partners should look for opportunities to build partnerships with federal agencies to further the state’s land and water conservation initiatives.
- ⇒ Existing sources of funding should be identified and catalogued to ensure that funds are being spent according to priorities within the Commonwealth.
- ⇒ The Commonwealth’s state agencies and their conservation partners will need to be creative in accessing new and existing funding for land conservation planning and protection. Funding is needed both for direct land protection and for strategic conservation research and planning to determine program opportunities and priorities.
- ⇒ The General Assembly should establish a dedicated source for conservation funding (e.g., a real estate transfer tax, lapsed balanced budget allocation, garbage tipping



fee, surcharge on water utility bills, etc.) and the dedication of a portion of the vehicle registration fee to land conservation should be continued.

- ⇒ Financial incentives should be provided for citizens to support conservation initiatives. Current incentive programs, including forestal-agricultural districts, the state tax credit program, and the option to dedicate a portion of the license renewal fee to land conservation should be continued.

## Capitalizing on Opportunities

Virginia is in an excellent position to capitalize on the momentum generated by the strategic conservation and green infrastructure-related projects that are already underway at the state (e.g., DCR’s Virginia Conservation Lands Needs Assessment), regional (e.g., the Southern Watersheds Special Areas Management Plan), and community (e.g., the Albemarle County Green Space Program) levels. The Virginia Coastal Program blue and green infrastructure planning work and the VaULT Strategic Plan provide a strong foundation for strategic conservation. DGIF’s Comprehensive Wildlife Conservation Strategy, an initiative mandated by the federal Conservation and Reinvestment Act, offers the Commonwealth yet another opportunity to draw on existing efforts and data.



A number of nongovernmental organizations, including The Nature Conservancy, The Conservation Fund, the Trust for Public Land, and regional land trusts, are also working to advance strategic land and water conservation in the state.

Virginians are concerned about what is happening to the natural resources and working lands around them and are interested in finding ways to protect them. The state government has also demonstrated its commitment to looking into options for improving its natural resources protection and conservation strategies. In 2003, Governor Warner convened the Natural Resources Funding Commission to make recommendations about how the state should address the critical funding needs of Virginia’s natural resource programs. In its report, the Commission cited Article XI of the Virginia Constitution, which declares:

“To the end that the people have clean air, pure water, and the use and enjoyment for recreation of adequate public lands, waters and other natural resources, it shall be the policy of the Commonwealth to conserve, develop, and utilize its natural resources, its public lands and its historical sites and buildings. Further, it shall be the Commonwealth’s policy to protect its atmosphere, lands, and water from pollution, impairment or destruction for the benefit, enjoyment and general welfare of the people of the Commonwealth.”

“The inclusion of this provision in the State Constitution is significant,” the Commission continues, “in that conservation and education are the only two programmatic areas identified by the people of Virginia as the core responsibilities of state government.”<sup>3</sup>

“The Governor’s call to action is a wake-up call to all Virginians to refocus on the Commonwealth’s

natural resources,” The Commission concluded. “The Governor should continue to affirm his commitment to natural resources as a Constitutionally established core responsibility of state government and challenge the General Assembly to recognize this priority as well.”<sup>4</sup> The discussions with leaders of Virginia’s conservation agencies and nonprofits undertaken for this scoping study reinforce these findings and underline the importance of continued involvement at the highest level of government.

Virginia’s Departments of Forestry, Conservation and Recreation, and Game and Inland Fisheries, and the Coastal Program will continue to play a leadership role in strategic conservation in Virginia. Collectively, these state agencies work to advance strategic conservation through the use of green infrastructure concepts and practices, as well as meeting Virginia’s conservation objectives in countless ways, including assisting landowners with conservation options, accepting donated lands, purchasing land, placing permanent protective easements on lands, conducting GIS analysis, providing training and education, and facilitating partnerships among organizations within the Commonwealth.

In short, the Commonwealth of Virginia has ample programs, organizations, and experiences on which to build. It is our recommendation that the Commonwealth should expand upon existing resource conservation programs and activities to develop a statewide strategic conservation initiative and an on-the-ground green infrastructure network for the entire state. The state can use such an approach to engage localities in the strategic conservation planning process. The network would provide the necessary foundation for regional and local strategic conservation efforts to integrate local priorities within the broader statewide framework.

## Recommendations

- ⇒ The Commonwealth’s state agencies and their conservation partners should act now to advance strategic conservation in Virginia.
- ⇒ The Commonwealth’s state agencies and their conservation partners should build on what is already occurring in the state toward developing a statewide strategic conservation approach using green infrastructure concepts and principles.
- ⇒ The Commonwealth’s state agencies and their conservation partners should capitalize on the current momentum for improved land and water conservation in Virginia to support strategic conservation statewide.
- ⇒ The Commonwealth’s state agencies and their conservation partners should identify short- and long-term goals and priorities based on the recommendations presented in this report.
- ⇒ Those involved in Virginia’s conservation initiatives should take advantage of the current state milestones, commitments, and other issues in timing strategic conservation programs and initiatives.
- ⇒ Strategic conservation in Virginia should be sanctioned and authorized by the highest level of government possible to give it the authority and visibility needed to bring together diverse agencies and organizations working toward a common objective. Creating a leadership forum charged with advancing strategic conservation statewide—or giving this charge to an existing entity—should be a priority of the state government.

## CONCLUSION

Recent studies of land development and conservation in Virginia demonstrate that the current haphazard approach to development and conservation are ineffective in protecting the state's valuable natural and cultural resources. This report provides an overview of the advantages of using a green infrastructure approach to strategic conservation and offers numerous suggestions and recommendations for how to better preserve and protect the Commonwealth's most valuable natural resources and working landscapes.

The Conservation Fund has a long history of working with Virginia's state agency and organization partners on a diversity of conservation actions. The Fund pledges to assist the Commonwealth of Virginia in advancing its strategic conservation efforts by providing guidance on the creation of a strategic conservation leadership forum and the design of a statewide green infrastructure network; by working with agency and NGO partners to develop green infrastructure educational materials and deliver strategic conservation and green infrastructure educational courses, workshops, and presentations; and by continuing to partner on land conservation and restoration transactions.

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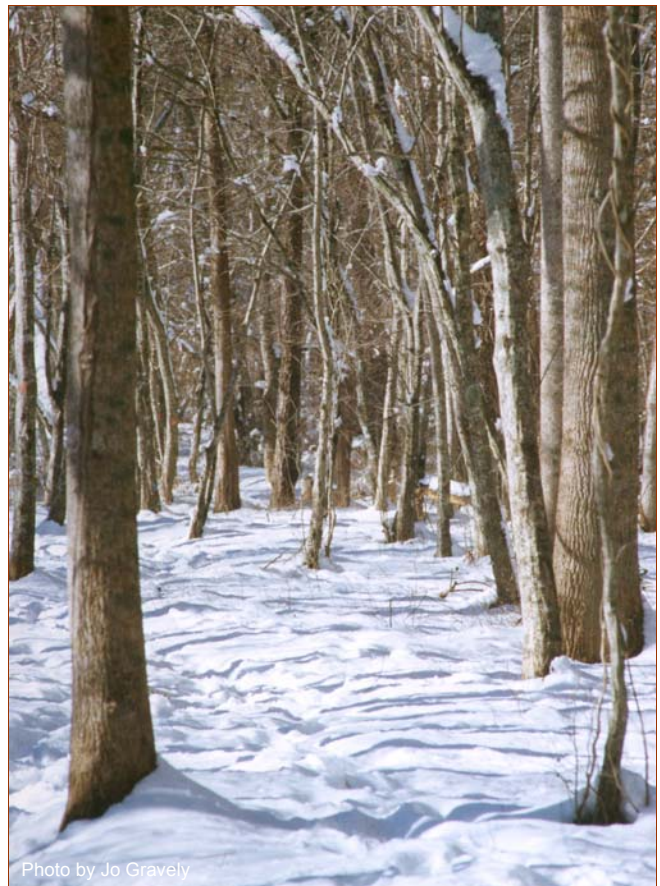


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## REFERENCES

<sup>1</sup> As stated in The Fund's April 2002 project proposal to the Virginia Department of Forestry.

<sup>2</sup> The Governor's Natural Resources Funding Commission, *Recommendations to Address the Critical Funding Needs of Virginia's Natural Resource Programs*, (October 9, 2003) page i.

<sup>3</sup> Natural Resources Funding Commission, *Recommendations*, page 2.

<sup>4</sup> Natural Resources Funding Commission, *Recommendations*, page 10.

## FOR MORE INFORMATION

### About strategic conservation and green infrastructure, please see:

Benedict, Mark A. *Green Infrastructure: A Strategic Approach to Land Conservation*. Chicago: American Planning Association, PAS MEMO, 2000.

Benedict, Mark A., and Edward T. McMahon. *Green Infrastructure: Smart Conservation for the 21<sup>st</sup> Century*. Washington, D.C. : Sprawl Watch Clearinghouse Monograph Series, 2002.

Dramstad, Wenche E., James D. Olson, and Richard T. T. Forman. *Landscape Ecology Principles in Landscape Architecture and Land-Use Planning*. Washington, DC: Harvard University School of Design, Island Press, and American Society of Landscape Architects, 1996.

McMahon, Edward T. "Green Infrastructure," *Planning Commissioners Journal* #37. 2000.

McMahon, Edward T., and Mark Benedict. "How Cities Use Parks for Green Infrastructure." *City Parks Forum Briefing Paper* #5. Chicago: American Planning Association, 2003.

Noss, Reed F., and A. Y. Cooperrider. *Saving Nature's Legacy*. Washington, DC: Defenders of Wildlife and Island Press, 1994.

*Additional information about green infrastructure concepts and approaches can be viewed at [www.greeninfrastructure.net](http://www.greeninfrastructure.net)*

### About land conservation challenges and actions in Virginia, please see:

Chesapeake Bay Commission and The Trust for Public Land. *Keeping Our Commitment: Preserving Land in the Chesapeake Watershed*. February 2001.

McKay, Laura. "Blue-Green Infrastructure and Land-Water Policy Integration: Steps to Creating a Vision for Virginia's Coastal Zone," in *Virginia Coastal Management*, Summer/Fall 2003.

Virginia Department of Conservation and Recreation. *Virginia Outdoors Plan 2002: Our Common Wealth*.

Virginia Department of Forestry. *Virginia's Forests: Our Common Wealth*. 2001.

Virginia Department of Forestry, Virginia Forest Legacy Program. *Assessment of Need*. September 2000.

Virginia's United Land Trusts. *Heritage Virginia: A Strategic Plan for the Conservation of the Commonwealth's Natural and Cultural Resources*. January 2004.

VLCF: Commonwealth of Virginia, *2002-2003 Biennial Report of the Virginia Land Conservation Foundation*, January 2004.

Wilson, I.T. and T. Tuberville. 2003. *Virginia's Precious Heritage: A Report on the Status of Virginia's Natural Communities, Plants, and Animals, and a Plan for Preserving Virginia's Natural Heritage Resources*. Natural Heritage Technical Report 03-15. Virginia Department of Conservation and Recreation, Division of Natural Heritage.



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