CHAPTER 5

Conservation Planning
The conservation of Virginia’s land and water resources is vital to the quality of life enjoyed by Virginians, and its importance is recognized by Article XI of the Constitution of Virginia. With population and associated development increasing at unprecedented rates, the conservation of these resources is essential to both the public well-being and the economic viability of the state. Land conservation is about more than just aesthetics; it is a strategy for improved water quality, safe drinking-water supplies, preservation of historic and cultural resources, protection of our plant and animal communities and maintenance of a thriving economy.

Conservation planning emphasizes the importance of connections between blocks of open space, between developed and undeveloped areas and between society and the landscape. The use of a conservation planning model results in the protection of undeveloped land and waterways that provide essential benefits to society — clean air, clean water, food, fiber, open space for recreation and a sense of place. Conservation planning is integral to long-term effective management of natural and cultural resources that support ecological health and quality of life for citizens of the Commonwealth.

Conservation planning integrates outdoor recreation, open space, cultural resources and conservation lands into ongoing planning and land-use management decisions. Conservation planning supports cost-effective, sound economic development in harmony with land conservation, cultural resource protection and outdoor recreation. Conservation planning guides development to less sensitive lands, which lowers the costs of development, protects water quality, reduces time needed for special permits and creates sustainable communities. Strategically linking undeveloped corridors and hubs of open-space land maximizes environmental, habitat and human benefits of development to meet the needs of growing populations.

As Virginia has developed over the last century, much of its landscape character has been transformed by sprawling development or fragmented by grey infrastructure (buildings, roads, and parking lots) to serve a growing population. Along with, or as part of, existing comprehensive plans, a comprehensive land conservation strategy is needed in each locality to preserve critical landscape components. Planning for conservation — also called green infrastructure planning — is vital for protecting many of Virginia’s shared community assets, such as biodiversity, outdoor recreation, water quality, historic and cultural resources, scenic resources, and working landscapes. Useful tools for the protection of these assets will be described later in the chapter.

Conserved open-space lands provide benefits in terms of working (agricultural and forestal) landscapes, scenic landscapes, recreation, natural areas and parks, cultural and historic resource protection, natural resource protection, water quality improvement and maintenance, and carbon sequestration, along with the economic benefits associated with these functions.

Typically, communities carefully plan and fund “gray” infrastructure — roads, sewers, utilities and buildings — before development occurs. The same level of investment, public involvement and planning is needed for green infrastructure, to steer development to suitable areas and encourage preservation of natural resources. Conservation planning identifies and prioritizes vital natural resources in concert with other community needs and alongside gray infrastructure before development occurs. This planning method guides land development and growth in ways that accommodate increased populations, but also protects natural resources, providing long-term economic viability and community sustainability.

**Table 5.1 Virginia Outdoors Demand Survey**

<table>
<thead>
<tr>
<th>Land conservation questions</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>“Should the state spend public funds to acquire land to prevent the loss of natural areas and open spaces?”</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>73.2%</td>
</tr>
<tr>
<td>No</td>
<td>9.2%</td>
</tr>
<tr>
<td>Don’t know</td>
<td>17.6%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>“How important do you feel it is to protect Virginia’s natural and open space resources?”</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Very important</td>
<td>65.8%</td>
</tr>
<tr>
<td>Important</td>
<td>27.6%</td>
</tr>
<tr>
<td>Not Important</td>
<td>1.3%</td>
</tr>
<tr>
<td>Don’t know</td>
<td>5.4%</td>
</tr>
</tbody>
</table>

“We abuse land because we regard it as a commodity belonging to us. When we see land as a community to which we belong, we may begin to use it with love and respect.”

— Aldo Leopold
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Map 5.1 Conservation lands


Map 5.2 Conservation sites

Source: Virginia Department of Conservation and Recreation Natural Heritage Program, 2013.
The value of conservation planning lies in its comprehensive approach in providing direction for resource protection to all players in land-use issues. To be effective, the planning process must actively engage key players, groups and stakeholders in working together to reach a common goal. Achieving that goal will require a cooperative effort among federal, state and local public agencies, citizens, private conservation organizations, landowners, and developers. Conservation planning in Virginia incorporates a number of voluntary and regulatory resource-protection tools and strategies. These are available to local governments, private land-conservation organizations, developers and individual landowners. Regulatory land-use tools may be delegated to localities by the state. Some mechanisms may be voluntarily negotiated with developers as a condition of development. Both governmental agencies and private organizations can utilize the growing number of voluntary mechanisms in negotiations with private landowners. More information about conservation tools is available at the Virginia Department of Conservation and Recreation website.

**Importance of land conservation**

Virginia is fortunate to have played an integral role in the founding history of our nation. Even with the unprecedented population growth of the last century, there are still places in the state where much of the landscape remains as it was when it was inhabited by American Indians and in the 17th and 19th centuries when European and African settlement began. Virginia’s diverse habitats stretch from the mud flats and salt marshes of the Eastern Shore along the Atlantic Ocean to the forested mountains and agricultural valleys of the Blue Ridge and Appalachian mountains. As Virginia continues to grow and develop its lands, however, its long-treasured landscape character is being lost to sprawling development and is becoming fragmented by gray infrastructure.

Land conservation is vital for protecting many of Virginia’s shared community assets, such as its rich biodiversity, outdoor recreation, water quality, historic and scenic resources, and working landscapes. Localities and stakeholders who wish to preserve essential landscape components will be well served by a comprehensive land-conservation strategy.

**Principles of conservation planning**

Conservation planning ideally produces a network of ecologically significant blocks of landscape, called cores or hubs, which are connected by linear bands of green space, called corridors. These landscape components vary in size, function and ownership. Cores may be composed of public parks, natural areas, historic battlefields, working forests, farms and rural historic districts, while corridors may be scenic rivers, stream buffers, hiking trails and even scenic byways. Each component contributes to the economy, the physical and mental health of citizens and the long-term viability of natural resources and communities.

Large landscape cores are important for several reasons:

1. Ecosystems function best on a large scale. The various natural communities and the many species that comprise them are highly interdependent. Take away a few species and many more may be lost.

2. Many species require large blocks of interior habitat in order to prosper. Human development such as roads, housing, power lines and other utility connections fragments those interior habitats.

3. Fragmentation of habitats creates opportunities for the introduction and spread of invasive species.
4. Many ecological functions, such as cleaning the air and water of pollution, require large expanses of forest and wetlands.

5. Businesses that rely directly on the land — primarily agriculture, forestry and tourism — are affected by economies of scale. Small, scattered farms and wood lots usually cannot support viable agricultural and forestal economies, nor are they as attractive to tourists.

Corridors connecting the cores are also vitally important as avenues of travel for animals, plants, and, in some cases, humans. Some environmentally sensitive features, such as stream courses, can only be protected with corridors. Linear corridors often offer scenic and recreational benefits, particularly when they follow rivers or trails or even roads.

Both public and private lands make up these green infrastructure networks. Some of the land may be publicly accessible, while other land is not. It is important for the public to understand that even though land may not offer public access, it may still provide community benefits such as scenic vistas, historic landscapes, clean air, clean water, food, fiber and wildlife habitat.

Biodiversity

Virginia is home to more than 32,000 native species of plants and animals. Each is part of Virginia's natural tapestry, has intrinsic value and plays a role in the complex web of life. The loss of one may lead to the loss of dozens more and it is difficult to know which may be keystones to entire ecosystems. Some 40 percent of all modern pharmaceuticals are derived from plants and animals. Wild organisms are important genetic reservoirs for improving domestic crops and livestock.

Much biodiversity protection can be accomplished by protecting habitat. For some highly specialized terrestrial species, a significant proportion of their habitat may be secured by protecting relatively small areas of land. One such example is the Virginia endemic vine, Addison’s leatherflower, which has a strong affinity for an unusual soil type on south to west-facing slopes. Other species, such as many forest-interior nesting birds, require large blocks of unbroken habitat in order to prosper. Most species benefit from corridors between population nodes in order to interbreed and to recoup vacated territory. Other key pieces of Virginia’s landscape are critical habitat for brief periods of time. The southern tip of the Delmarva Peninsula, for example, supports millions of migrating birds each fall as they rest and feed in preparation for their flight south across the mouth of the Chesapeake Bay. Other species live out their lives in the dark in one of Virginia’s more than 4,000 caves.

Protecting habitat for aquatic species is a significant challenge because much relies on protecting watersheds, encompassing large land areas. Carefully focused watershed protection efforts will help secure the future for many rare aquatic species concentrated in specific river systems, such as the Clinch River in southwest Virginia. Also, efforts to protect riparian zones on farms and working forests, and to implement other best management practices, will significantly improve conditions for aquatic species throughout the state.

Outdoor recreation

Most of the popular forms of outdoor recreation are either dependent on resource lands and waters or enhanced by their proximity to them. Land protection is essential for ensuring outdoor recreation opportunities for Virginia's growing population. If the citizens of the Commonwealth are not afforded opportunities to enjoy the outdoors and experience Virginia’s diversity, the future of Virginia’s outdoors will be jeopardized. Long-term support for land conservation and open-space protection is strongly tied to outdoor recreation experiences for children and adults. Both public and private lands are important for meeting the needs of outdoor recreation. Public recreation areas are increasingly in demand as large tracts of private land are subdivided and traditional local recreational uses are lost. Conserved private land is important, not only in providing much of the hunting opportunity east of the Blue Ridge, but also in maintaining scenic vistas and serving as buffer lands around major parks and natural areas.
Water quality

The condition of the land has a direct and highly significant impact on water quality. A naturally vegetated landscape provides the greatest benefits to water quality. Undeveloped lands, especially forests, filter both surface water and groundwater. Developed lands usually become predominantly impervious surfaces, such as sidewalks, buildings, parking lots and roads that don’t allow water to filter directly into the ground. Water that cannot soak into the ground runs over the hard surface and eventually ends up in a waterway, often picking up sediment as it flows.

The amount of impervious surface in a watershed directly affects the amount of runoff, altering natural drainage patterns, eroding stream banks, increasing flooding and harming sensitive aquatic life with sediment and other pollutants. Not only does impervious surface accelerate stream erosion and degrade surface water quality, but it also greatly reduces recharge of groundwater supplies. The Center for Watershed Protection reports that streams in watersheds with as little as 10 percent impervious cover have significantly reduced water quality and the more impervious cover there is, the more impaired are the streams.

Protecting large tracts of land as open space through watershed planning and land conservation sustains and improves water quality. By and large, Virginians take for granted the water quality benefits provided by privately held forestland — land that is rapidly being converted to other uses. Several other states, such as Florida and New York, have recognized the importance of protecting significant portions of watersheds, primarily as a means of ensuring adequate drinking water supplies. Investing in green-infrastructure lands can often be more cost effective than conventional public works projects and can protect existing infrastructure investments. Virginia’s conservation-lands strategy should also include the protection of significant watershed areas.

Historic and cultural resources

Preservation of historic resources is linked with land conservation and open-space protection. As development spreads throughout the Commonwealth, it is even more important to protect cultural and archaeological resources. These historic resources provide insight into the social, cultural and economic development of Virginia and give citizens a tangible link to the past. These resources include historic houses, commercial buildings, factories, mills, churches, battlefields, archaeological sites and cultural landscapes. It is sound environmental policy to protect these resources, which preserve important pieces of the past needed to inspire and inform future generations.
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Mabry Mill is a historical site in Floyd County that has been made famous through photography and artwork. Photo by C. Taylor Everett, courtesy of Scenic Virginia.

These resources are also important to Virginia’s economy. Attractive financial incentives spur private investment in historic structures, resulting in the rehabilitation and revitalization of neighborhoods and cities. At the same time, heritage tourism draws thousands of people to Virginia’s towns and cities each year. The 2011 Virginia Outdoors Demand Survey reports that visiting historic sites is considered a need by 53 percent of Virginians, while 55 percent of Virginians believe there is need for access to natural areas. Thus, protecting Virginia’s historic and cultural resources in their landscape settings is essential to maintaining the quality of life in our state.

Historic land protection can take a number of forms. One commonly recognized form is the protection of actual historic sites, such as battlefields, settlements, plantations and historic homes. These have, by private efforts or by chance, retained many of their original characteristics. Other sites of historic value may be obscured, but not obliterated, by changes in the landscape. Archeological sites often fall into this category and need to be protected, at least until artifacts and valuable information can be extracted from them. Many natural landscapes across Virginia are of invaluable cultural significance to the American Indians who called Virginia home long before Europeans arrived.

There is also historic value in preserving representative pieces of Virginia’s landscape. Cotton fields, pine savannahs, expansive mountain forests and long stretches of wild rivers are all part of Virginia’s history. Preserving them is important for helping people reconstruct and visualize the past. For example, a small patch of an ancient swamp forest, protected by The Nature Conservancy, yielded important data from cypress tree growth rings. This data helped historians understand drought conditions during the settlement of Jamestown. Virginia’s history will continue to be discovered as additional landscapes are protected.

Proactive measures must be taken now to preserve Virginia’s historic resources. Such actions should be comprehensive in scope, considering the resource as well as its surroundings and context. When a historic building is preserved, it is also important to protect its historic setting and landscape, including any existing archaeological or other resources, if possible. Collectively, these elements provide a more accurate and rich understanding of the past.

Protecting Virginia’s open spaces supports its tourism industry

Tourism has an annual economic impact of $19.2 billion and sustains 205,000 jobs in Virginia. In 2010, tourism provided $1.2 billion in state and local taxes. The Blue Ridge Parkway alone attracts nearly 20 million visitors annually. Conserving the lands that represent the character of the Old Dominion preserves the landmarks, battlefield sites, public parks, mountain vistas and beaches that tourists travel from all over the world to visit.

Outdoor recreationists spend more than $8 billion within the state annually, making recreation a highly significant factor in attracting travelers to the Commonwealth, according to a 2011 study by Aaron Paul of the Yale School of Forestry and Environmental Studies. Most of the popular forms of outdoor recreation for tourism are either dependent on resource lands and waters or enhanced by their proximity to them. Land protection is essential for ensuring outdoor recreation opportunities for visitors and for Virginia’s growing population and to afford opportunities to enjoy the outdoors and experience Virginia’s diverse landscapes and landmarks. Long-term support for land conservation and open-space protection is strongly tied to outdoor recreation experiences for children and adults.

Both public and private lands are important for meeting the needs of outdoor recreation. Public recreation areas are increasingly in demand as urban and suburban residents seek respite through enjoyment of open spaces.

Scenic resources

The tapestry of Virginia’s landscape ranges from mountain overlooks, to hardwood forests, to the coastal plain. Virginia’s scenery, particularly in rural and agrarian settings, is an important part of what draws people to the Commonwealth. Protecting these scenic landscapes and resources is another reason for land conservation. Scenic areas need to be targeted as special priorities for protection.

Land conservation can maintain a region’s sense of place and the local character of communities. Preserving a clear boundary between cities or towns and countryside safeguards the rural character of Virginia.
Land conservation can serve to protect open space on the edge of urban areas while encouraging more compact, walkable communities. In an urban context, land conservation can serve to maintain community identity and character by encouraging infill development on vacant, underused or overlooked land, including brown-fields. For more information on scenic resources, see Chapter 8.

Working landscapes

Together, agriculture and forestry are Virginia’s largest industries, with a combined economic impact of more than $80 billion annually — $55 billion from agriculture and $27 billion from forestry. The industries also provide approximately 500,000 jobs in the Commonwealth, according to the Weldon Cooper Center for Public Service at the University of Virginia. As a result of a combination of factors including population growth, development patterns and an aging farming population, Virginia lost 3.3 million acres, or more than 20 percent, of its farmland between 1982 and 1997. The most recent information from the USDA’s National Agricultural Statistics Service indicates that between 1993 and 2012, Virginia lost 750,000 acres of agricultural land. Real estate cycles affect the rate of farmland lost to development, but the overall trend clearly reflects a declining number of agricultural acres.

With 15.9 million acres of forested land, Virginia is 62 percent forested. According to the Virginia Department of Forestry, urban growth and development resulted in an average net loss of 16,000 forested acres annually over the past 10 years. The rate of forest loss has decreased in recent years in response to the decline in the economy and the related diminished pressures of land development (Virginia Department of Forestry, 2012 State of the Forest, page 7).

A bright spot for both agriculture and tourism is Virginia’s growing wine industry. Virginia currently ranks fifth in the number of wineries in the nation with more than 230. Virginia is also the nation’s fifth largest wine grape producer. According to a 2012 economic impact study, the Virginia wine industry employs more than 4,700 individuals and contributes almost $750 million to the Virginia economy on an annual basis. In addition, more than 1.6 million tourists visited Virginia wineries in 2011. Nonetheless, numerous economic factors are causing many traditional farms and forestlands to be developed. Depressed commodity prices due to competition from other countries, land costs (and by extension property taxes), dwindling interest in the upcoming generation to pursue demanding careers on the land and the farm-as-pension-fund approach to retirement all lead to many farms and forests being sold for development. Eventually, as forests become smaller and farms more widely separated, the land-based economy slows. As supporting businesses disappear, more working lands grow idle or are converted to other uses. Therefore, an important part of supporting our land-based economy is to preserve the most productive lands and areas with supporting infrastructure. Protecting the Commonwealth’s working lands ensures that the necessary land base for these important industries will be preserved for future use.
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Economic benefits of land conservation

A vibrant economy ensures the financial resources to maintain healthy ecological systems and environmental quality. Preserving land and natural resources is critical to a community’s economic vitality. Natural open space and trails are prime attractions for potential homebuyers, increasing property values and thereby local tax revenues. More than 77 percent of potential homebuyers rated natural open space as “essential” or “very important,” and walking and bicycling trails are among the list of attributes most desired by homebuyers. Open space, outdoor recreation and a clean, visually attractive environment draw and retain businesses and improve quality of life.

Studies demonstrate that open spaces can boost the value of neighboring commercial properties. Businesses seeking an area in which to locate report that quality of life is a major factor in their decision-making, and cultural and recreational open spaces are important components in creating that quality of life (Conservation: An Investment That Pays, Trust for Public Land, 2009). Recognizing this concept, many local governments strongly support land conservation, understanding that protected, undeveloped land generates more direct tax revenue than the services it requires. The direct effect of conservation land on major industries such as agriculture and forestry in Virginia is important to long-term economic stability of the Commonwealth.

Costs of not conserving open-space land

A number of localities have calculated the fiscal impact associated with different types of land use and found that increased growth brings new area residents who require services — roads, sewage and water-supply infrastructure, fire and police services, schools, libraries, etc. — that increase local government costs at a level greater than the additional local revenue they contribute. “While it is true that an acre of land with a new house generates more total revenue than an acre of hay or corn, this tells us little about a community’s bottom line.” (American Farmland Trust, 2010) Increased population density in a locality eventually requires increasingly complex public services that increase per-capita costs.

Since the cost to a locality to provide services to undeveloped land is relatively low, a net positive tax cash flow is achieved. Conversely, the costs to provide schools for the children in housing developments, plus other municipal costs, may be much greater than the tax and non-tax revenue that residential lands provide.

A 2012 study in Albemarle County, found that, for every dollar of local revenue generated, the public costs for residential and institutional (hospitals, libraries, churches) development range from $1.29 to $1.59, a negative ratio. Commercial and industrial uses have a positive ratio, around $0.50 in costs for every dollar of revenue generated, and farmland generates even greater surplus revenue at $0.20 in costs for every dollar of revenue generated. However, the revenue-cost ratios associated with residential properties create a net deficit for Albemarle County, and for most other localities.

Tools for conservation planning

Virginia Conservation Lands Needs Assessment

Since 2003, DCR’s Division of Natural Heritage has been developing the Virginia Conservation Lands Needs Assessment (VCLNA) to identify and prioritize natural-resource conservation targets across the state. VCLNA has broad applications for conservation planning and is available to local and regional agencies and conservation organizations. It is a flexible, widely applicable tool for integrating and coordinating the needs and strategies of different conservation interests, using Geographic Information Systems to model and map land-conservation priorities and actions in Virginia. VCLNA uses GIS to map significant natural features. By choosing specific models and data sets, analysts can use the VCLNA to highlight areas that are important for conservation.

This computerized system allows for analysis and identification of location and data on:

- Large, unfragmented natural habitats
- Concentrations of natural heritage resources
- Key outdoor recreation areas
- Prime agricultural lands
- Significant cultural and historic resources
- Important areas for sustainable forestry
- Critical areas for drinking water protection and water quality improvement
- Scenic resources

The VCLNA can be used to identify conservation lands that would be most economically beneficial to communities.

Virginia’s Natural Heritage Data Explorer

DCR’s Natural Heritage staff maintains the Natural Heritage Data Explorer, which provides data and information to guide land conservation and land-use decisions in Virginia. This interactive mapping site allows anyone to freely access map layers that summarize the current status of Virginia’s conservation lands and provide reference and boundary layers, such as roads, streams, planning districts, localities and watershed boundaries. As a conservation planning tool, the NHDE also provides access to the Virginia Conservation
Lands Needs Assessment, a suite of seven statewide maps that displays various conservation values (e.g., ecological cores and corridors, watershed integrity, development threat and others).

NHDE users can also import their own GIS data into the online map viewer, query back-end map layer information and use map-editing tools to make, save and share custom maps, with eight basemap options (e.g., topographic maps, aerial photography and others). In addition to this public access, certain users may create user accounts and subscribe to certain additional sensitive data layers and custom functionality to expedite site-specific environmental review with the Natural Heritage Program.

**Coastal GEMS**

Virginia Coastal Zone Management Program’s Coastal Geospatial and Educational Mapping System (Coastal GEMS) is designed to present spatial (maps) and nonspatial (textual information, fact sheets and links) information focused on the “best remaining” land-based and aquatic resources within Virginia’s jurisdictional coastal zone. The first version of this application was released in 2006. It is continually updated and improved through advisory workgroups, training sessions and ongoing interactions with stakeholders. Coastal GEMS provides a growing inventory of water- and land-based natural resources, conservation planning tools and planning examples that can help to protect Virginia's coastal ecosystems and promote community involvement and environmental education.

**Coastal Virginia Ecological Value Assessment**

The Coastal Virginia Ecological Value Assessment (VEVA) was developed by the Virginia Coastal Zone Management Program to provide guidance to local governments engaged in land-use management and conservation planning. VEVA is a collaborative effort among multiple state natural resource agencies and programs to synthesize the best available natural resource information into a single geospatial product. VEVA combines scientific data and best professional judgment to rank terrestrial and aquatic areas for their ecological value. These values can be used to prioritize areas for preservation, develop strategies for special-area management actions or to build awareness about Virginia’s natural communities. Coastal VEVA can be accessed through Coastal GEMS under conservation planning/comprehensive conservation priorities.

**Virginia Wildlife Action Plan**

The Virginia Wildlife Action Plan is a 10-year strategic plan, developed by the Virginia Department of Game and Inland Fisheries, that provides a common vision for the conservation of the Commonwealth’s wildlife and the habitats in which they live. Virginia’s plan identifies 925 species of greatest conservation need, representing a broad array of wildlife, and it focuses on the habitats that support these species, such as caves, high-elevation forests, coastal marshes, barrier islands, grasslands, small headwater streams, vernal pools and many others. The Wildlife Action Plan provides a common vision for wildlife conservation across the Commonwealth, identifying the important steps that we must all take to keep common species common and to prevent further decline, or possible extinction, of imperiled species. The plan can be found at http://bewildvirginia.org/wildlifeplan.

**VOP Mapper**

The VOP Mapper is the first VOP-focused interactive mapping website, developed to provide access to key information about Virginia's recreation resources. It may also be useful for referencing and mapping conservation lands.

“The urban organism, like most others, depends for its well-being upon pure water, clean air, and productive soil. Problems of land use, water development, pollution, and wise use of natural resources are the concern of city and countryside alike.”

Website directory

Virginia Department of Conservation and Recreation – How Do I Protect My Land?

Center for Watershed Protection – Why Watersheds?


http://www.governor.virginia.gov/News/viewRelease.cfm?id=1602

Virginia Department of Conservation and Recreation – Virginia Conservation Lands Needs Assessment
http://www.dcr.virginia.gov/natural_heritage/vclna.shtml

Virginia Department of Environmental Quality – Coastal Geospatial and Educational Mapping Software
http://www.deq.state.va.us/Programs/CoastalZoneManagement/CoastalGEMSGeospatialData.aspx

Virginia Department of Game and Inland Fisheries – Wildlife Action Plan
http://bewildvirginia.org/wildlifeplan

VOP Mapper
http://dswcapps.dcr.virginia.gov/dnh/vop/VOP130521A.htm

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http:// privatelands.org/DOWNLOADS/


Rephann, Terance J. “The Economic Impact of Agriculture and Forestry on the Commonwealth of Virginia.”
Weldon Cooper Center for Public Service, U of Virginia, 2008.

Rouse, David C., and Ignacio F. Bunster-Ossa. “Green Infrastructure: A Landscape Approach.”


CHAPTER 6

Planning Guidelines for Outdoor Recreation

A campground in development at Belle Isle State Park. Photo by DCR.
“Life is best enjoyed when time periods are evenly divided between labor, sleep, and recreation...all people should spend one-third of their time in recreation which is rebuilding, voluntary activity, never idleness.”

— Brigham Young

The following resources are useful for planners of outdoor recreation.

**Landowner liability**

Liability can be a concern for landowners considering whether to allow public access to private property for the purposes of outdoor recreation. The Code of Virginia includes a recreational use statute — also known as the Landowner Liability Law. The law protects landowners who provide public recreational access from being held liable for injury or damages, provided the landowner does not charge a fee for access, and there is no gross negligence or “willful or malicious failure to guard or warn against a dangerous condition, use, or structure” on the property.

The law also limits the liability of landowners who enter into a lease agreement with state agencies. In 1994, the code was amended to include easements for access to public parks, historic sites or other public recreation.

Ultimately, sportsmen are responsible for their own safety and for damage they cause to the property of others.

**Resources about hunting on private lands**


**Outdoor recreation planning guidelines**

- Recreation planning guidance
  - The Society of Outdoor Recreation Professionals, a nonprofit organization serving the outdoor recreation profession, provides resources for general outdoor recreation planning technical assistance.

- Carrying capacity and guidelines for outdoor recreation planning
  - References and evaluation options for outdoor recreation carrying capacity include an overview of site analysis, planning factors, site design and park use standards. In addition, techniques for monitoring carrying capacity and limiting recreation use to maintain quality experiences are included.

- Crime prevention in public spaces
  - Planning, design and management for outdoor recreation should be implemented to reduce or eliminate the opportunity for and incidents of crime. This can be accomplished through the application of Crime Prevention Through Environmental Design techniques and principles.

- Americans with Disabilities Act
  - Standards for the construction of recreational facilities became enforceable March 15, 2011, as part of the Americans with Disabilities Act. Standards for shared-use paths and outdoor developed areas are under development. As of March 15, 2011, Department of Justice rules regarding “other power-driven mobility devices” apply to all trails, both public and private, for individuals with mobility disabilities. The National
Trails Training Partnership provides accessibility guidance for providing outdoor recreation and trails based on the ADA.

Environmental review process
The Code of Virginia §10.1-1188 requires state agencies to prepare and submit an environmental impact report for each major state project. A major state project constitutes the acquisition of an interest in land for construction of any state facility, or the construction of any state facility, or expansion of an existing state facility, that costs more than $500,000. Read a comprehensive overview of the state’s environmental review process.

Outdoor recreation design standards

Greenways and Trails Toolbox
The toolbox is a comprehensive, step-by-step guide to help localities, groups and individuals plan and develop trails of all kinds. Trail professionals and agency experts created the toolbox to enhance trail-building at the grassroots level.

Playground safety
The Consumer Product Safety Commission’s Public Playground Safety Handbook is used to determine whether a playground has features that could lead to injury. Guidelines address issues such as protective surfacing, head-entrapment hazards, entanglement hazards and equipment location. These guidelines are designed for public playgrounds.

Sponsored by the National Recreation and Park Association, the Virginia Recreation and Park Society hosts the National Playground Safety Inspector course, the most comprehensive training program on playground-hazard identification and risk-management methods. Advanced reading and 15 hours of training from playground safety experts prepare participants for the Certified Playground Safety Inspector Examination offered at the end of the course.

Water access
Guidance for planning and designing public water-access facilities:

The Virginia Department of Game and Inland Fisheries

States Organization for Boating Access
http://www.sobaus.org/

Chesapeake Bay Area Public Access Technical Assistance Report

Wetlands
Wetlands as defined by the U.S. Fish and Wildlife Service (USFWS) include: Land that has a predominance of hydric soils and that is inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances does support, hydrophytic vegetation adapted for saturated soil conditions.
Wetlands are among the most important natural resources in Virginia's landscape. Most people think of wetlands as marshes, swamps and bogs, but wetland types are varied and not always easily identified. The broadest categories of wetlands are known as tidal and nontidal, and they share many of the same functions.

Virginia's tidal wetlands are found along the shorelines of the Atlantic Ocean, the Chesapeake Bay and the tidal portions of rivers and creeks. Vital to commercial and sport fisheries, they provide food and habitat to innumerable species that comprise Virginia’s annual harvest of fish from tidal waters. The amount of plant food produced by these wetlands ranges between one and six tons per year, rivaling the production level of intensively farmed agricultural areas. Additionally, coastal tidal wetlands are important to the Atlantic Coastal Flyway for migratory waterfowl. They offer critical habitat essential for the life cycle of many species of wildlife, fish and aquatic organisms. Approximately 35 percent of the nation’s rare and endangered species are found in wetland habitats. Wetlands often contain unique plant communities and typically have high biodiversity (Virginia Cooperative Extension, “Status of Wetlands Management,” Broomhall and Kerns, Publication number 448-106).

Wetlands are recognized for their value to the environment and the economy by producing resources, enabling recreational activities and providing other benefits, such as pollution control and flood protection. Recreational activities in wetlands include hiking, fishing, bird watching, photography and hunting. Dollars spent on outdoor activities originating on or near wetlands contribute to the economy.


Nontidal wetlands are located throughout all watersheds. They can be difficult to define because they are often fully forested and the ground is dry — except in winter when the soil is saturated with groundwater and rainwater. Nontidal wetlands provide a first line of defense for water quality protection as stormwater runoff flows toward streams, rivers and bays. Where nontidal wetlands are destroyed, increased stormwater runoff and silt from developing watersheds inundate the streams and rivers, leading to the decline of water quality.

Wetlands function as the transitional feature between uplands and the aquatic environment. Because of their position in the landscape, they protect water quality by slowing the erosive force of stormwater and providing flood control through storage of stormwater, thereby protecting life and property. They slowly release stored stormwater and groundwater to surrounding streams and rivers. This function has particular value during times of drought. Another important wetland function is filtration — the filtering out of nutrient enrichment and other pollutants in captured stormwater. Through filtration of both surface waters and groundwater, wetlands protect local water supply. Dense wetland plants slow down flowing water, allowing suspended silt to be settled onto the wetland where it is captured by the growth of the root system. Silt particles carry pollutants such as phosphorus, which, in great quantities, can be harmful to the aquatic environment. Wetlands also are effective in capturing dissolved pollutants such as nitrogen, which causes algae overgrowth and oxygen depletion in the aquatic environment.

Regulatory programs for wetlands management

It's estimated that Virginia has lost approximately half of its pre-colonial wetland acreage. There are approximately 1 million acres of wetlands remaining — 75 percent of these are nontidal and 25 percent are tidal. In Virginia, wetland resources are managed primarily by two state agencies operating under corresponding state law: the Virginia Department of Environmental Quality implements the Nontidal Wetlands Act, and the Virginia Marine Resources Commission has state oversight of the local cooperative implementation of the Tidal Wetlands Act. Many other regulatory and nonregulatory entities at local, state, federal and regional levels are involved in wetlands management, research, restoration, and education in Virginia (Comprehensive Wetland Program Plan Commonwealth of Virginia 2011-2015, Executive Summary, DEQ).
Most wetland impacts (usually associated with development) are regulated by federal, state or local governments. Federal law has regulated activities in both tidal and nontidal wetlands under Section 404 of the Clean Water Act. In Virginia, this task falls to the Norfolk District of the Army Corps of Engineers. The office has worked with the Virginia Marine Resources Commission and local wetlands boards to coordinate the 404 program with Virginia’s tidal wetlands program. This coordination enables the development of consistent and predictable standards for compliance with tidal wetlands regulations.

Since 1989, DEQ has managed the protection of nontidal wetlands based on combined state and federal authority, providing stability to federal nontidal wetlands regulations in Virginia. In 2001, the corps issued a Section 404 of the Clean Water Act State Programmatic General Permit, allowing DEQ to assume a portion of the wetland impact permitting process. As a result, both agencies now have regulatory authority over stream channels and impacts to stream features are reviewed under the general permit.

All land-disturbing activities should be initiated with a wetland scoping to determine if wetlands exist within the project limits. The person or entity initiating the land disturbance (the permittee) is responsible for this determination and must conduct a wetland delineation. Wetland delineation establishes the boundary between wetlands and uplands (non-wetlands), thereby establishing the location and size of any wetlands present. Permittees generally work with engineering or environmental firms to perform the delineation. Following the delineation, a corps representative confirms the wetland boundaries established. According to state regulation 9 VAC 25-210-45, all wetland delineations shall be conducted in accordance with the “Wetland Delineation Manual, Technical Report Y-87-1, January 1987, Final Report.” The manual shall be interpreted in a manner consistent with the corps’ interpretation.

Nonregulatory programs: Agriculture and forestry wetlands management

Under the U.S. Department of Agriculture Natural Resources Conservation Service’s Field Office Guide, best management practices have been developed to discourage clearing or draining of wetlands and encourage compliance with Section 404 and 401 of the Clean Water Act. The federal 1985 Food Security Act and 1990 Food, Agriculture, Conservation and Trade Act also include financial disincentives to discourage farmers receiving any federal subsidy from clearing or draining wetlands for agricultural purposes. The Wetlands Reserve Program, established by the 1990 FACTA, reimburses Virginia farmers for protecting nontidal wetlands.

The 1993 Forestry Water Quality Law gives the Virginia Department of Forestry authority to stop work and impose civil fines for forest management operations that cause, or could cause, water quality problems. This law has increased DOF responsibility to provide sound recommendations to loggers. It also has led to increased requests from loggers for preharvest BMP consultations with department staff. To respond to the increased demand, DOF has a coastal forestry engineer who specializes in wetlands protection and on-site recommendations for wetlands BMP application.

Mitigation of wetland losses

State regulations for wetlands mitigation and compensation can be found under 9VAC25-210-116. Compensation. Required mitigation and compensation can be either wetland creation or restoration. If neither creation nor restoration is an option, the permittee may purchase wetland credits from an established wetlands bank or pay into an approved in-lieu fee fund.

Compensation for wetland impacts is determined by the kind of wetland impacted. Compensation ratios are based on wetland values and the degree of difficulty in creating the type of wetland destroyed. Forested wetlands are difficult to successfully create and have significant benefit to water quality. They are mitigated at a 2:1 ratio of replacement to loss. Scrub/shrub wetlands are mitigated at a 1.5:1 ratio and emergent wetlands at a 1:1 ratio. Open water impacts (ponds and lakes) are 1:1.

State mitigation and compensation requirements for tidal wetlands can be found in 4 VAC 20-390-10. The criteria for mitigation require that wetlands be preserved on-site in their natural state as much as possible. Appropriate requirements for compensation must be considered only after it has been proven that the loss of the resource is unavoidable and that the project will have the highest public good and private benefit. Tidal wetland losses must be mitigated for at a 1:1 ratio.

Stream mitigation is more complex. A stream assessment must be conducted within the project area to determine the extent of the mitigation that will be required for impacts to both intermittent and perennial streams.

Wetland priorities for protection

In 1986, Congress passed the Emergency Wetlands Resources Act, mandating the U.S. Fish and Wildlife Service and state agencies receiving Land and Water Conservation Funds to prioritize wetlands within each state. Information about this list, the National Wetland Inventory, is at http://library.fws.gov/WetlandPublications.html.
Through the inventory, USFWS found that tidal wetlands experienced the highest losses from the 1950s through the 1970s because of urbanization of the coastal plain. Fortunately, the regulatory programs for tidal wetland protection appear to have been effective and recent trends show a net gain in most tidal wetland types.

In recent decades, Virginia has experienced significant population growth in many regions outside the coastal plain. Because of the population trends, forested and scrub/shrub nontidal wetlands were destroyed or converted to other wetland types at a 12-fold increase from the mid-70s through 1990s. This trend shows that Virginia is losing these wetland types faster than other types. As our knowledge of wetland function and value has improved, it has become apparent that both forested and scrub/shrub wetlands have immense value to the protection of Virginia’s water quality. Restoration or creation of these wetland types is also the most challenging and costly.

For these reasons, nontidal forested and scrub/shrub wetlands should have the highest priority for protection at this time.

Wetlands protection can be improved by highlighting outdoor recreational opportunities. Bird watching is popular in protected wetland areas because wetlands support many bird species. Flat-water canoeing is a popular recreational activity in marsh wetlands, and can be enhanced by connecting wetlands to upland park areas. All wetland types can be used as outdoor classrooms for environmental education. Lastly, wetlands offer an advantage as habitat buffers to parks and protected uplands.

To help wetland-protection efforts, the Virginia Department of Conservation and Recreation is working to expand the natural areas registry program that provides voluntary, nonbinding protection of exemplary natural areas to include many wetland systems. DCR also will continue to provide appropriate ecological management of wetlands by coordinating multi-agency exotic species eradication programs, detailed hydrologic mapping and monitoring programs, prescribed burn research and restoration of endangered ecosystems and species.

DCR will continue to identify significant wetlands and other natural resources in western and southwestern Virginia. These areas are the most biologically diverse in the state but have the fewest resources to identify and conserve natural areas. Lastly, DCR will provide management-planning data to localities to aid in protection of these resources.

According to Virginia Marine Resources Commission scientists, Virginia’s tidal wetlands program in recent years has dramatically reduced the state’s tidal wetlands loss. Virginia’s “no net loss” policy continues to lower other wetland losses as well. The development of wetland banks and the in-lieu-fee program is moving Virginia toward balancing the wetlands annually lost with wetlands annually gained.

Coordination among all levels of government will continue to be important for managing wetlands. Coordination between state and federal wetlands regulatory programs is important to ensure efficient, predictable and consistent regulation. Coordination with local governments is important because local land-use decisions have a significant effect on the locations of development. If these decisions are made with an understanding of the values and locations of wetlands, conflicts between landowner expectations and the requirements of wetlands regulatory programs can be reduced.

### Wetland programs
- Virginia Department of Environmental Quality
- Virginia Marine Resources Commission
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- Virginia Institute of Marine Science Wetlands Program, Center for Coastal Resources Management
## Website directory

<table>
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CHAPTER

Land and Water Conservation Fund Program
The Land and Water Conservation Fund Act of 1965, as amended, Public Law 88-578; 16 U.S.C. 4601-4 et seq., was created by Congress with the intent of creating a national legacy of public outdoor recreation areas. The LWCF has two sides, a federal side and a state side. The federal side enables land acquisition and development by the federal land-managing agencies (Bureau of Land Management, U.S. Fish and Wildlife Service, U.S. Forest Service and the National Park Service). The state and local assistance program is a 50-50 matching reimbursement program that provides funding to the states and territories to assist with outdoor recreation. This chapter will focus on the state and local assistance program in Virginia, which is administered by the Virginia Department of Conservation and Recreation in partnership with, and on behalf of, the National Park Service. In Virginia, the LWCF state and local assistance program is the major source of grant funding available for the acquisition and development of public outdoor recreation areas.

**SCORP components**

In order to be eligible for funding assistance from the program, the LWCF Act requires each state to develop a Statewide Comprehensive Outdoor Recreation Plan. The SCORP is required to identify: the outdoor recreation issues of importance to the state, the outdoor recreation supply and demand, an implementation plan and the role LWCF funding will play in helping to meet recreational needs. Other required SCORP components include evidence of public participation in the development of the plan and a wetlands priority component. The wetlands priority component must be consistent with Section 303 of the Emergency Wetlands Resources Act of 1986 and the National Wetlands Priority Conservation Plan created by the Fish and Wildlife Service. The wetland component must identify which wetland types should be targeted for acquisition and consider how recreation activities that are compatible within wetlands can help meet the state’s outdoor recreation needs. States are encouraged to go beyond these basics and include planning for recreational trails, wild and scenic rivers and other resources identified as important. States are expected to update and or develop their SCORPs every five years. The plan must be approved by the governor and contain a certification by the governor that ample opportunity for public participation has taken place in its development.

| Table 7.1 Where to find required SCORP components in the Virginia Outdoors Plan |
|---------------------------------|----------------|
| Demands and needs               | Appendix       |
| Recreation issues               | Chapter 1      |
| Public participation            | Chapter 4      |
| Land conservation              | Chapter 5      |
| Wetlands priority component     | Chapter 6      |
| Role of LWCF in implementation  | Chapter 7      |
| Recreational trails, scenic     | Chapter 8      |
| rivers and beyond               | Provided by topical area throughout VOP |

**Open project selection process**

Land and Water Conservation funding will be used to help implement development of the highest ranked outdoor recreation needs for each planning region. These outdoor recreation needs are identified in each regional section of this document in charts titled “Most-Needed Outdoor Recreation.” Selection of LWCF-assisted projects is through a competitive, open project selection process, or OPSP. In addition to considering the highest ranked outdoor recreation needs by region, the OPSP criteria includes, but is not limited to, an evaluation of: project readiness, existing recreational resources, project completion timelines, project budget, match composition, ability to maintain and operate the recreation area, ability to adhere to LWCF long-term compliance requirements and previous recreational grant performance. One competitive OPSP for all eligible entities is announced but available LWCF funding is divided between eligible state entities and local entities. When insufficient funding requests are received from eligible state entities, the remaining LWCF funding is used to assist local projects. The OPSP is typically announced annually but is contingent upon an appropriation being made for the program by Congress.
Background

Revenue for the LWCF program (both the federal side and state and local assistance program) is made possible from offshore oil and gas receipts and supplemented by revenue from the Gulf of Mexico Energy Security Act, Public Law 109-432, which was signed into law in 2006. At the beginning of the LWCF program, the law set aside $100 million annually for the first four years for both sides of the program. Increases were made in 1968 to $300 million and again in 1971 to $400 million. In 1977, Public Law 95-42 increased the annual funding to $900 million. While this amount has been authorized since 1978, appropriations and apportionments have been inconsistent. Figure 7.1 shows the dollar amount in LWCF appropriations made for the federal side, the state and local assistance program and “other” programs. Examples of these “other” programs include but are not limited to the Forest Legacy Program, the Historic Preservation Fund and the Cooperative Endangered Species grant program. Figure 7.2 shows the annual apportionments made to the Commonwealth of Virginia since 1965. In reviewing the two figures, it should be noted that, according to the Virginia LWCF apportionment records, no LWCF assistance was received between 1996 and 1999 but that Figure 7.1 shows appropriations for the federal side and “other” programs during this time period. Of significance is that the total appropriation in 1998 for the federal agencies and “other” programs exceeded $900 million dollars. Virginia’s highest LWCF apportionment amount of $7.5 million was received in 1979. As Figure 7.2 shows, Virginia’s apportionments have hovered around $1 million but have not exceeded $1 million since 2005.

Figure 7.1  Land and Water Conservation Fund Appropriations – 1965-2010

Figure 7.2  Virginia Land and Water Conservation Fund Apportionment – 1965-2012
CHAPTER 7

Land and Water Conservation Fund Program

The need for LWCF

Consistent, dedicated and sufficient funding for the LWCF state and local assistance program is needed across the nation and most particularly in Virginia. Each year, the National Park Service prepares an annual report on the Land and Water Conservation Fund State and Local Assistance Program. Contained within the document is a section showing the estimated dollar value of each state’s unmet recreation needs. Virginia’s 2012 unmet needs totaled more than $870 million. Since the LWCF is the only source of funding committed solely to public outdoor recreation acquisition and/or development available in Virginia, the funding is critical to helping the Commonwealth meet its outdoor recreation needs.

Even with varied and limited funding over its history, the OPSP grant cycles in Virginia receive funding requests that are three to four times the available dollar amount. Applicants seek LWCF funding not only to implement projects and stretch local recreation funds, but also to ensure and secure the local investment for future generations. A key requirement is that areas assisted with funding from the program must be open, operated and maintained, in perpetuity, for public outdoor recreation. Section 6(f) of the Land and Water Conservation Act states:

“No property acquired or developed with LWCF assistance ... shall, without the approval of the Secretary [of the Interior or his designee], be converted to other than public outdoor recreation uses. The Secretary [of the Interior or his designee], shall approve such conversion only if he finds it to be in accord with the then existing comprehensive statewide outdoor recreation plan and only upon such conditions as he deems necessary to assure the substitution of other recreation properties of at least equal fair market value and of reasonably equivalent usefulness and location."

This provision is enforced through compliance inspections. DCR is required to inspect all LWCF-assisted areas for compliance with the program and report back to the National Park Service on these inspections. Inspections are usually conducted every three to five years. When areas are found to be in noncompliance, DCR notifies the locality and works with it to rectify the noncompliance issues or initiate a conversion of use process. LWCF compliance requirements are available at the DCR website.

Section 6(f) of the LWCF Act makes the Land and Water Conservation Fund Program one of the strongest and most reasonable forms of land conservation legislation ever passed. Under the conversion-of-use process, replacement land becomes protected in perpetuity, thereby assuring the intent of the act to create a national legacy of public outdoor recreation opportunities for current and future generations.

From 1965 to 2012, Virginia received more than $80 million in assistance from the program. More than $34 million has contributed to the recreational land acquisition and/or recreational development needs of eligible state entities. More than $46 million has contributed to the recreational land acquisition and/or recreational development needs of Virginia’s localities. Funding assistance has been provided to every Congressional district in the Commonwealth and almost every county. Map 7.1 shows the distribution of LWCF projects across Virginia by project type: acquisition, development and combination. Combination projects are those that involve both an acquisition and development component. The Virginia Outdoors Plan Interactive Mapper enables users to identify LWCF state and local assistance projects by grant number and name. This information will help planners avoid actions that would trigger a conversion of use under the LWCF program, as well as facilitate communication with DCR when a conversion-of-use process must be initiated. Additionally, the identification of these protected lands will aid in planning greenways and conservation and habitat corridors and assessing existing recreation and conservation lands within a given area.

LWCF on the local level

In 2015, the Land and Water Conservation Fund celebrates its 50th anniversary. Map 7.1 shows the program’s accomplishments in Virginia since its inception. Additionally, the following accounts by Katherine Rudacille, deputy director of planning and grants with the Northern Virginia Regional Park Authority; Karen Cross, director of the Outdoor Recreation Division in the city of Danville and Carla Tyler Brittle, management and resource administrator with James City County, express what the program means closer to home at the local level in a way quantitative measures cannot begin to express.

Northern Virginia Regional Park Authority

The Land and Water Conservation Fund is largely responsible for making Northern Virginia regional parks what they are today. More than half of the Northern Virginia Regional Park Authority’s 25 parks, located within three counties and three cities in the Washington suburbs, have been the beneficiary of Land and Water Conservation funding. In the 1960s and 70s, NVRPA’s earliest land acquisitions were made possible by LWCF grants, including more than 2,300 acres along shorelines of the Potomac, Bull Run and Occoquan rivers. As a result, public parks were established at Algonkian, Red Rock, Fountainhead, Upper Potomac and Potomac Shoreline (now Mason Neck National Wildlife Refuge), that both protect our water quality and provide a wide range of recreational facilities. LWCF also made possible the acquisition of 30 miles of the 45-mile Washington and Old Dominion Trail, which became a model for rail-trails.
across the country. This linear park now hosts 2 million annual visits and provides a valuable greenway running through the heart of urban Northern Virginia. Land and Water Conservation monies also assisted with facility development ranging such as the Bull Run Regional Park campground and soccer field complex, Meadowlark Botanical Gardens landscaping, trails, bridges and lakes, Pohick Bay Regional Park campground, swimming pool, and marina, the W&OD Trail in Arlington, Fairfax and Loudoun Counties and the Sandy Run Regional Park rowing facility docks and boathouses.

Over the last 40 years, NVRPA has been awarded $5.8 million in LWCF funding, leveraging local dollars to accomplish projects that otherwise would have been impossible. These funds allowed regional parkland purchases and outdoor recreation development of more than $10.7 million in total project costs. Land and Water Conservation funds have protected large expanses of the region’s natural areas and conserved parkland along the waterways that supplies our drinking water. These open-space and outdoor recreation areas have become critical to serving the growing population and offset the impacts of development in the congested D.C. metro area.

In recent years, LWCF monies have enabled renovation of aging facilities, including, the redevelopment of the Upton Hill Regional Park pool complex from a 1970s-era swimming pool complex into a modern and very popular spray ground water park. In the first season after redevelopment, pool admissions increased 164 percent, youth group participants increased 113 percent and the number of season passes was up nearly 140 percent. Visitation continued to rise with general admissions increasing another 150 percent in the second year. In just the first two years since the new features were built, the park provided more than 30,000 additional outdoor recreation visits in one of the most densely populated areas in the country, and in an area that lacks other public outdoor pools. In 2013, LWCF development grant funds also are enabling public access improvements at a newly acquired property, Gilbert’s Corner Regional Park, that include an entrance drive, parking area, interpretive signs and trails.

LWCF has not only made initial projects possible, but the park authority also has benefitted greatly from the requirement that grant properties cannot be converted from public outdoor recreation use without replacement land. This powerful protection tool has kept our park system whole by preventing nonpark takings and encroachments of
Regional parkland at least a dozen times over the years as Northern Virginia open space is subjected to development pressure. The park authority believes it is essential to perpetually safeguard parklands in this way, especially in such a fast-growing locale. Future funding of the Land and Water Conservation Fund state and local assistance program is vital to ensuring a high quality of life for current and future generations.

— Katherine Rudacille
Deputy director of planning and grants
Northern Virginia Regional Park Authority

Danville
Land and Water Conservation Fund jump-starts and protects Danville outdoor opportunities.

The Land and Water Conservation Fund has been a catalyst for bringing outdoor recreation opportunities to a vast number of Danville area citizens. The Virginia Department of Conservation and Recreation partnered with the city of Danville to award three LWCF grants in the last 30 years for development of an array of city park amenities.

Ballou Park, one of the oldest municipal parks in Virginia, was the beneficiary of LWCF monies in the 1980s. Additional picnic shelters, Danville’s first nature trail and expanded parking were welcomed with enthusiasm by residents. At the time, 107-acre Ballou Park was the largest and most popular city park in the region. Thanks to the addition of these amenities, the park continues to host more than 200 picnic shelter reservations annually, houses two disc golf courses and one of the most popular playgrounds in town and has recently seen the addition of the newest link of Danville’s Riverwalk greenway.

In the 1990s, a group of community leaders took the initiative to begin fundraising for a large park on the north side of town. Enthusiasm was boosted by the receipt of a $200,000 LWCF matching grant, and Dan Daniel Memorial Park became the new “place to be seen” in Danville. Ultimately growing to more than 180 acres, the park hosts hundreds of ballgames on numerous little league, soccer and softball fields. The playground vies with Ballou Park’s as a favorite with the 5- to 12-year-old crowd, and the park is home to the Veterans Memorial and the Danville Braves baseball team. Low-impact growth continues with a woodland low ropes course, zip-line and mountain bike trails. LWCF jump-started a mass of contributions that resulted in parks packed with Little Leaguers, picnickers, hikers and bikers.

Another community-led movement was supplemented in 2001 when LWCF helped fund the construction of the Philip Wyatt Memorial Skate Park within Dan Daniel Park. An unfortunate accident spurred teenagers to appeal to city council for a skate park to memorialize their friend. Community contributions supplemented by LWCF and city monies made the skate park a reality.

The Land and Water Conservation Fund not only provides the impetus for community initiatives, but it also plays the vital role of protecting open space. The fund requires that replacement land be provided for each acre of LWCF-protected property converted for uses other than public recreation. This has saved both Ballou and Dan Daniel Memorial from encroachment by schools, chain pharmacies and private enterprises who wished to locate within the boundaries of our beautiful parks.

In these times of strained municipal budgets and limited corporate contributions, LWCF funding is essential.
to providing outdoor recreation amenities for citizens. Federal, state and local monies invested in outdoor recreation opportunities reap big benefits with improved health, socialization and economic development for citizens and visitors to the Commonwealth.

— Karen Cross
Outdoor Recreation Division director
Danville Parks and Recreation Department

James City County

Starting with several neighborhood parks and a modest offering of programs, James City County formulated its first Recreation Plan in 1982. Since that time, the county has experienced a 160 percent population growth. To keep pace with growth, the county invested in its natural resources by purchasing key parcels to save for recreational enjoyment. Today, James City County boasts more than 1,500 acres of park land and shorelines along the James and Chickahominy Rivers. It was also named the 2012 Gold Medal Winner for its population category due in large part to the quality amenities it developed with grants from the Land and Water Conservation Fund.

Over the years, the county has developed ambitious parks and recreation master plans for the open spaces. The foundation of these plans rests on citizen feedback and the inventory guide of the VOP. However, in an environment of competing resources, many of the county’s park development projects would never have occurred without the LWCF incentivizing grant program. During my tenure with the county, the price tag for developing a playground or an athletic field was often out of reach; however, the addition of a partner with a matching grant created a fiscally sound reason to advance the projects. During the past 15 years the county has been the recipient of four LWCF grants that have been used to develop three parks.

The Warhill Sports Complex was developed using two grants that funded tee ballfields, baseball fields, basketball courts, a playground and parking lots. The funds enabled the county to create venues at the park that have attracted national attention such as the Cal Ripkin World Series. In 2011, the park boasted 940,000 visitors.

Two grants were also obtained to help improve water access for citizen at Little Creek Reservoir Park and Jamestown Beach Park. Parking improvements, shoreline restoration, restrooms, sidewalks and a playground have been added to these sites. While the amenities themselves are wonderful, the real value of these projects rests in the salvage and restoration of the county’s waterways for future generations.

With a history that dates back to 1607 as the site of America’s first permanent English colony, James City County has a responsibility to preserve the past while creating a future for our diverse and dynamic population. We have not made such progress alone; partnerships with our citizens and grant programs like the LWCF have helped us to create a quality community.

— Carla Brittle
Management and resource administrator
James City County
CHAPTER 7

Land and Water Conservation Fund Program

Other funding sources:
Recreational grants administered by DCR:

Grant funding research portals:
www.grants.gov
http://virginia.grantwatch.com

Works cited


CHAPTER 8

Outdoor Recreation Programs

A Virginia State Parks interpretive program. Photo by Jay Paul, courtesy of DCR.
Outdoor recreation opportunities are offered by a number of partners. Programs featured in this chapter would not be possible without partnerships with local, state and federal government, regional organizations and nonprofits, and private-sector businesses and citizens.

State agencies coordinate and initiate outdoor recreation opportunities on state lands across the Commonwealth. To meet public demand for outdoor recreation within the current economy, the collaborative integration of all sectors offering outdoor recreation is extremely important. Partnership programs that help meet Virginia’s outdoor recreation needs:

- Trails and greenways
- Water access and blueways
- Historic and landscape resources
- Scenic resources
- Scenic rivers
- Scenic highways and Virginia byways
- Environmental education and natural resource interpretation

**Trails and greenways**

“Life is like riding a bicycle. To keep your balance, you must keep moving.”

— Albert Einstein

Trails and greenways are a top priority for Virginia’s outdoor recreation. In addition, trails, walking for pleasure and bicycling are gaining exposure and relevance in the movement to improve public health.

Since 1993, more than $18 million in federal funds have been applied to Virginia trail projects through the Virginia Recreational Trails Program. This section discusses the vision and goals for a statewide trail network, why a connected network of trails is valued and what has been accomplished to further the network. The section concludes with information about local and regional trail planning and the design, construction, and maintenance of sustainable trails.

**Recommendations for implementation**

- Complete action items outlined in the statewide trail action plan.
- Develop sustainable statewide infrastructure for nonmotorized travel.
- Identify, fund and close the gaps in the statewide trunkline trail system.
- Develop a real-time trails data tool in collaboration with local governments, private sponsors and trail users.
- Provide the education and support needed for land managers to develop sustainable trails.
- Protect scenic views along statewide trail corridors.

Cyclists cross the bridge at High Bridge Trail State Park near Farmville. Photo by Jay Paul, courtesy of DCR.
Statewide trail vision and goals

In 2009, the Greenways and Trails Task Force outlined goals for Virginia’s developing trunkline trail system. These goals advance the state’s vision of “active communities and open space linked by trails and greenways that connect individuals, children and their families to nature and to each other.”

**Goal 1:** Enhance access to the outdoors through the development of a trails network that promotes healthy recreation and connects citizens, including children and families, to Virginia’s diverse open space and natural landscapes.

**Goal 2:** Improve linkages between communities and key tourist destinations in both rural and urban areas to promote regional outdoor recreation and heritage tourism initiatives, support local economies, and provide economic stimuli for small business startups and entrepreneurial expansion.

**Goal 3:** Create the foundation of a statewide system of interconnected open-space corridors through which trails traverse, in order to support long-term protection of Virginia’s green infrastructure and the ecological services it provides.

**Goal 4:** Integrate trails as a critical component in Virginia’s transportation infrastructure, in order to provide efficient and convenient nonmotorized connections to neighborhoods, schools, community facilities and employment centers.

**Goal 5:** Educate citizens about the trail network’s social, ecological, transportation and wellness benefits, and foster educational pursuits through environmental research, multicultural programs and outdoor classrooms.

**Demand and values**

Public health is a great reason to build trails, but it is not the only reason. Trails provide access to special places to reconnect with loved ones, watch wildlife and capture the photos that preserve these extraordinary moments. Areas that can only be reached by foot are increasingly valuable — and people are “voting with their feet.” Demand for trails is higher than ever as these values are realized.

**Feedback from Virginia Outdoors Demand Survey and public meetings**

A mixture of multiuse and single-use trails, loop and stacked trails, and improvements at trailheads were mentioned as trail priorities during the statewide Virginia Outdoors Plan public meetings. Citizens identified trails as Virginia’s highest recreation need in the 2011 Virginia Outdoors Demand Survey.
Households that participate in walking for pleasure have increased significantly over the past 19 years, from 65 percent in 1992 to 82 percent in 2011. The most needed recreation opportunities are trails for hiking and walking, according to 68 percent of households in 2011, up from 48 percent in 1992. Also climbing is the need for bicycling trails. Fifty-four percent of households expressed this need in 2011, up from 42 percent in 1992.

Economic benefits

In an increasingly competitive and performance-based environment, return on investment becomes critical for trail projects. More and more studies support public investment in trails for transportation and recreation. See Chapter 2 for more information on the influence of trails on economics and tourism.

One value is the contribution of volunteers. For example, the Appalachian Trail Conservancy reports that 774 volunteers from Virginia clubs gave 39,064 hours to the trail in 2012. In Roanoke alone, 248 volunteers contributed 12,219 hours to the Roanoke Greenway network in 2012. The contributions of volunteers set trails apart from other public infrastructure, which is often funded solely by taxpayers.

Click here to read more about how trails add value to communities.

Private support for trails

Many private partners support trail development. A few committed to trails include Luck Development Partners, MeadWestvaco, Dominion and Norfolk Southern.

Luck Development Partners

Luck Development Partners provides corporate leadership to help make the Spotsylvania Greenways vision a reality. Working with local officials, nonprofit groups, private interests and their own land and corporate resources, LDP believes that such a network can be achieved in a way that brings significant new investment to the region and enhances the quality of life for residents and businesses already in the county. “When taken in the context of the Greater Washington Initiative and East Coast Greenway initiatives, these resources and assets create an unparalleled opportunity to link the public to both the historic and natural resources that will tell a compelling story for generations to come,” said Howie Long, project manager for LDP.

MeadWestvaco and Dominion

Both MeadWestvaco and Dominion have been major supporters of the 55-mile Virginia Capital Trail, which links Richmond to Jamestown. MeadWestvaco has provided generous funding for major improvements to Shiplock Park, the trail’s western trailhead, and provided in-kind donations of Evotherm, an asphalt additive that will extend the life of the trail. Dominion has provided funding for trailheads and interactive kiosks with information that enhances the trail experience. “When you have a trail like the Virginia Capital Trail that runs along the Route 5 corridor between Richmond and Jamestown, you have so many opportunities for people to enjoy what’s great about our region — history, tourism, the river. Whether you bike, run or walk it, the trail is just another reason to get out and see Virginia,” said Jim Beamer, Dominion’s managing director for legislative outreach.

Norfolk Southern

Norfolk Southern has donated about 90 miles of abandoned railroad corridor to Virginia’s statewide trail network, significantly increasing tourism in some areas of the state hardest hit by the loss of industry. This includes 31 miles in High Bridge Trail State Park.

Trail network progress

At the state level, planning for trails and bicycle/pedestrian facilities is done by land managers at state facilities such as state parks and natural area preserves. Since 2007, more than 50 miles of trails have been added to state parks and more than 12 miles to state natural area preserves. Two programs — the Department of Conservation and Recreation’s Recreation Trails Program and the Department of Transportation’s Bicycle and Pedestrian Program — have coordinators who provide technical assistance for advocates and local governments. In addition, trails are located on some Department of Forestry and Department of Game and Inland Fisheries properties.

Virginia Trails Program

As directed by the Code of Virginia DCR is responsible for planning for a cohesive and interconnected statewide trails system by providing:

- Statewide standards and guidelines for trail development, developing an integrated approach for promoting the benefits of trails and greenways.
- Technical assistance on trail planning, design, construction, and funding.
- Educational opportunities related to trail development resources and information.
A state-level trail advocacy group coordinating the interests of hikers, equestrians, mountain bikers, bicyclists and other trail user groups could help support the statewide trails system.

### Trails in Virginia

For information about Virginia’s Trail Network, explore the following links:

- National Trails
- Virginia’s Statewide Trail System
- Local Trails

### Trail users

A well-planned trail system will meet diverse and expanding demographic needs. New technologies support innovative, new uses and better communication among users and management. One person may seek the solitude of a remote hike in the wilderness, while another wants to join neighbors exercising close to home. Someone else may prefer a paved path for commuting to work or school. Others may wish to preserve a corridor’s pristine natural resources.

### Mountain bicycling

The International Mountain Bicycling Association has been a leader in setting standards for mountain bicycling around the world. The association sponsors trail-construction field schools to help users and land managers learn to build safe, environmentally friendly trails. Guidelines for user ethics, responsibilities and construction techniques are disseminated through publications and training seminars. Many mountain bicycling clubs have formed throughout the state and are employing the association’s teachings in working with their public land managers to develop trail systems. Mountain Bike Virginia is the statewide organization.

### Bicycling

BikeWalk Virginia and the Virginia Bicycling Federation advocate for the interests of cyclists across the state. They support a number of local bike clubs and chapters to provide information and advocacy, lead organized rides and promote public safety. VDOT’s Bicycle and Pedestrian Program strives to make bicycling and walking safer and more convenient for all Virginians. The program coordinator is based in the Transportation and Mobility Planning Division in the Richmond central office, and there is a coordinator in each of the department’s nine district offices.

### Equestrian trails

The Virginia Horse Council appointed a committee to establish direction and coordination of statewide equestrian trail development and maintenance activities. Participating clubs have formed working relationships with public and private land managers across the state to improve and maintain existing trails, as well as establish new trail-riding opportunities. The results of this successful initiative can be seen in national forests, many state parks, state forests and local parks.

### Hiking

The American Hiking Society advocates for the interests of hikers in Virginia as well as the rest of the nation. Although there is no statewide hiking organization, a number of active local and regional trail clubs maintain sections of the Appalachian Trail and other hiking trails across the Commonwealth. The Virginia Volkspurt Association promotes the spirit of walking and events designed to appeal to all ages.
CHAPTER 8

Outdoor Recreation Programs

Motorized trails

The Virginia Off-Highway Vehicle Coalition represents the interests of off-highway vehicle users to establish and improve off-highway vehicle opportunities in Virginia through education, responsible land use, environmental sustainability and the promotion of safe, family-oriented recreation. The Virginia Four-Wheel Drive Association is a nonprofit organization promoting safe, responsible and fun four wheeling. These groups are interested in developing more trails for legal off-road use, particularly in the eastern part of Virginia.

Bicycle and pedestrian accommodations

The VDOT State Bicycle and Pedestrian Program maximizes the utility and safety of nonmotorized modes of transportation and recreation by coordinating efforts to shape bicycling and walking policies and practices and by ensuring consistency among state agencies, organizations, advocacy groups and the general public. Other aspects of the program:

- Providing planning assistance to state, regional and local transportation planners for bicycle or pedestrian studies and plans, design standards, education and training and the development and distribution of bicycle and pedestrian data.
- Implementing bicycle and pedestrian policy.

Transportation policies for bicycle and pedestrian planning

The Policy for Integrating Bicycle and Pedestrian Accommodations, developed in 2004, provides that VDOT initiate all highway construction and maintenance projects with the presumption that the projects shall accommodate bicycling and walking. VDOT is using a tiered approach to further integrate the policy into its daily business practices.

The Statewide Bicycle Policy Plan, completed in 2011, provides a framework to implement the bicycle section of the policy and establishes a vision for the future. It provides goals and objectives, recommends actions and sets a platform for establishing performance measures. Specifically, the Statewide Bicycle Policy Plan:

- Provides strategies for implementing the Policy for Integrating Bicycle and Pedestrian Accommodations approved by the Commonwealth Transportation Board in 2004.
- Establishes policies to guide the planning and design of bicycle facilities.
- Identifies opportunities for enhancing coordination between and within the various levels of VDOT, as well as with stakeholders outside of the organization.
- Recommends training programs for professionals who are responsible for planning and designing bicycle facilities.
- Sets benchmarks for tracking policy implementation.
- Implements a Pedestrian Policy Plan.

As with any planning process, the most important aspect of bicycle and pedestrian planning involves obtaining input from the public. Achieving a balance between conflicting demands on the transportation system is also essential. VDOT encourages localities to think in terms of enhancing connectivity and improving corridors and networks. Many areas in Virginia have organized bicycling clubs that represent the interests of citizen cyclists and help gather and provide information. Chambers of commerce and local tourism interests often advocate for bicycle and pedestrian accommodations to link points of interest, attractions, accommodations and restaurants. Furthermore, local governments are interested in bicycle routes and walkways that encourage active living and link residential areas with schools, libraries, commercial centers, parks and employment centers to reduce the vehicle trips each day.

VDOT’s updated official bicycling map is available online: www.virginiadot.org/bikemap.

Bicycle and pedestrian plans should be integrated into the transportation elements of local comprehensive plans and plans developed at the regional metropolitan planning organization, planning district commission and state levels. Multimodal planning recognizes the importance of integrating nonmotorized transportation planning with transportation plans and parks and recreation plans. To ensure that the improvements in a multimodal plan are carried out, implementation strategies must be developed, and the plan must be adopted by the locality or regional body. Facility design guidelines are provided in the VDOT Road Design Manual, the American Association of State Highway and Transportation Officials’ Guide for the Development of Bicycle Facilities and Guide for the Planning, Design and Operation of Pedestrian Facilities.

Local trail planning

Local and regional governments and park authorities fund most trail development. Trail, greenway and bicycle/pedestrian plans are needed to develop integrated trail networks that encourage healthy, active communities.
Since most projects evolve at the local level, all jurisdictions should have a trail component in their comprehensive plan that includes a variety of trail types to meet different user needs. Local transportation plans should include bicycle and pedestrian accommodations in accordance with the bicycling policy plan. Incorporating trails and greenways into residential, commercial and industrial construction is an efficient way to build trail infrastructure. Maintenance costs may be shared with homeowners associations, businesses and other stakeholders if plans, standards and policies are in place.

**Resources for local trail planning:**
- Designing and Building Healthy Places, Centers for Disease Control and Prevention
- Land Use and Zoning Essentials, Active Living by Design
- Smart Growth, U.S. Environmental Protection Agency

**Examples of local and regional trail plans, programs and marketing:**
- Virginia Beach Bikeways and Trails Plan
- Alexandria Citywide Wayfinding Plan
- James City County Greenways Plan
- Spotsylvania County Trailways Master Plan
- Richmond Riverfront Plan
- Northern Virginia Regional Park Authority Five Year Strategic Plan
- Bike Arlington
- Fairfax County Park Authority Policy Manual
- Accessibility in Fairfax County
- Charlottesville Bike mAPP
- Loudoun County Online Mapping System
- Region 2000 Bicycling Awareness Memorial Fund
- Roanoke Outside
- Roanoke Valley Greenways Trail Work Database
- Healthy Portsmouth
- Activate Martinsville Henry County

**Regional trail planning**

Regional government allocations (both staff resources and funding) for outdoor recreation and bike/pedestrian infrastructure vary widely. More investment is likely when there is a strong partner such as the Roanoke Regional Partnership, an economic development organization that promotes Roanoke as a great place to live, work and play. Also driving this successful partnership is Pathfinders for Greenways, a strong volunteer organization, and the Roanoke Valley Greenway Commission, created by an intergovernmental agreement among Roanoke County, the city of Roanoke, Salem and Vinton.

**Trail design, construction and maintenance**

The best trail experiences depend on the surroundings — the scenery, topography, climate, local culture, other users and proximity to services and amenities. If economic impact is a goal, carefully consider trail location and work to mitigate deficiencies in the trail experience. Trail design, construction and maintenance guidance is available in the Greenways and Trails Toolbox.
Focus on what works
Trail projects should focus on what has demonstrated value for improving the built environment and public health, such as:

- Access to places for physical activity.
- Improve streetscape design to encourage walking.
- Implement zoning that enables physical activity.
- Encourage mixed-use land development.
- Prepare bicycle/pedestrian master plans.
- Subsidize public transportation.
- Implement joint-use agreements.
- Improve traffic calming safety.
- Increase green space and parks.

More information about these topics is available from the County Health Rankings and Roadmaps Program: [http://www.countyhealthrankings.org/policies](http://www.countyhealthrankings.org/policies)

Also see, “11 Principles for Creating Great Community Places,” by the Project for Public Spaces.

Railroads and trails
The publication, “Rails with Trails/Pedestrian Crossing Project Initiation, Coordination, and Review,” outlines the process citizens should follow to begin discussions about rails-with-trails.

Case study: Deep Run Trail
The National Park Service Rivers, Trails and Conservation Assistance Program is working with the Spotsylvania Greenways Initiative, Spotsylvania County, CSX and the Virginia Department of Rail and Public Transportation to determine the best trail alignment across CSX lines and national battlefield property in the Fredericksburg area. Virginia Tech’s Community Design Assistance Center assisted with the development of alternative routes.

The Federal Transit Administration encourages pedestrian and bicycle amenities that expand public transportation. According to a 2011 announcement in the federal register, “all pedestrian improvements located within one-half mile and all bicycle improvements located within three miles of a public transportation stop or station shall have a de facto physical and functional relationship to public transportation. Pedestrian and bicycle improvements beyond these distances may be eligible for FTA funding by demonstrating that the improvement is within the distance that people will travel by foot or by bicycle to use a particular stop or station.”

Resources for technical assistance
- Active Living Resource Center
- Advocacy Advance
- American Trails
- Children in Nature Network
- Community Commons
- Federal Transportation MAP-21 Funding
- National Park Service Rivers, Trails and Conservation Assistance Community Toolbox
- National Recreation and Park Society Advocacy Toolkit
- Pedestrian and Bicycle Information Center
- Rails to Trails Conservancy
- U.S. Forest Service Accessibility Resources
- Virginia Department of Conservation and Recreation

Utility corridors
Utility corridors have potential for trail development. In Alexandria, some neighborhoods have been connected through nondeveloped road rights of way. The Rails to Trails Conservancy reports that 40 percent of current rail trails double as utility corridors under a variety of arrangements. High Bridge Trail State Park is a renowned example of a rail line conversion.

In certain circumstances, where it does not adversely impact utility access, future growth or the operations and maintenance of existing facilities, there is potential for utility corridors and trails to coexist, providing mutual benefits through shared maintenance costs. Trail users and volunteers could provide additional monitoring of these shared corridors. The opportunity for public-private partnerships, improved use of valuable urban land and economy of development.

Rail trail resources:
- Public Transportation and Commuter Services Grants
- Rails-to-Trails Conservancy Acquisition Overview
- Norfolk Southern Real Estate
- CSX Community Webpage
CHAPTER 8

Outdoor Recreation Programs

Works cited
1. 1996 and 2011 Virginia Outdoors Demand Surveys

Water access and blueways

“Twenty years from now you will be more disappointed by the things that you didn’t do than by the ones you did do. So throw off the bowlines, sail away from the safe harbor. Catch the trade winds in your sails. Explore. Dream. Discover.”
— Mark Twain

According to the 2011 Virginia Outdoors Demand Survey, public access to state waters for fishing, swimming and beach use represents the second most needed recreation opportunity in Virginia.

Figure 8.1 Public priorities for water access

<table>
<thead>
<tr>
<th>Activity</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fishing, swimming and beach access</td>
<td>60%</td>
</tr>
<tr>
<td>Canoeing and kayaking</td>
<td>46%</td>
</tr>
<tr>
<td>Motorized boating</td>
<td>22%</td>
</tr>
</tbody>
</table>

Source: Virginia Outdoors Demand Survey, 2011.

When it comes to actual participation in water-related recreation, the responses were equally high. The three water-related activities most frequently participated in were swimming in a pool (43 percent), sunbathing/relaxing on a beach (41 percent) and swimming at a beach (38 percent).

Figure 8.2 Water-based recreation participation rates

<table>
<thead>
<tr>
<th>Activity</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Swimming in a pool</td>
<td>43%</td>
</tr>
<tr>
<td>Sunbathing/relaxing on a beach</td>
<td>41%</td>
</tr>
<tr>
<td>Swimming at a beach</td>
<td>38%</td>
</tr>
</tbody>
</table>

The Virginia Canals and Navigations Society publishes detailed guides to the rivers of Virginia that include a river mileage system suitable for monitoring pollution spills, as well as historic and natural sites.

Recommendations for implementation

• Solicit stakeholder feedback about state, regional, local and private sector roles and needs for developing and promoting water trails.

• Conduct a benchmark analysis using data from other states to develop ideas and strategies for statewide water trail development and promotion.

• Update the interactive VOP Mapper annually to reflect new trails and public access.

• DCR should continue to comment on highway projects, including all state and federally funded bridge projects, to encourage public access to the state’s waters. If DCR knows that a locality wants an alternative bridge design at a particular location, this will be included in the comments that are provided to VDOT.

• Prepare an economic impact assessment of water trails in Virginia.

Clinch River Valley Initiative

Clinch River Valley Initiative in Southwest Virginia focuses on one of the most diverse river systems in North America. Goals are being set for downtown revitalization, access points, water quality, entrepreneurship and environmental education along the Clinch River. An action plan building on cultural and ecological areas includes environmental education and entrepreneurship opportunities. One of the five main goals promotes a Clinch River State Park.

Growth of water trails and blueways in Virginia

Virginia boasts hundreds of miles of streams and rivers suitable for navigable recreation (see map 8.2). Approximately 1,930 miles of water trails exist in Virginia, with another 1,878 miles proposed. The establishment of the Captain John Smith Chesapeake National Historic Trail added significant water miles. Virginia’s localities and planning districts embrace water trails, often partnering with local and regional tourism staff to promote the concept.

While Virginia’s waterways are largely public for navigation by watercraft, most of the land along Virginia’s waterways — and in some cases the river bottoms — is in private ownership. Planning for water trails should take into consideration respect for private property and the need to secure permission from the landowner in areas where public access does not exist.

Water trails know no boundaries, and multistate partnerships highlighting these resources are growing. Virginia partners with other states on the following water trails:

• Southeast Coast Paddling Trail (Virginia, North Carolina, South Carolina, Georgia and Florida)

The Virginia Canals and Navigations Society publishes detailed guides to the rivers of Virginia that include a river mileage system suitable for monitoring pollution spills, as well as historic and natural sites.
Map 8.2 Water trails

Virginia’s Water Trails

- Potomac Water Trail (Virginia, Maryland and the District of Columbia)
- New River Water Trail (Virginia, West Virginia and North Carolina)
- Roanoke River Water Trail (Virginia and North Carolina)

Water access includes motorized and nonmotorized watercraft, fishing piers, bank fishing, beaches and natural water bodies suitable for swimming, natural area access and places to view the water, as well as water trails and blueways. Often, various water access points are connected along a river as a water trail or blueway. In Virginia, the popularity of water trails is growing and contributes to:

**Healthy living**

Water trails support trends in healthy living to participate in recreation. The Occoquan Watershed League sponsors the Healthy Paddles program with a tagline, “Happy Families and Healthy Lifestyles.” The program recognizes families that paddle 10, 20 or 40 miles.

**Tourism and local economy**

The benefits water trails have on tourism and the economy are recognized and while a separate study of Virginia water trails has not been conducted, trails such as the Upper James River Water Trail use community tourism events to promote the water trail.

The 2010 study, “Economic Impacts of River Trail Recreation in Iowa” by Daniel Otto reports that the Mississippi River, from Clinton to Muscatine, had 1.1 million total trips, resulting in more than $35.9 million in total spending in 2009.

The 2008 Paddle Tourism Study by Jennifer Beedle of North Carolina State University estimated that paddlers in North Carolina spent $270,075 on local paddling trips and $947,800 on non-local trips. Paddlers spent an average of $144 per party on their last local trip and an average of $503 dollars per party on their last non-local trip.

The Northern Forest Canoe Trail Economic Impact Study by the University of Vermont surveyed more than 1,000 paddlers to determine the economic impacts of paddle recreation along sections of the Northern Forest Canoe Trail, which
extends 740 miles from northern Maine, through Vermont and New Hampshire, to northern New York. Results indicate that approximately 90,000 visitors paddled the waterways in the six study regions. Spending in local communities created $12 million, supporting some 280 jobs. The median paddler group spent about $215 per trip, primarily at lodging establishments, restaurants, grocery stores and service stations. Non-locals spent an average of $414 to $498 per trip or $46 per person per day.

“Outdoor recreation participants spend $86 billion annually on water sports (kayaking, stand-up paddling, rafting, canoeing and motorized boating), the second highest revenue stream, with camping in the lead at $142 billion. Water sports directly support more than 800,000 jobs annually.”

— Jamie Mierau, director of River Protection for American Rivers

Cultural heritage
History and cultural heritage sites are among Virginia’s top outdoor recreation destinations. The Mathews County Blueways Water Trails are part of the Chesapeake Bay Gateways Network. This historic connection of water trails near Stingray Point is where in 1608, Captain John Smith’s shallop passed to avoid the rough waters of the open bay.

Stewardship
The Rappahannock River Water Trail highlights the longest free-flowing river on the East Coast. By engaging volunteers on many levels, the Friends of the Rappahannock works with community leaders to maintain accessibility and to increase visibility of the river.

Youth in the outdoors
Virginia State Parks’ Youth Conservation Corps is geared to parks located near the Chesapeake Bay. The purpose of this successful program is to engage Virginia’s youths in important conservation and park projects while fostering teamwork, self-esteem, social responsibility and respect for the environment.

Mathews Youth Kayak and Conservation Camp is a camp for middle school students to learn water safety, paddling skills, local maritime history and conservation.

The Nansemond River Preservation Alliance and Suffolk River Heritage initiated the Nansemond River Oyster Gardening Program. During 2012, eight schools and 940 children from Suffolk and Isle of Wight County raised seed oysters and transferred them to oyster sanctuaries near the mouth of the Nansemond River.

Regional, state and national water trail programs
• Regional Public Access Authorities increase access sites and manage existing water access. Two such authorities have been authorized by the General Assembly to address the regional need for additional public access and management of water access: the Northern Neck Public Access Authority and the Middle Peninsula Public Access Authority.

• The Virginia Scenic Rivers Program recognizes Virginia’s most outstanding rivers.

• The Chesapeake Bay Watershed Public Access Plan builds on local, regional and state public access along Virginia’s waterways. This plan expands public access in the Chesapeake Bay watershed through National Park Service collaboration with states and federal agencies.

• The Captain John Smith Chesapeake National Historic Trail is Virginia’s first nationally recognized water trail.

• The National Park Service Rivers, Trails and Conservation Assistance Program provides water trail resources, success stories and statewide contacts for water trails.

• The National Water Trails System program is intended to protect and restore America’s rivers, shorelines and waterways and conserve natural areas along waterways, as well as increase access to outdoor recreation on shorelines and waterways.

Water resources for paddlers
• American Canoe Association http://www.americancanoe.org/

Water trail design resources

- Accessible Fishing Piers, Platforms and Boating Facilities

Water access design

- Water Trail Toolbox: How to Plan Build and Manage a Water Trail, by the Chesapeake Bay Gateways Network
- American Rivers Blue Trail Guide
- American Trails Water Trails Resource
- Water trail toolkit, developed by the Iowa Department of Natural Resources

Department of Game and Inland Fisheries initiatives for boating

The need for public boating access is growing. DGIF continues to seek, evaluate and select sites to provide boating access for hunters, bird watchers, anglers, paddlers, power boaters, wildlife enthusiasts and ecotourists.

The DGIF Boating Access Program provides access to all river systems, the Chesapeake Bay and the Atlantic Ocean. The program’s success is due to its many partners supporting the boat access program by contributing to operations and maintenance.

Figure 8.3 Department of Game and Inland Fisheries boating access

<table>
<thead>
<tr>
<th>number of facilities</th>
<th>number</th>
</tr>
</thead>
<tbody>
<tr>
<td>On local property</td>
<td>69</td>
</tr>
<tr>
<td>On other state agencies property</td>
<td>4</td>
</tr>
<tr>
<td>On federal property</td>
<td>8</td>
</tr>
<tr>
<td>On power companies’ property</td>
<td>23</td>
</tr>
<tr>
<td>Sites at VDOT bridge crossings and terminated roads at water’s edge</td>
<td>29</td>
</tr>
<tr>
<td>Sites owned, constructed, operated and maintained by DGIF</td>
<td>81</td>
</tr>
<tr>
<td>Total</td>
<td>214</td>
</tr>
</tbody>
</table>

Source: DGIF, 2013.

There are more than 248,000 active registered boats in Virginia, and on many weekends the facilities are full with overflow parking along the entrance roads. The boating access program provides boat launches for non-power sites along upland rivers and streams and facilities for powerboats on saltwater or open freshwater. DGIF boating access facilities are regulated for boaters and anglers to fish or launch boats. Camping, swimming or public display of alcoholic beverages at DGIF facilities is prohibited and violators are subject to arrest.

Table 8.1 Department of Game and Inland Fisheries public access programs

<table>
<thead>
<tr>
<th>Jurisdictions served</th>
<th>85</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water bodies served</td>
<td>106</td>
</tr>
<tr>
<td>Launch lanes</td>
<td>419</td>
</tr>
<tr>
<td>Courtesy piers</td>
<td>105</td>
</tr>
<tr>
<td>Boat slides</td>
<td>12</td>
</tr>
<tr>
<td>River access sites</td>
<td>149</td>
</tr>
<tr>
<td>Lake access sites</td>
<td>62</td>
</tr>
<tr>
<td>Chesapeake Bay access sites</td>
<td>7</td>
</tr>
<tr>
<td>Atlantic Ocean access sites</td>
<td>2</td>
</tr>
<tr>
<td>Saltwater sites</td>
<td>31</td>
</tr>
<tr>
<td>Freshwater sites</td>
<td>184</td>
</tr>
</tbody>
</table>

Source: DGIF, 2013.

DGIF Boating Access Program

The DGIF Boating Access Program works closely with the U.S. Fish and Wildlife Service. In 1950, Congress passed the Federal Aid in Sport Fish Restoration Act, also known as the Dingell-Johnson or D-J Program. This act created the Sport Fish Restoration Program administered by the U.S. Fish and Wildlife Service. The objective of the program is: “To support activities designed to restore, conserve, manage, or enhance sport fish populations and the public use and benefits from these resources; and to support activities that provide boating access to public waters.” Since the revenue to support this program is generated from a federal tax on gasoline used to fuel motorboats, the funds from this program are used primarily on boating facilities for motorboat access.

Sport Fish Restoration Funds

Since 1986, DGIF has invested more than $13.5 million of Sport Fish Restoration Funds in the development and maintenance of boating access facilities. These funds have been invested to develop or renovate 60 sites in more than 45 cities and counties, of which 41 sites provide access to freshwater and 22 sites provide access to saltwater. These 60 facilities provide 99 lanes to launch and retrieve boats and approximately 2,682 spaces to park a vehicle with trailer. DGIF has invested more than $5.3 million of program funds for the maintenance of approximately 170 boating access sites each year.
DGIF technical assistance

DGIF offers technical assistance to local governments and the general public when building access facilities and boat ramps. DGIF has a prescribed process for evaluating and selecting boating access facilities.

Some of the criteria used to evaluate sites:

- Sufficient land control and area to support the facility
- Water depth, environmental conditions
- Adjacent land use, terrain and topography
- Proximity to roads and other access sites
- Development and maintenance funding
- Partners or cooperators

DGIF Grants to Localities Program

In July 2012, DGIF initiated a Grants to Localities Program to provide localities opportunities for new development, renovation or improvements at existing, local public boating access facilities. This grant program provides up to 75 percent of the approved project costs to construct or renovate boating access facilities for trailer or non-trailer hand launch facilities. Funds are provided on a reimbursement basis.

Boating registration trends

In the last decade, the number of Virginia registrations for boats under 16 feet has declined. Meanwhile, the number of registrations has increased for boats between 16 and 26 feet and for boats between 26 and 40 feet.

Beaches

There are 17 public, tidal beaches in Virginia representing 43 miles of public tidal beachfront land. Public tidal beaches account for well under 1 percent of Virginia’s shoreline.

The Virginia Department of Health monitors and reports beach advisories for 49 public beaches. High bacteria levels are an indication of levels of disease-causing organisms and can increase the risk of gastro-intestinal illness as well as ear and eye infections in swimmers.

Table 8.2 2007-2012 beach advisories

<table>
<thead>
<tr>
<th>year</th>
<th>total advisories</th>
<th>number of beaches</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>14</td>
<td>8</td>
</tr>
<tr>
<td>2008</td>
<td>10</td>
<td>6</td>
</tr>
<tr>
<td>2009</td>
<td>17</td>
<td>9</td>
</tr>
<tr>
<td>2010</td>
<td>38</td>
<td>16</td>
</tr>
<tr>
<td>2011</td>
<td>28</td>
<td>15</td>
</tr>
<tr>
<td>2012</td>
<td>28</td>
<td>17</td>
</tr>
</tbody>
</table>

Source: Virginia Department of Health.

Surfing is a coastal sport not surveyed in the Virginia Outdoors Demand Survey. The impacts in local beach communities may be significant according to a 2011 report titled “A Socioeconomic and Recreational Profile of Surfers in the United States” by G. Scott Wagner, Chad Nelsen and Matt Walker for Surf-First and the Surfrider Foundation.
Outdoor Recreation Programs

Virginia State Parks with beaches

<table>
<thead>
<tr>
<th>Virginia State Parks with beaches</th>
<th>Virginia State Parks with beaches</th>
</tr>
</thead>
<tbody>
<tr>
<td>Claytor Lake State Park</td>
<td>Kiptopeke State Park</td>
</tr>
<tr>
<td>Douthat State Park</td>
<td>Smith Mountain Lake State Park</td>
</tr>
<tr>
<td>False Cape State Park</td>
<td>Lake Anna State Park</td>
</tr>
<tr>
<td>Hungry Mother State Park</td>
<td>Breaks Interstate State Park</td>
</tr>
<tr>
<td>Bear Creek Lake State Park</td>
<td>Holliday Lake State Park</td>
</tr>
<tr>
<td>Twin Lakes State Park</td>
<td>Westmoreland State Park</td>
</tr>
<tr>
<td>Fairy Stone State Park</td>
<td>First Landing State Park</td>
</tr>
</tbody>
</table>

Fishing

Participation in freshwater fishing ranks 13th and saltwater fishing 18th in the 2012 Virginia Outdoors Demand Survey. Each year more than 355,170 freshwater anglers and 91,200 saltwater anglers spend some 1.153 million days fishing Virginia’s 2,800 miles of cold water streams, 25,000 miles of fishable warm water streams, 13,400 acres of public small impoundments, 139,100 acres of public large impoundments, 1.5 million acres on the Chesapeake Bay and 5,300 miles of ocean shoreline. In Virginia, anglers boost the economy by spending $1,142,099,000 annually.

Priorities of the Department of Historic Resources

The 2010 Virginia Comprehensive Preservation Plan sets three strategic goals for statewide, regional and local preservation efforts in Virginia and encourages all stakeholders in Virginia’s rich historic resources to embrace these goals as the foundation of public and private action during the life of the plan and beyond. The plan provides direction for the Department of Historic Resources as the State Historic Preservation Office. In this light, and as an example for other partners, the goals of the department are outlined below. The department commits itself to supporting the identification, stewardship, and use of Virginia’s significant historic, architectural, archaeological and cultural resources.

**Goal 1:** Integrate historic resources as a viable part of the environment for communities, organizations and agencies at all levels well into the future.

**Goal 2:** Practice good stewardship of historic resources.

**Goal 3:** Get the word out about the value of historic resources in educational and economic success and the tools available to put resources to work.

Priority statewide projects through 2017

- Capitalize on the American Civil War and War of 1812 commemorations to preserve Civil War battlefields and promote outdoor recreation, land conservation and heritage tourism, through land acquisitions or easements, creation of battlefield friends groups, integration of significant battlefields into local plans and a public education campaign on the devastating impact of organized relic hunting.

- DHR will cooperate with the Virginia Bicentennial Commission on the War of 1812 in Virginia, the Fort Monroe Authority and the National Park Service to hold an international forum at Fort Monroe on the legacy of the War of 1812 and explore development of Fort Monroe as the Virginia Center for the Environment.

- DHR will work with private landowners to secure the perpetual preservation of Werowocomoco in Gloucester County as a National Historic Landmark and with the Department of Conservation and Recreation to make it publicly accessible by water.

- Strengthen the capacity and accessibility of DHR’s Tools for Land Conservation, Outdoor Recreation and Heritage

Historic and landscape resources

“**Virginia is home to history and historic resources that provide an essential orientation to who we are as a nation and set guideposts for the future, while also generating economic opportunity through travel and tourism, supporting outdoor recreation and making our communities places of character and distinction. In order for Virginians and Americans to continue to reap these benefits today and for generations to come, we must be mindful stewards and work together to safeguard places of historical significance.**”

— Kathleen S. Kilpatrick, director, Virginia Department of Historic Resources

Historic and landscape resources
Tourism, including the implementation of the Virginia Cultural Resource Information System, an enhanced version of DHR’s Data Sharing System, with state-of-the-art GIS capabilities.

- DHR and DCR will support and promote the Historic American Landscapes program through partnerships with the American Society of Landscape Architects and others. They will work in cooperation to identify and sponsor outreach related to the stewardship and management of cultural and scenic landscape resources, including presentation of cultural landscape topics and management applications at the annual Environment Virginia conference and a technical bulletin and additional web-based support to improve outreach to managers of cultural landscapes.

Current initiatives

As Virginia’s State Historic Preservation Office, the DHR leverages its core programs and strengthens statewide preservation efforts through a series of focused initiatives that advance the agency’s priority goals and objectives and fulfill the agency’s important stewardship mission.

Land conservation and stewardship of Civil War battlefields

DHR administers 544 historic preservation easements, protecting approximately 35,000 acres across the Commonwealth. Virginia has 122 nationally significant Civil War battlefields — the largest number of any state in the United States and a full one-third of all Civil War battlefields in the country. As the primary steward of historic preservation easements on Civil War battlefields in Virginia, DHR now holds 63 Civil War battlefield easements totaling 7,496 acres on more than 30 separate battlefields — most donated by private property owners.

Partnering to promote heritage areas, heritage trails and commemorative programs

DHR is a partner and collaborator with the Journey Through Hallowed Ground Partnership and the Shenandoah Valley Battlefields Foundation — Virginia’s two congressionally designated heritage area organizations — and with the National Park Service in supporting several developing national historic trails. DHR is also a strong partner of Virginia’s Sesquicentennial of the Civil War Commission and the Virginia Bicentennial Commission on the War of 1812 in Virginia.

Assisting historic military installations in Virginia

Virginia is a national leader in helping military installations integrate historic preservation and reuse of historic buildings, as they meet the demands of their 21st century mission and comply with Base Relocation and Closure decisions. DHR continues to collaborate with leadership on planning for the future of Fort Monroe.

Promoting sustainable development through rehabilitation tax credits

DHR supports sustainable and environmentally friendly growth through investment in historic rehabilitation projects leveraged through state and federal tax incentives for historic rehabilitation. These projects promote sustainability by recycling buildings, reinvesting in existing infrastructure and pedestrian-friendly neighborhoods, and reducing the waste stream going to landfills as a result of rehabbing rather than demolishing historic buildings.

Designating cultural landscapes on the State and National Registers

Virginia is a national leader in the designation of parks, Civil War battlefields, rural historic districts and other treasured cultural landscapes through placement in the Virginia Landmarks Register and the National Register of Historic Places. Since 2007, the Board of Historic Resources has listed more than 392 historic buildings, sites and districts on the Virginia Landmarks Register and has approved the addition of 326 new historical highway markers for placement on Virginia’s highways.

Since 2007, the Virginia Board of Historic Resources has registered Twin Lakes State Park (a component of which includes the only state park in Virginia specifically created for African-Americans during the era of segregation), Bear Creek State Park, Holliday Lake State Park and the Foster Falls Historic District in New River Trail State Park, as well as historic landmarks at four National Parks: Skyline Drive in Shenandoah National Park, Great Falls Park Historic District, Prince William Forest Park Historic District and Quarters 17, Quarters 1 and the Chapel of the Centurion at Fort Monroe, and an expanded 400-acre Fort Monroe National Historic Landmark Historic District.

Werowocomoco on the York River was identified in 2003 as the center of Powhatan’s chiefdom. Photo by Michaele White.
In cooperation with DCR, DHR conducted a field school under the supervision of DHR’s state archaeologist at Chippokes Plantation State Park in July 2010. The excavation was a cooperative effort among DHR, DCR, the U.S. Forest Service, and the Archeological Society of Virginia. The project, which involved 38 volunteers, included investigation of the Chippokes Kitchen and the Chippokes Chimney sites. DHR also hosted an interpretive booth at the one archaeological site during Surry County’s Pork, Peanut, and Pine Festival. In 2007 and 2008, DHR conducted archaeological field schools using volunteers at the Walnut Valley Plantation (slave) cabin and other locations at Chippokes.

Cultural diversity and information-sharing
A major DHR initiative focuses attention on the rich diversity of Virginia’s history and culture and the imperative of making the fullness of this legacy accessible to all citizens. Since 2007, DHR has designated 91 historic properties and 121 new historical highway markers that are associated with the diverse cultural contributions of African-Americans, Native Americans, women and other minorities to our Commonwealth.

Education, training and outreach
This initiative commits DHR to enhance educational opportunities about the importance of historic resources, the benefits of preserving them and the tools available to all Virginians. DHR’s training and outreach efforts are strengthened through partnerships with Virginia Military Institute, Preservation Virginia, Sweet Briar College’s Tusculum Institute and the National Park Service’s Certified Local Government Program and American Battlefield Protection Program.

Table 8.3 2007-2011 Department of Historic Resources outreach
(Sponsored or co-sponsored by Department of Historic Resources)

<table>
<thead>
<tr>
<th>activity</th>
<th>participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audience for environmental education programs, classes, exhibits and events</td>
<td>3,290,553</td>
</tr>
<tr>
<td>Environmental education programs</td>
<td>1,927,388</td>
</tr>
<tr>
<td>Volunteers trained</td>
<td>12,693</td>
</tr>
<tr>
<td>Educational exhibits through partnerships with museums and others</td>
<td>759,355</td>
</tr>
</tbody>
</table>

State stewardship
This initiative calls on all agencies of the Commonwealth, including DHR, to lead by example and to improve their stewardship of state-owned historic properties. Under Virginia code §10.1-2202.3, DHR prepares and presents a biennial report to the governor and General Assembly on the status of state stewardship of historic properties. Since 2007, DHR added 40 state-owned historic properties to the Virginia Landmarks Register.

Among the state agencies exhibiting exemplary stewardship of historic resources over the past five years is the DCR, with whom DHR maintains an excellent working relationship. DHR reviewed and commented on 141 DCR projects between 2007 and 2011. In support of capital projects such as new cabins and trails, DCR has conducted numerous archaeological studies and has managed, in many cases, to avoid identified archaeological sites through minor changes in the scope of the projects. For example, at Shenandoah River State Park, as part of planning for new cabins, campground, visitor center and access roads, DCR undertook an archaeological survey that identified 19 new archaeological sites, of which 14 were determined to be potentially eligible for listing in the Virginia Landmarks Register. Through a modification of the project scope and reengineering of the project plans, all archaeological sites were avoided and protected with a 25-foot buffer.

Another telling example is DCR’s master planning process for the new Middle Peninsula State Park. Through a series of committee and public meetings, DCR developed a master plan for the park that is attentive to public needs, useful for construction budgeting and respectful of the historic and natural value of the property. Partnering with area archaeologists, DCR has begun archaeological survey of the property and has embraced its unique opportunity to preserve and interpret the history and prehistory of the Commonwealth.
Overview of historic resources and landscape resources

Importance of stewardship of historic resources and cultural landscapes

Virginia’s experience and sense of place involve a tapestry of sites and features of historical value, natural, cultural and social elements and recreational resources. Each component has its own value, but more importantly, together they build synergy and an expression of scenic and cultural landscape character. The preservation, interpretation and good stewardship of cultural landscapes can serve to create a memorable voyage of discovery for the Commonwealth’s visitors and citizens.

Virginians consistently rank visiting historic places as one of their most popular recreational activities and indicate a strong preference for increased recreational opportunities in historic areas. For that reason, it is important to recognize that sound management of our cultural landscapes is essential to preserve and continue valued journeys and stories of the rich heritage associated with the Commonwealth’s resources. Whether it is the sweeping vistas dotted with barns, farmhouses and rolling pastures that help define a rural historic district or battlefield, the view across the Potomac from Mount Vernon or looking down on the University of Virginia from Monticello, the graceful designed landscapes of a city or state park or a single spot such as Natural Bridge that combines historic associations with natural beauty, the quality and character of cultural landscapes, considered in both their historical and scenic contexts, need to be recognized, protected, maintained and enhanced.

Stewardship of these resources means ensuring their long-term integrity. Existing programs such as the designation of Virginia byways, scenic rivers, historic districts, battlefields, heritage areas and conservation and recreation lands all serve as useful tools to recognize major components of important cultural landscapes. Large land tracts and public lands including state parks such as Douthat, Chippokes, False Cape, Grayson Highlands and New River Trail must be viewed holistically and include buffer lands outside the parks. These state parks must not only be managed for their ability to offer a particular feature, or serve a specific use, but also for the inclusive cultural and scenic landscapes within and outside the park context.

Over the past five years DHR has certified more than 1,096 new private rehabilitation projects in which thousands of buildings have been successfully rehabilitated and put back into useful service. Over this same period, the number of private dollars invested in historic rehabilitation projects, leveraged and enhanced by DHR’s state tax-credit program, grew to exceed more than $1.65 billion, notwithstanding the serious downturn in the economy by 2009.

An April 2012 study conducted by Virginia Commonwealth University’s Virginia Center for Urban Development and Economic Development determined that the state rehabilitation tax-credit program has generated $3.6 billion of economic impact within Virginia since the beginning of the program in 1997. This represents certification of more than 2,000 rehabilitation projects and private-sector investment exceeding $3 billion. The study also found that the program supports 31,866 in-state jobs, resulting in $144 million in labor income.

Cultural resources program history and direction

The national movement to recognize America’s heritage and make it an important part of planning for the future began in Virginia. Resources that are protected range from great Colonial mansions, federal townhouses and vernacular village dwellings, to slave quarters, archaeological sites with information on Native American, European and African-American heritage and commercial buildings. The lands that make up the settings of these structures include tidal river marshes, farmland, battlefields, forests and urban gardens.

Collectively, these resources help define Virginia’s communities as places of character, texture and beauty and connect Virginians to their heritage. Historic resources fuel the economic engine that keeps Virginia thriving and these places shape the unique character and spirit of each community.

Local stewardship for cultural resources

Preserving these sites for future generations can play a vital part in building a sustainable future for the environment, businesses and communities. For example, reusing old buildings reduces waste, sustains character and livability and means that more of the construction dollars are spent locally. Additionally, these efforts conserve existing open space and cultural landscapes, leaving Virginia’s cultural legacy intact and meaningful. According to a 2007 study by VCU, updated in 2010, $1 million spent rehabilitating Virginia historic buildings means: 5.1 jobs in the construction sector, 6.2 jobs in other sectors; and $467,000 in household earnings.

Virginia’s designated historic resources and cultural landscapes are key contributors to the state’s more than $19 billion tourism industry.

Cultural landscapes

Historic resources comprise different elements, including structures, buildings, sites, objects and districts that must be viewed within the context of the landscape. Collectively, these historic features comprise a cultural landscape that is integrated with, and complementary to, the natural landscape. They range from formal courtyard gardens to rural tracts of land, and from state, suburban and urban parks.
The stewardship of these resources is an important consideration in maintaining social, cultural, civic, educational and scenic values.

The use of natural resources is often reflected in the division and organization of a property, including such features as manmade systems of circulation allowing movement through a landscape, the types of structures built, the types of use that influence texture and color in a landscape, and the purposeful planting of trees and shrubs.

The National Park Service has defined four types of cultural landscapes: historic designed landscapes, historic vernacular landscapes, historic sites and ethnographic landscapes. The four categories are not mutually exclusive. A cultural landscape may be associated with a significant event, include designed and vernacular features and be significant to a specific cultural group. An example in Virginia is Sailor’s Creek Battlefield State Park, the site of an 1865 Civil War battle. In addition, the park’s historic farmlands exhibit vernacular landscape characteristics.

**Historic designed landscapes** are deliberate artistic creations reflecting recognized styles, but they can also encompass landscapes associated with important people, trends or events in the history of landscape architecture. Many parks contain landscapes and related features designed by National Park Service landscape architects between 1916 and 1942, including the Blue Ridge Parkway, Virginia’s original six state parks and many others. Oatlands in Loudoun County and Kenmore in Fredericksburg are examples of properties with significant architectural and landscape garden features. Historic designed landscapes include a variety of landscapes that are listed in the National Register Bulletin No. 18, U.S. Department of the Interior.

**Historic vernacular** landscapes illustrate peoples’ values and attitudes toward the land and reflect patterns of settlement over time. Chippokes Plantation State Park, for example, represents a continuum of land use spanning hundreds of years. Continually, the Chippokes landscape has been reshaped by its inhabitants, but the historic mix of farm, forest and shoreline remains. Vernacular landscapes are also found in small suburban and urban parks and in rural historic districts.

**Historic sites** are significant for their associations with important events, activities and people. Battlefields such as the two at Manassas National Park and presidential homes like Montpeller are prominent examples of this landscape category. At these areas, existing features and conditions are defined and interpreted primarily in terms of occurrences during particular times in the past. Historic canals and transportation systems, converted to trail or greenway corridors, exemplify this category.
Ethnographic landscapes are typically characterized by their use by contemporary ethnic groups for subsistent hunting and gathering, religious or sacred ceremonies and other traditional activities.

An emerging new construct of this fourth category is the Indigenous Cultural Landscape. The National Park Service, in the context of planning for developing the Captain John Smith Chesapeake National Historic Water Trail, defines an indigenous cultural landscape “as an area of land that embodies sustaining aspects of the way of life of the American Indians of the Bay watershed at the time of European contact.” Noting that the Chesapeake Bay Indians lived in semipermanent agrarian settlements but that both men and women regularly traveled away from their settlements to sustain their communities, NPS envisions the ICL as an encompassing concept, meant to identify a geographic area where pre-Colonial ways of life can be described and interpreted to showcase their culturally different relationship with the landscape. It would demonstrate the availability of resources that could be used for food, medicine and clothing procurement; materials for making tools and objects related to transportation and the household; and habitat suitable for agriculture and for settlements. Further sustaining land areas might include land trails that were used by indigenous peoples or areas typical of those used for regular periodic resource procurement. Identifying indigenous cultural landscapes, protecting them and interpreting them offer compelling conservation and outdoor recreational opportunities that deserve priority attention in the years ahead.

Historic landmark preservation

Private property owners, corporations and nonprofit organizations, often working in cooperation with local governments, accomplish the body of historic preservation work in Virginia. This work includes the efforts of Preservation Virginia Inc., the oldest statewide private preservation organization in the country, numerous historical societies, local preservation and conservation foundations and individual historic property owners that seek to preserve Virginia’s most important historic sites and to reinvest in their renewal. Similarly, most decisions about the use of historic resources are made by property owners and through local land use decision-making processes (zoning, comprehensive planning, overlay historic zoning, building permits, tax abatements, etc.). For the most part, state and federal agencies are involved as a primary party only in the preservation of publicly owned properties, properties held in easement or in publicly funded or permitted projects, such as highway construction, wetlands permits, grants and licenses.

The best role for state and federal agencies is to encourage, support and stimulate private and local preservation efforts by providing leadership, guidance, sound information and tools for decision making. It also means leading by example, both in their stewardship of publicly owned historic properties and in demonstrating cooperation among their agencies.

Battlefield management and preservation

The Commonwealth’s ground-zero status makes concentrated efforts to preserve Civil War battlefields imperative. While thousands of acres are protected by the National Park Service and interpreted to the public (such Chancellorsville, Manassas, Fredericksburg, Petersburg, Richmond, and the Wilderness), others are held by other federal and state agencies (such as Sailor’s Creek Battlefield State Park). Many more are protected by private owners (Pamplin Park in Dinwiddie County) and nonprofit organizations, such as the Civil War Trust and the Shenandoah Valley Battlefields Foundation.

Conserving battlefield lands achieves multiple environmental and economic goals: it keeps the land in a condition to maintain and manage healthy forests and to retain important wildlife refuges and habitats. It preserves critical wetlands and riparian buffers fundamental to the overall health of Virginia’s streams and rivers — most notably in the Chesapeake Bay watershed. Battlefields provide outdoor recreational opportunities for nearby urban centers and engage children and tourists alike in learning history in outdoor classrooms and in authentic settings. They bring millions of visitors and dollars into Virginia communities while enabling families to
continue working their land as productive farms and forests — supporting agriculture — Virginia’s second largest industry — by allowing farm families to hold onto their land.

While Virginia has made great strides in conserving battlefield land, 10 of Virginia’s first-tier battlefields remain highly threatened. According to the 2009 “Update to the Civil War Sites Advisory Commission’s Report on the Nation’s Civil War Battlefields,” more than 50,000 acres of core battlefield land in Virginia are still intact but unprotected. Eighty battlefield landscapes appear to retain enough integrity for listing on the National Register but only 31 have been listed. Opportunities for concerted action are especially ripe on the part of private landowners and land conservation groups at 27 battlefields where all surviving lands are privately owned and unprotected. Friends groups lead local preservation efforts at only 28 percent of Virginia’s battlefields. Without strong public support and wise private stewardship, these important historic resources could disappear. Every acre of battlefield land lost to pavement shuts another window into our rich cultural heritage.

Because battlefields typically encompass hundreds or thousands of acres of land, often on the edges of cities or suburbs, partnerships are key ingredients to their preservation. The Civil War Sesquicentennial marks the best — and perhaps the last — opportunity to preserve these rapidly disappearing sites as a legacy for Virginia.

In Virginia, the Paint Lick Mountain Pictograph Site in Tazewell County is one example in a small set of significant and rare prehistoric archaeological sites in Virginia that include visually striking symbolic representations that transform natural landscapes into intriguing cultural landscapes. Along the south side of Paint Lick Mountain, Virginia’s prehistoric Indians created a group of 20 pictographs on a rock cliff that collectively reflect spiritual and cognitive aspects of their culture. As tangible expressions of a prehistoric social connection to the landscape of Southwest Virginia, the site continues to retain a deep significance for Indian communities in Virginia and surrounding states.

Historic preservation and land conservation

Historic preservation and land conservation share common goals and common values, including:

• Ensuring wise use of resources
• Working toward social, economic, and environmental sustainability
• Protecting community character
• Promoting quality of place
• Connecting people with their communities and environments

As the National Trust for Historic Preservation has recently observed of its work with the Land Trust Alliance, the conservation values of a cultural landscape are multiple and they exceed the sum of its multiple parts. Loss of one dimension diminishes the experience of the whole place. Yet the conservation of cultural landscapes often presents daunting challenges for organizations and resources structured to address solely historic preservation or land protection. Approaching either conservation or preservation with tunnel vision can leave important resources vulnerable. It follows that collaboration among conservationists and preservationists is not only desirable but essential if the settings and the larger cultural landscapes of historic buildings are to be preserved and protected. Opportunities for comprehensive conservation will be missed if those concerned with landscapes and those concerned with historic buildings work independently of each other.

Tools and planning resources

DHR offers a wide range of tools and resources to Virginians who want to put their history to work for conservation, outdoor recreation, heritage tourism, sustainable development and other community benefits. Agency guidance and information on all of DHR’s programs and services is available [http://www.dhr.virginia.gov/](http://www.dhr.virginia.gov/)

Planning tools

Virginia Comprehensive Statewide Preservation Plan

Issued by DHR in January 2010, Virginia’s comprehensive historic preservation plan highlights important progress and major challenges in statewide preservation efforts.

Survey and inventory

DHR’s historic resource inventory provides the largest and most powerful source of information on the location, historic character and environmental context of historic buildings, sites, objects, structures and districts in communities throughout Virginia.
**Data Sharing System**

**Preservation Planning for Architectural and Archaeological Resources**

**Guidelines for Conducting Historic Resources Survey in Virginia (October 2011)**

**State and federal project review**
As an integral part of the state and federal environmental review process, the department reviews state and federal projects for their effects on historic resources across the Commonwealth. The process ensures that public and private interests are fully considered and balanced with historic preservation issues. Office of Review and Compliance: http://www.dhr.virginia.gov/review/orc_home.html

**Recognition tools**

**State and national historic registers**
The Virginia Landmarks Register and the National Register of Historic Places formally recognize and bring public attention to Virginia’s significant historic resources. Register listing is also an important planning tool for public agencies and property owners.

**Historical highway markers**
A highly visible and popular tool for commemoration of Virginia history exists in the Historical Highway Marker Program.

**Certified local governments**
The Certified Local Government Program recognizes and rewards local governments that establish and maintain sound local preservation programs. Virginia currently has 32 CLGs.

**Preservation incentives**

**Historic preservation easements**
Historic preservation easements provide owners of historic properties a tool to assure long-term protection of the property’s historic character while retaining productive use of the property.

**Rehabilitation tax credits**
Both the federal and the Virginia rehabilitation tax credits provide powerful economic incentives for community revitalization.

**Funding tools**
- Certified Local Government grants can be used to undertake surveys, register nominations, preservation plans, public education programs, and rehabilitation projects and more.
- In 2006, the Virginia General Assembly established a new program of matching grants for the protection of threatened Civil War battlefield lands.
- DHR partners with localities and planning district commissions, shares the costs and fully administers a wide range of survey and planning projects.
• The department’s Threatened Sites Program provides emergency funding for endangered archaeological sites.

Technical assistance

• DHR’s four regional offices provide the first point of contact for agency programs and can also provide information about regional and local preservation organizations.

Scenic resources

“If you foolishly ignore beauty, you will soon find yourself without it. Your life will be impoverished. But if you invest in beauty, it will remain with you all the days of your life.”

— Frank Lloyd Wright

Importance of scenic resources

Virginia’s scenic beauty continues to be espoused, documented and promoted by citizens, businesses and visitors. In spite of this, visual resources often take a backseat to growth and development with little consideration given their benefits. Natural resource health, historical integrity and scenic-resource preservation are invariably linked, creating the backgrounds and settings that contribute to a high quality of life for Virginians and guests.

As rural areas grow in Virginia, it is important to evaluate tools for preserving and enhancing scenic qualities of landscapes. According to a 2011 study by Ken Cordell, a mix of forest land and open space is important in rural areas, as is the role scenic landscapes play in attracting and retaining residents and tourists. In addition, some citizens may be willing to pay higher prices to live in attractive communities and be near scenic amenities. Given the importance of landscape in rural migration patterns, it is critical to do what is necessary for preserving and enhancing scenic qualities of landscapes. Carefully managing scenic resources offers greater opportunities for residents and tourists to contribute to local economies.

According to a Virginia Tourism Corp. survey, nearly 13 percent of all travel in Virginia is for rural sightseeing.

History of Virginia scenic resources

As far back as 1950, the General Assembly recognized the importance of acquiring land of “scenic beauty.” Since then, there have been several General Assembly efforts to protect and enhance lands with scenic value. The promotion of scenic beauty is the basis for much of the travel industry’s efforts. The attractiveness of Virginia communities promotes business development, enhances tourism and quality of life. Many planning and conservation techniques are available to recognize, protect and enhance Virginia’s scenic resources. Though each individual has a different definition of “scenic,” most believe attractive areas make a positive contribution to Virginians’ life experiences.

The two scenic recognition programs, the Virginia Scenic Rivers Program and the Virginia Byways Program, have code definitions of scenic that are the foundation of each program. The General Assembly designates scenic rivers, and the Commonwealth Transportation Board designates scenic byways. Although the definitions are not the same, both programs look at the superior attributes of aesthetic and scenic beauty. The definition of these terms has been developed by repeated application of scenic evaluations.

There are more than 160 references to the word “scenic” in the Code of Virginia, including section §10.1-108, which mentions “the natural, scenic, scientific and historic attributes of the Commonwealth.” The protection of scenic resources affects planning, transportation, mining, signage, advertising and management of the environment. The code allows for the establishment of boards and committees to help protect scenic resources and creates tax benefits for property owners who protect scenic resources.

Since 2007, interest in scenic resources, especially byways and rivers, has remained strong. Since that time, 11 river segments representing 234 river miles have been designated as state scenic rivers, and 22 road corridors have been designated as state scenic byways, adding 130 road miles to the program.

Results of the 2011 Virginia Outdoors Demand Survey supports the importance of scenic resources to Virginia.

Sixty-four percent of Virginia households say they travel to historical areas, 50 percent say they visit natural areas and 26 percent visit gardens and arboretums.

The challenge is to maintain scenic quality and preserve landscape vistas and viewsheds at historically and culturally significant sites throughout Virginia. This will strengthen visual identity and character, support economic viability and create a better quality of life.
CHAPTER 8

Outdoor Recreation Programs

The U.S. Forest Service defines viewsheds as, “total visible area from a single observer position, or the total visible area from multiple observer positions. Viewsheds are accumulated seen-areas from highways, trails, campgrounds, towns, cities, or other viewer locations. Examples are corridor, feature or basin viewsheds.”

Scenic Virginia recognizes and promotes the protection of scenic resources throughout the Commonwealth. The organization is collaborating with the Department of Conservation and Recreation, Department of Historic Resources, Virginia Outdoors Foundation, Virginia American Society of Landscape Architects and other visual resource specialists to develop a statewide inventory and recognition program for significant scenic landscapes. The intent of the program is to recognize and map outstanding scenic viewsheds so that local planners may work to protect the unique qualities and character of individual communities.

Scenic resources and land conservation

Awareness of the value of scenic resources continues to grow in Virginia, as does the protection and management of Virginia’s landscape. The Virginia Land Conservation Foundation, Conservation Land Tax Credit and Virginia Outdoors Foundation all look at scenic attributes to maintain the visual integrity of surrounding important habitats and special communities. DHR and the National Park Service in designating rural historic districts for listing on the Virginia Landmarks Register and National Register of Historic Places consider scenic resources in their designation criteria.

Partnership for scenic resources

“Beauty is good for business and essential for the soul, and our scenic assets are essential to the cultural and economic health of our Commonwealth.”

– Scenic Virginia

Article X, Section 2 of the Virginia Constitution allows for a tax credit for real estate that is set aside for the public interest, including open space. Additionally, the definition of “open space land” in Virginia code section §10.1-1700 includes “scenic” as one of the qualities necessary for a tax credit.
CHAPTER 8

Outdoor Recreation Programs

Economics of scenic resources

Scenic America, the Trust for Public Land and The Nature Conservancy have ongoing programs and studies that consider the economic benefits of scenic resources.

Strategies for local government

For the most part, protection of visual resources is not regulated by local land-use ordinances, developmental and architectural guidelines, or state legislation. Local citizens and communities are responsible for identifying those visual resources important to quality of life. Local measures are important in planning for and implementing scenic protection.

To maximize the benefits of scenic resources, each locality should conduct a visual resources assessment as part of comprehensive and corridor management plan development. An assessment would identify views to and from scenic resources. Visual assessments may lead to scenic resource protection and be considered a factor in the location and design of new development. Visual assessments support strategies for conservation and protection of resources and the development of management techniques for long-term sustainability. Likewise, green-infrastructure planning methodology and greenway development consider scenic attributes.

The economic benefits of scenic protection to local communities are a key factor in the formation of relationships with conservation and scenic organizations. Communities and citizens need to be aware of the importance of protecting scenic resources, both legislatively and voluntarily.

Highway design

Planning for new and upgraded roadways needs to include an assessment of the corridor's scenic environment by evaluating both the impact of the proposed roadway, as well as views from the roadway. Bridges are important design elements for creating visually interesting highways. Water is another aesthetic resource that can greatly enhance a highway's attractiveness. Older bridge designs generally allowed a water view and a unique architectural or engineering component to enhance structural appeal. New bridges need designs that offer a safe, open parapet that allows motorists and pedestrians a view of the open water and surrounding landscape. Communities should stress a strong desire for visual and pedestrian access at all river crossings in transportation planning efforts with VDOT, where appropriate. New and replacement bridges should provide recreational access to appropriate water bodies.

Recommendations

In order to strengthen the awareness of Virginia’s visual resources, local communities and partnering organizations and agencies should educate the public on the value and benefits of scenic resources protection and management through the following:

- Develop public information through a brochure or website.
- Conduct a workshop about scenic programs and the stewardship opportunities they provide, economic importance of scenic resources, and tools and techniques for evaluating and managing scenic resources.
- Encourage local light ordinances to limit light pollution, especially in areas of significant scenic resources.
- Consider scenic resources with regard to the construction of wind turbines.

International Dark Sky developed a Model Lighting Ordinance in partnership with the Illuminating Engineering Society in 2011.

Works cited


Scenic highways and Virginia byways

“Byways are the shoestring that ties [landscapes] together, as a way for people to move from place to place and as part of the outdoor experience.”

— Patricia Gillespie, National Park Service

Known for its beauty, Virginia promotes and identifies the many scenic values that illustrate its history and culture. Driving Virginia byways is a popular way for many to experience Virginia's beauty. For more than 30 years, driving for pleasure has been nationally ranked in the top five favorite ways to experience the outdoors. While increasing gas costs make automobile travel a challenge, the 2010 Outdoor Recreation Trends and Futures report that more than 50 percent of the nation's population annually enjoys driving for pleasure. Ken Cordell of the Athens USDA Research Group says:
“Growth in participation for sightseeing, birding and wildlife watching is a trend that has been gaining momentum in recent years. This growth indicates rising interest in viewing and photographing the landscape and natural character of the U.S. … These shifts will need to be translated into changed priorities in the management of land, water and facilities for outdoor recreation, both public and private.”

In existence since 1966, the Virginia Byways Program acknowledges natural, cultural, historical, recreational and archeological amenities of scenic road corridors as being important for the “general enjoyment of Virginians and as a prime attraction to visitors.” In addition, designated Virginia byways highlight the unique and varied culture and character of the geographic regions and landscapes of the Commonwealth. Virginia’s byways are under continual threats from increased development, outdoor advertising and traffic. Attractive community areas are blighted as commercial enterprises move to large roadway corridors. Nationally significant byways are seeing increased traffic volumes creating congestion levels that diminish the scenic experience. Alternative design techniques may support and sustain designated scenic corridors. For the Virginia Byway Program to remain strong, the integrity of the program must be supported and protected.

The American Byways Resource Center, under the Federal Highway Administration, created a tool to show byway impacts on economic development. Although it was in its pilot phase when the Byways Center dismantled in 2012, it can still be of use to help present the value of byways.

Virginia byways designation process
VDOT, in conjunction with DCR, administers Virginia Byway Program. Grassroots efforts initiate and continually support Virginia byway designations. The locality must submit a request to VDOT and DCR to conduct a byway evaluation. Roads considered for byway designation must be a minimum of 10 miles long with identified end points. The Commonwealth Transportation Board reviews designation proposals submitted by DCR and VDOT after the localities request the designation.

Elements of the landscape that influence scenic quality include topography, water, vegetation, community design and development. Virginia byway scenic amenities include cultural, historical and recreational features and significant scenic views and exceptional landscapes without detracting features. Virginia byway designations are representative of the region and showcase unique, irreplaceable or distinct scenic characteristics of the area.

Photo by VDOT.

Recommendations

- Update Virginia scenic byway designation procedures and program with Scenic Virginia, VDOT and other partners. Consider adding a historic or heritage category and a process for benchmarking byway corridors.

- DCR, in partnership with VDOT and other organizations, should hold a workshop on scenic/aesthetics issues and develop a scenic byways management manual that will include land use planning tools and strategies to protect the scenic character of designated byways.

- The Commonwealth should establish a dedicated source of funds to maintain the integrity and character of scenic byways.

- Consider implementing road development recommendations of the 1995 report to the General Assembly on “Road Design Standards in Scenic and Historic Areas.”

- DCR should continue to review and comment on permit applications to protect the character of scenic roads and rivers, especially at bridge crossings and at major primary and interstate road crossings.

Photo by VDOT.
Criteria for Virginia byways

To be considered for the Virginia Byway Program, a segment of road must meet the following criteria:

- The route provides important scenic values and experiences.
- The route proposed for designation should be at least 10 miles in length, or providing a connection to current designated Virginia Byways.
- There is a diversity of experiences, as in transition from one landscape scene to another.
- The route links together or provides access to scenic, historic, recreational, cultural, natural and archeological elements.
- The route bypasses major roads or provides opportunity to leave high-speed routes for variety and leisure in motoring. Landscape control or management along the route is feasible.
- The route allows for additional features that will enhance the motorist's experience and improve safety.
- Local government(s) has/have initiated zoning or other land-use controls, so as to reasonably protect the aesthetic and cultural value of the highway.

On page 82 of the VDOT Board of Supervisors Manual is information about the Virginia Byways Program. Additional information and the statewide map are at the VDOT and DCR websites.

Virginia byway evaluation process

Determining eligibility of potential road corridors as Virginia byways generally follows the procedure outlined below.

1. The locality submits a study request to DCR or VDOT, along with pertinent land-use and zoning information and historical documentation.
2. Prior to the field study, VDOT and DCR review traffic data.
3. After the field study, the results and preliminary recommendations are shared with the locality.
4. The locality may hold a public hearing about the Virginia byway designation.
5. The locality sends VDOT a resolution of support, after an optional public hearing, supporting the designation.
6. DCR and VDOT forward the recommendation and local resolution to the Commonwealth Transportation Board.
7. The Commonwealth Transportation Board approves the designation.
8. VDOT erects Virginia byway signs along the corridor and adds the road segment to informational materials.

For more information, go to http://www.virginiadot.org/programs/faq-byways.asp.
Other byway designations

In addition to Virginia byways, other byway designations also highlight Virginia’s unique beauty and raise awareness of the need to preserve and protect Virginia’s scenic values. The most well known is the Federal Highway Administration’s National Byway Program, which recognizes five nationally significant roadways in Virginia. Other designated roads in Virginia include the U.S. Forest Service byways and roads identified by the American Automobile Association program.

Virginia’s designated national scenic byways

Blue Ridge Parkway
Colonial Parkway
George Washington Memorial Parkway
Skyline Drive
The Journey Through Hallowed Ground

These scenic byways have breathtaking vistas, as well as exceptional landscapes with a depth and breadth of scenery ranging from natural panoramas, to thrilling landscapes with both ancient and modern history.

Influence of scenic road corridors on local economies

Several localities and regional planning efforts are capturing the values of scenic road corridors and areas as they recognize the importance of scenery to their local economies. Region 2000 has a rural scenic corridor study that recognizes the value of scenic corridors to the region and lays out a plan of action to preserve these corridors.

Byways can help bring economic benefits to the adjacent communities. As an example, the Blue Ridge Parkway, one of the state’s All-American Roads, added more than $870 million in 2011 to Virginia and North Carolina economies.4

Thematic driving trails

The number of thematic driving trails has burgeoned in the last several years. These trails often offer scenery and insight into the history culture and products of a given region within the state. These partnership-driven entities are economic drivers that are quickly growing into one of the major ways that visitors experience an area. These trails help tie communities together through a common theme allowing the traveler to experience unique events and add to the local economies. The Virginia Tourism Corp. works with localities to help develop such trails.

The Crooked Road: Virginia’s Heritage Music Trail is a driver for tourism and economic development in Southwest Virginia. Photo by DCR.

The challenge now is to protect the scenic aspects of each of these trails and corridors so that the integrity of the experience is not lost and the local resources and scenic values are protected to ensure a pleasurable experience for all.

Selected resources

- The U.S. Department of Transportation, Federal Highway Administration’s “Community Guide to Planning and Managing a Scenic Byway”
- National Scenic Byways Program and National Park Service’s “Byway Beginnings: Understanding, Inventorying, and Evaluating a Byway’s Intrinsic Qualities”
- America’s Byways Resource Center’s “Conserving Our Treasured Places: Managing Visual Quality on Scenic Byways”
- U.S. Forest Service’s “Scenic Byways: A Design Guide for Roadside Improvements” by Alan Yamada et. al.
Scenic rivers

“The Commonwealth of Virginia has diversity of rivers and streams that is matched by few other states. ... The scenery of these streams varies from remote canyons to urban areas, from coastal swamps to mountain cliffs, from open pasturelands to dense forests.”

– Roger Corbett

There are more than 49,000 river miles in Virginia spanning Virginia’s coastal, piedmont and mountain regions. Scenic rivers are typically rich in history, natural resources and recreational opportunities often flowing through rural, agricultural and urban landscapes. Each corridor is unique, but all meet the 13 criteria established by the Scenic River Program.

Since the designation of the first scenic river in 1975, the General Assembly continues to make scenic river designations. In 2013, three rivers were added to the program bringing the total number of designated river segments to 32 with more than 700 river miles (see Map 8.3).

The origin of the Scenic River Program stems from the awareness of the value of water and scenic resources first addressed in the 1965 “Virginia’s Common Wealth”, Virginia’s first outdoors plan. The first Virginia scenic rivers report and the passage of the Virginia scenic rivers Act was in 1970. The report identified 28 rivers with significant natural, scenic, cultural and historic attributes worthy of protection.

Recommendations

• DCR should continue to administer, promote and educate communities on the Scenic Rivers Program and to re-evaluate and expand information about designated rivers and streams.

• DCR should develop a scenic river manual outlining the benefits and process of designation, as well as procedures and tools for managing, protecting, and recognizing river resources. The Board of Conservation and Recreation and DCR, along with other scenic river partners, should co-sponsor a workshop on scenic and aesthetic resources.

• DCR should coordinate with VDOT to provide recreational river access and scenic river identification signage to improve scenic river program awareness and bridge designs that provide visual access to the river.

“ Going fishing may feel like taking the day off, but its overall economic impact in the United States is estimated at $116 billion. And consider the fact that more people fish in the United States than go to Disneyworld. When Americans participate in outdoor activities, they aren’t just having fun and staying fit, they’re also pumping billions of dollars into the economy — in industries including manufacturing, leisure and hospitality, transportation, and wholesale and retail trade.”

– American Rivers

Scenic river designation is dependent on grassroots support. Local citizens are instrumental in initiating the designation process, which is a collaborative process that includes citizens, local governments, state agencies and ultimately the Virginia General Assembly. Citizen involvement begins with the evaluation phase and continues throughout the designation process. The field portion of the evaluation is critical to ensuring the quality of the program. Community involvement ensures the quality and continued success of the program.

Before the General Assembly and the governor can approve an addition to Virginia’s Scenic Rivers Program, local governments must request DCR to conduct a study. The inclusion of a river in the scenic rivers system provides a framework whereby the preservation of that river is encouraged. Once designated, the protection and management of the scenic river rest with the land owner and local community.
An objective methodology determines whether a river qualifies for designation. Before starting, an evaluation of the following criteria is conducted.

1. The river must be at least five to 10 miles in length.
2. The river segment must be publically accessible, by either land or water.
3. The beginning and ending points of the section must be able to be mapped.

If a river meets these three criteria, the scenic river designation process proceeds as follows.

- The community requests a designation study.
- DCR initiates data collection required to conduct a full study.
- Other state agencies are notified of the study and DCR collects their data prior to field investigations.
- DCR staff, local guides and trip supporters are all involved in the field portion of the evaluation.
- Upon completion of the evaluation, DCR notifies the jurisdiction about river segment qualifications for designation.
The established methodology objectively evaluates potential scenic rivers to determine their eligibility for designation. See “A Guide to Citizen Involvement in the Scenic River Designation Process.”

1. Request from a locality to DCR for a study initiates the scenic river evaluation process.
2. Conduct a study with DCR and local representatives to determine the eligibility of the river.
3. DCR notifies the locality and compiles the eligibility findings.
4. The jurisdiction passes a resolution endorsing designation of the qualifying river.
5. DCR completes the scenic river report.
6. Local legislative sponsor submits the bill to the General Assembly.
7. General Assembly passes the bill.
8. Governor signs the bill designating the river as a Virginia scenic river.
9. Localities and VDOT erect scenic river signage.
10. Corridor is monitored and managed by the locality with support from DCR.

The evaluation and ranking procedure provides data for formulating goals, objectives and priorities for protecting the scenic qualities of the designated river corridors and is based on 13 criteria that comprehensively address scenic and related qualities of the river.

Scenic river criteria
Scenic river designation involves evaluation of the following 13 attributes:

1. Stream corridor vegetation – width of stream buffers
2. Streambed and stream flow modifications – dams or channelization
3. Human development of visual corridor – houses, industry and other buildings
4. Historic features – within view or adjacent to the river, including bonuses for registered sites
5. Landscape – diversity of landform, vegetative cover, and views
6. Quality of fishery – types, number and value of fish varieties
7. Rare, threatened or endangered species – as identified by DCR Natural Heritage Program
8. Water quality – turbidity and litter
9. Parallel roads – visible and auditory impact on the river experience
10. River crossings – roads, trestles, pipelines, electric/power lines, telephone lines, etc.
11. Overall aesthetic appeal – unique aesthetics features – such as rapids, islands, remoteness, etc.
12. Public recreational access – trails, launches, public lands
13. Significant permanent protection – land conservation easements

Scenic river protection and management is the responsibility of local governments and landowners. Through education, comprehensive planning, zoning and land preservation tax credits, localities maintain the quality of their scenic river resources while permitting development and maintaining landowner activities. Local governments and landowners may use the evaluation criteria to monitor change and ensure each river section retains scenic character.

If citizens and localities surrounding designated rivers wish to have a local advisory committee focus on river protection issues, they can request one be appointed by the DCR director. Existing committees include the Historic Falls of the James, Goose Creek and Catoctin Creek. These committees provide input to the Board of Conservation and Recreation and work with the department, with local governments and citizens to ensure scenic qualities of each river remain intact. Their expertise is instrumental in resolving resource management issues. DCR provides technical assistance to local communities and to agencies looking for input on river corridor planning, preservation and management. See Code of Virginia §10.1-402.

Rock outcroppings contribute to the Meherrin River’s scenic qualities. Photo by DCR.
CHAPTER 8

Outdoor Recreation Programs

The Code of Virginia, §10.1-401 places responsibility for the program with the Board of Conservation and Recreation. This governor-appointed board consists of 12 citizens. At the request of citizens or staff, the board considers issues, plans and proposals that could impact scenic rivers and advises DCR. The board intends to develop a process, materials and outreach to enhance support of the scenic river program. Ideas include improved scenic river management through a manual and workshops and networking.

Other river initiatives

In addition to the state, several federal agencies help to manage, protect and promote the river systems across the country and in Virginia.

The Department of the Interior’s Wild and Scenic Rivers Program, administered by the National Park Service, helps to protect river sections through designation and planning techniques. In Virginia, only a section of the New River in Giles County qualifies for this program.

The American Heritage Rivers Initiative, administered by the Environmental Protection Agency, fosters communities to take advantage of their river resources for economic revitalization and protection of resources. This designation allows for the river corridors to receive some grant funding for resource protection. The New River and the Potomac River with its tributaries are recognized under this program. The James River qualified for this program, but it has not been designated.

The Virginia Scenic Rivers Program and the federal river programs focus on conservation and appropriate use of scenic rivers and river corridors. All state and federal agencies must consider how their projects and programs affect Virginia’s scenic rivers. DCR comments on all state permits that impact state scenic rivers. Comments by DCR include viewshed impacts, native plant restoration, water access and safety. The only regulations associated with the scenic river designation are in code section §10.1-407, which states that no dams may be erected on a designated scenic river without General Assembly approval.

America’s Most Endangered Rivers Program has been in existence since 1986. It recognizes rivers with critical and near-term threats. The threats can be from a number of sources, including damming, overdevelopment and pollution. Each year, a report identifies threatened rivers across the United States. In 2012, the American Rivers organization identified the Potomac River in Maryland, Virginia, Pennsylvania, West Virginia and Washington, D.C. as the Most Endangered River for that year. The Potomac’s rating is due to threats of pollution and Clean Water Act rollbacks that have national implications for clean water and public health.

A group checks maps before setting out on a scenic river evaluation. Photo by DCR.

Technical assistance for scenic river designation or protection

Department of Conservation and Recreation, Division of Planning and Recreation Resources
804-786-5054

Selected resources


Youth in nature

“We have such a brief opportunity to pass on to our children our love for this Earth, and to tell our stories. These are the moments when the world is made whole. In my children’s memories, the adventures we’ve had together in nature will always exist.”

– Richard Louv, author of “Last Child in the Woods: Saving Our Children from Nature-Deficit Disorder”

Getting youths into nature requires destination sites and natural play areas to explore with structured and unstructured play and education opportunities. Structured play and environmental education activities require trained paid staff capable of designing and implementing age-appropriate activities. Paid educators and interpreters are critical for training a strong corps of volunteers, such as Master Naturalists and Master Gardeners, who have the capacity to lead play, environmental education, and stewardship activities.

Park and natural resource interpretation

Park and natural resource interpretation is an enjoyable and effective part of park visitation. A well-crafted and presented interpretive program provides a memorable and entertaining experience. Most importantly, interpretive experiences enhance park guests’ understanding of the resource leading to an appreciation for the park and a desire to protect and conserve natural resources. By educating guests through interpretation of natural and cultural resources, park interpretation enhances awareness of park rules and regulations and assists in achieving site management goals.

Interpretive and environmental education

Environmental and land stewardship education should be incorporated into planning and outreach. Young people learn better outdoors, and become future environmental stewards, through exposure to high-quality natural and recreation areas with trained environmental education providers and certified interpretive specialists. Local recreation programming, regional restoration efforts such as Chesapeake 2000 and statewide programs such as Virginia Naturally and...
Stewardship Virginia all work toward developing more informed communities working for improved stewardship.

**Outdoor environmental education facilities and environmental educators**

Outdoor recreation and environmental education facilities promote environmental literacy through structured learning and play. Environmental education is often supported by volunteer Virginia Master Naturalists and Master Gardeners or paid staff such as state park Interpreters, Soil and Water Conservation District educators, and private education providers.

The growing *Children in Nature* movement indicates the need for greater exposure to “wild” unstructured play areas for children as well as planned educational experiences. While federal, state and local parks, forests, natural and wildlife areas allow space for unstructured play, planned education experiences can only be successful with trained volunteers or paid staff.

**Recommendations**

- All the state natural resource agencies should partner with Virginia Naturally for a media campaign to improve environmental literacy using simple shared messages, clear and achievable calls to action, and measurable common goals.

- Environmental education providers should receive training in state-supported curricula (Project WET, Project WILD, Project Learning Tree, Project Underground and Your Backyard Classroom) and seek recognition in the Virginia Environmental Educators Leadership Program.

- DCR and Virginia Resource Use Education Council should host an annual statewide environmental education conference for environmental educators.

- Virginia Naturally, state parks and local site managers should use existing outdoor environmental education facilities.

- State agencies should continue support of Stewardship Virginia, Virginia Naturally, Virginia Master Naturalist Program and the VRUEC.

**Interpretation on public lands**

Interpretive programming serves multiple purposes, including enhancing visitors’ enjoyment and overall experiences, increasing visitors’ knowledge and understanding of park resources, fostering a sense of appreciation or other attitudes toward parks and their resources, and developing on site and long-term stewardship behaviors that are mutually beneficial for both the site and the visitors.

Interpretation is a catalyst that creates opportunities for state park guests to explore the significance of the park and its surroundings. Interpretation makes emotional and intellectual connections between the resource and the visitor, building an understanding and appreciation of the resource.

Interpretation may have the same end goal as environmental education; however, the approach and audience differs. Environmental education requires students and community members to participate in a sequential learning process such as a school or home-school curriculum or community-based stewardship campaign. Community-based programs may take place in settings such as a churches, Rotary Club or Master Naturalists meeting. Interpretation, on the other hand, tends to be voluntary and located in informal or recreational settings, and is often limited to a one-hour to one-day program.
Interpretive programming may include:

- Hikes and walks
- Van tours
- Canoe, kayak or stand-up paddleboard trips
- Campfire programs
- Astronomy programs
- Demonstrations and workshops
- Junior Rangers
- Music programs
- Storytelling events

Sometimes getting dirty is fun. Photo by Shenandoah County Parks and Recreation Department.

Interpretive training for state parks personnel could be a model for others

Effective interpretation and education require a specific skill set, a connection with the resource and often the community surrounding the site. Professional skills development in Virginia state parks is optimally achieved through annual trainings such as:

- Interpretive Program Managers Workshop.
- Spring Interpretive Workshop – basic skills.
- Trainings available through the National Association for Interpretation.
- Regional environmental education curriculum training.
- Specialized trainings and certifications in canoe, kayak and/or archery.

Website directory

Trails and greenways

Virginia Recreational Trails Program

Virginia’s Long-Distance Trail Network: Connecting Our Commonwealth (statewide trail action plan)

Appalachian Trail Conservancy – volunteer management

Virginia Department of Conservation and Recreation – Adding Value to Your Community

Spotsylvania Greenways
http://www.spotsylvaniagreenways.org/index.php/aboutus

Virginia Capital Trail
http://virginiacapitaltrail.org/

Code of Virginia §10.1-204 – Statewide System of Trails
http://leg1.state.va.us/cgi-bin/legp504.exe?000+cod+10.1-204

Virginia Department of Conservation and Recreation – National Trails in Virginia

Virginia Department of Conservation and Recreation – Statewide Trails in Virginia

Virginia Department of Conservation and Recreation – Local Trails in Virginia

International Mountain Bicycling Association
http://www.imba.com/

Mountain Bike Virginia
http://www.mountainbikevirginia.com/
Website directory continued

BikeWalk Virginia
http://www.bikewalkvirginia.org/

Virginia Bicycling Federation
http://www.vabike.org/

Virginia Horse Council
http://www.virginiahorsecouncil.org/

Volksport Association
http://www.walkvirginia.com/

Virginia Off-Highway Vehicle Coalition
http://www.vohvc.org/

Virginia Four-Wheel Drive Association
http://www.va4wda.org/

Virginia Department of Transportation – Policy for Integrating Bicycle and Pedestrian Accommodations
http://www.virginiadot.org/programs/resources/bike_ped_policy.pdf

Virginia Department of Transportation – Statewide Bicycling Policy Plan

Virginia Department of Transportation – Official bicycling map
www.virginiadot.org/bikemap

Virginia Department of Transportation – Road Design Manual
http://www.virginiadot.org/business/locdes/rdmanual-index.asp

American Association of State Highway and Transportation Officials – Guide for the Development of Bicycle Facilities

Guide for the Planning, Design and Operation of Pedestrian Facilities

Centers for Disease Control – Designing and Building Healthy Places
http://www.cdc.gov/healthyplaces/

Active Living By Design
http://www.activelivingbydesign.org/events-resources/essentials/land-use

Environmental Protection Agency – Smart Growth
http://www.epa.gov/smartgrowth/

Roanoke Regional Partnership
http://www.roanokeoutside.com/

Greenways.org – Pathfinders for Greenways
http://www.greenways.org/about_us/pathfinders.asp

Roanoke Valley Greenway Commission
http://www.greenways.org/about_us/commission.asp

Virginia Department of Conservation and Recreation – Greenways and Trails Toolbox

County Health Rankings and Roadmaps Program – What Works for Health
http://www.countyhealthrankings.org/policies

Project for Public Spaces
http://www.pps.org/reference/11steps/

Virginia Department of Rail and Public Transportation – Rails with Trails/Pedestrian Crossing Project Initiation, Coordination, and Review

National Park Service – Rivers, Trails and Conservation Assistance Program
http://www.nps.gov/ncrc/programs/rtca/index.htm

Virginia Tech – Community Design Assistance Center
http://cdac.arch.vt.edu/

American Trails – Utility corridors
http://www.americantrails.org/resources/land/CarlsonNY04.html

Virginia Department of Conservation and Recreation – High Bridge Trail State Park
http://www.dcr.virginia.gov/state_parks/hig.shtml
Website directory continued

**Water access and blueways**

Clinch River Valley Initiative
http://clinchriverva.com/

National Park Service –
Captain John Smith Chesapeake National Historic Trail
http://www.nps.gov/cajo/index.htm

Occoquan Watertrail League
http://owlva.org/cms/

Upper James River Water Trail

Iowa State University – Economic Impacts of River Trail Recreation in Iowa

North Carolina State University – Paddle Tourism Study
http://www.ncparks.gov/About/docs/paddle_report.pdf

University of Vermont – Northern Forest Canoe Trail Economic Impact Study

Mathews County Blueways Water Trails
http://www.mathewsblueways.org/

Chesapeake Bay Gateways Network – Mathews County Blueways Water Trails
http://www.baygateways.net/general.cfm?id=77

Chesapeake Bay Gateways Network – Rappahannock River Water Trail
http://www.baygateways.net/general.cfm?id=138

Friends of the Rappahannock
http://www.riverfriends.org/

Virginia Department of Conservation and Recreation –
Virginia State Parks Youth Conservation Corps
http://www.dcr.virginia.gov/state_parks/ycc.shtml

Mathews Youth Kayak and Conservation Camp
http://mathewsmaritime.com/kayakcamp.html

Nansemond River Preservation Alliance –
Oyster Gardening Program
http://nansemondriverpreservationalliance.org/education-programs/

Northern Neck Public Access Authority
http://nnpdc.org/PAGES/PAA/public-access.htm

Middle Peninsula Public Access Authority
http://www.virginiacoastalaccess.net/MPPAAA.html

Virginia Scenic Rivers
http://www.dcr.virginia.gov/recreational_planning/srmain.shtml

Chesapeake Bay Gateways – Watershed Public Access Plan
http://www.baygateways.net/PublicAccess/

National Park Service – National Water Trails System
http://www.nps.gov/WaterTrails/

American Canoe Association
http://www.americancanoe.org/

National Oceanographic and Atmospheric Administration National Weather Service – Advanced Hydrologic Prediction Service

Access Board – Accessible Fishing Piers, Platforms and Boating Facilities
http://www.access-board.gov/guidelines-and-standards/recreation-facilities/guides

Bay Gateways Network – Water Trail Tools
http://www.baygateways.net/watertrailtools.cfm

American Rivers – Blue Trail Guide
http://www.bluetrailsguide.org/

American Trails – Water Trails Resources
http://www.americantrails.org/resources/water/index

Iowa Department of Natural Resources – Water Trail Toolkit

Virginia Department of Game and Inland Fisheries –
Boating Access Program
http://www.dgif.virginia.gov/boating/access
Website directory continued

Virginia Department of Game and Inland Fisheries – Building Boat Ramps

Virginia Department of Game and Inland Fisheries – Grants to Localities Program
http://www.dgif.virginia.gov/boating/access/grants/
Surfrider Foundation – A Socioeconomic and Recreational Profile of Surfers in the United States

National Survey of Fishing, Hunting and Wildlife-Associated Recreation
http://www.census.gov/prod/www/abs/fishing.html

Historic and landscape resources
Virginia Department of Historic Resources – 2010 Virginia Comprehensive Preservation Plan

Virginia Department of Historic Resources – Data Sharing System

Virginia Department of Historic Resources – Preservation Planning for Architectural and Archaeological Resources
http://www.dhr.virginia.gov/survey/Survey1.htm

Virginia Department of Historic Resources – Guidelines for Conducting Historic Resources Survey in Virginia

Virginia Department of Historic Resources – Virginia Landmarks Register and the National Register of Historic Places
http://www.dhr.virginia.govregisters/register.htm

Virginia Department of Historic Resources – Historical Highway Marker Program
http://www.dhr.virginia.gov/hiway_markers/hwmarker_info.htm

Virginia Department of Historic Resources – Certified Local Government Program
http://www.dhr.virginia.gov/clg/clg.htm

Virginia Department of Historic Resources – Historic preservation easements
http://www.dhr.virginia.gov/easement/easement.htm

Virginia Department of Historic Resources – Rehabilitation Tax Credits
http://www.dhr.virginia.gov/tax_credits/tax_credit.htm

Virginia Department of Historic Resources – Civil War Battlefield State Matching Grants

Virginia Department of Historic Resources – Threatened Sites Program
http://www.dhr.virginia.gov/arch_DHR/threatened.htm

Virginia Department of Historic Resources – Regional Offices
http://www.dhr.virginia.gov/regional_offices/regional_offices.htm

Scenic resources
Virginia Tourism Corp. – Travel Data
http://www.vatc.org/research/travel-data/

Virginia Department of Conservation and Recreation – Scenic Resources

Virginia Department of Transportation – Virginia Byways Program
http://www.virginiadot.org/programs/prog-byways.asp

Virginia Department of Conservation and Recreation – Land Preservation Tax Credit

Virginia Department of Conservation and Recreation – Virginia Outdoors Demand Survey

Scenic Virginia
http://www.scenicvirginia.org/

Code of Virginia – Definition of open-space land
http://lis.virginia.gov/cgi-bin/legp604.exe?000+cod+10.1-1700
Website directory continued

Scenic America
http://www.scenic.org/

The Trust for Public Land
http://www.tpl.org/

The Nature Conservancy
http://www.nature.org/
Virginia Department of Environmental Quality –
Wind energy

Illuminating Engineering Society –
Model Lighting Ordinance

Scenic highways and Virginia byways
Federal Highway Administration – America's Byways Resource Center
http://www.fhwa.dot.gov/publications/publicroads/13janfeb/05.cfm

Virginia Department of Transportation – Board of Supervisors Manual

Other scenic road designations

National Byway Program
http://byways.org/explore/states/VA

Region 2000 Planning District Commission – Rural Scenic Corridor Study

Virginia Department of Conservation and Recreation – Designated Scenic Rivers

Code of Virginia – Virginia Scenic Rivers Act
http://leg1.state.va.us/cgi-bin/legp504.exe?000+cod+TOC100100000040000000000000

Virginia Department of Conservation and Recreation –
A Guide to Citizen Involvement in the Scenic River Designation Process

Code of Virginia – Riparian Land and Water Uses
http://leg1.state.va.us/cgi-bin/legp504.exe?000+cod+10.1-408

National Park Service – River Designation Programs
http://www.nps.gov/ncr/portals/rivers/projg/nana1.htm

Wild and Scenic Rivers Program
http://www.rivers.gov/rivers/

Environmental Protection Agency – American Heritage Rivers Initiative
http://water.epa.gov/type/watersheds/named/heritage/index.cfm

American Rivers – America's Most Endangered Rivers Program
http://www.americanrivers.org/endangered-rivers/about/

Youth in nature
Chesapeake 2000
http://cap.chesapeakebay.net/statusofcommitments.htm

Virginia Naturally
http://www.vanaturally.com/

Stewardship Virginia

Children in Nature
http://www.childrenandnature.org/

Virginia Department of Environmental Quality – Project WET
http://www.deq.virginia.gov/ConnectWithDEQ/EnvironmentalInformation/ProjectWet.aspx
Website directory continued

Virginia Department of Game and Inland Fisheries – Project WILD
http://www.dgif.virginia.gov/education/project-wild/

Project Learning Tree – Virginia
http://web1.cnre.vt.edu/plt/

Virginia Department of Conservation and Recreation – Project Underground
http://www.dcr.virginia.gov/underground.shtml

Virginia Department of Conservation and Recreation – Your Backyard Classroom
http://www.dcr.virginia.gov/state_parks/ybc.shtml

Virginia Environmental Educators Leadership Program

Virginia Resource Use Education Council

National Association for Interpretation
http://www.interpnet.com/
CHAPTER 9

Outdoor Recreation Providers

MAP ICON KEY

- VOP Mapper
- Data explorer

PDF PDF
WEB WEB
Local parks and recreation

Just as the Virginia Outdoors Plan looks to the future of parks and open space for the Commonwealth, each locality should develop its own blueprint for future park spaces and recreation programs. The process of developing a local parks, recreation and open-space plan enlightens citizens about the need for planning and mobilization of resources to enhance the quality of life. Planning establishes a clear path to develop strong public parks and recreation systems that enhance quality of life. The best parks and recreation departments are those where citizens feel a sense of ownership and are involved in the park system. Communicating the individual, community, economic and environmental benefits of parks and recreation is critical for sustained community support.

Since the 2007 Virginia Outdoors Plan was published, the Virginia Tourism Corp. and others are recognizing the value of outdoor recreation and the contribution it makes to Virginia’s high quality of life. Outdoor recreation is key to health and wellness.

Local and regional parks and recreational facilities are the foundation of the Commonwealth’s outdoor recreation system. Citizens want recreational opportunities close to where they live. Providing close-to-home parks and open-space is generally considered a basic responsibility of local government. Citizens have an opportunity to be involved in the process of providing recreation services and parks as volunteers or as members of a citizen board or commission.

Recommendations

- All localities in the Commonwealth should establish a publicly supported parks and recreation department.
- Localities should coordinate parks and recreation planning with the comprehensive planning process.
- Localities should appoint a parks and recreation commission, as well as consider establishing a local park foundation.
- All public playgrounds, including school and park playgrounds, should meet or exceed the guidelines established by the United States Consumer Product Safety Commission.

Establishing parks and recreation departments

Because of the social, health, environmental and economic benefits, each locality in Virginia should establish or maintain a parks and recreation department. The department should oversee recreation programs, as well as the acquisition and management of parks and open space and the development of trails, athletic courts and fields, picnic areas, water-access points, and other recreation facilities.

On the state level, the Virginia Recreation and Park Society provides training and networking opportunities for parks and recreation professionals and serves as an advocate for the Commonwealth’s parks and recreation programs and facilities. On the national level, the National Recreation and Park Association serves in a similar function, in addition to providing research publications on current issues of concern to the profession.

NRPA provides articles on the benefits of parks and recreation on its website.

The Recreation Resources Service, a partnership of the North Carolina Department of Environment and Natural Resources and North Carolina State University, identifies studies on the benefits of parks and recreation.

Twenty-five of the 96 Virginia counties do not have full-time parks and recreation departments, meaning they do not employ a full-time parks and recreation director (see Map 9.1).

Seventy-one Virginia counties have full-time parks and recreation departments, as do 21 incorporated towns and
all cities except Emporia. These departments serve a vast majority of citizens across the state. The largest voids in service are in the Northern Neck, Southside and southwestern regions of the state. While new parks and recreation departments are formed occasionally across the state, some localities have dropped their parks and recreation departments and turned their programs over to private organizations such as the YMCA. While private organizations may provide recreation programming in the short term, they are not charged with planning for the long-term recreation, park and open-space needs of a community. A directory of local parks and recreation departments in Virginia is available at the DCR website.

In Virginia, parks and recreation is not a mandated service. Statewide operational funding for parks and recreation is not provided to local governments. Spending on parks and recreation varies according to local needs and resources. While many localities provide some funding for parks and recreation, they may not have an established full-time department. Some towns help fund larger county departments or may assist private groups or nonprofits in providing specific programs.

**Funding options**

Recreation budgets, when compared to other local services are often limited. Spending on parks and recreation in Virginia is shown on Table 9.1. Park acquisition and development usually depends on state and federal funding, grants and private donations. Local parks and recreation departments are in need of alternative funding sources.
Table 9.1  Per capita spending for local parks and recreation

<table>
<thead>
<tr>
<th>Type</th>
<th>Per Capita</th>
</tr>
</thead>
<tbody>
<tr>
<td>Statewide per capita</td>
<td>$62.81</td>
</tr>
<tr>
<td>Cities per capita</td>
<td>$93.47</td>
</tr>
<tr>
<td>Counties per capita</td>
<td>$46.62</td>
</tr>
<tr>
<td>Towns per capita</td>
<td>$103.57</td>
</tr>
</tbody>
</table>


The interest in friends groups and park foundations is on the rise in Virginia. While a friends group is a less formal citizen group, a park foundation is a legal mechanism created to benefit the parks and recreation system. Citizens can form a charitable foundation by creating a nonprofit corporation and applying for nonprofit status. Park foundations are normally established because of:

- The need for alternative funding
- Rising costs of land acquisition
- The public’s sense of stewardship toward land and cultural resources
- The public’s willingness to give to charitable causes

Park foundations in Virginia have raised money to build athletic fields, plant trees, purchase benches and other park amenities, provide scholarships to disadvantaged youths, and to provide funding for special events.

The Enrichmond Foundation is the umbrella nonprofit organization for more than 60 volunteer groups and special initiatives in the city of Richmond. The Enrichmond Foundation is governed by a board of directors and works closely with the city’s Department of Parks, Recreation and Community Facilities. The mission of Enrichmond has been to support parks, recreation and cultural arts through citizen involvement, education and fundraising. Partners include community and civic associations, sports and dance enthusiasts, garden and history clubs, and other citizen-based groups. Enrichmond Foundation partners may apply for grants and solicit tax-deductible contributions, as well as benefit from the organization’s leadership, resources and networking.

Citizen involvement and partnerships

Localities should appoint a parks and recreation commission to provide citizen leadership with regard to parks and recreation issues and concerns. Commissions have been effective in enhancing park areas and recreation programs. Citizens may establish local park foundations to support local government initiatives. Localities should explore alternative methods of funding, such as set-aside ordinances, fees and charges, and public-private partnerships. Cooperative use of public facilities such as schools and parks may be considered.

Parks and recreation commissions

Citizen involvement is a key to the development of a comprehensive community parks and recreation program. Parks and recreation commissions may be established to serve in either an advisory or policy-making capacity. Commissions offer localities a unique resource to help determine the direction that parks and recreation should take in the future and provide the leadership necessary to achieve this vision. Board and commission members should be provided with orientation and ongoing training. Boards may offer the parks and recreation department ties to the local business community resulting in private funding and partnerships.

School-park partnerships

Because of the heavy use of athletic facilities, it is vital that schools and parks develop cooperative agreements for the use of these public facilities. While many parks and recreation departments work cooperatively with school systems to provide community programs, more localities need to consider the implementation of the school-park concept. The school-park concept promotes the schools and surrounding land and facilities as community recreation centers during non-school hours. Close cooperation between school and recreation personnel to balance recreational and educational needs is required to sustain these partnerships. An operating agreement between the school board and the governing body should encourage full use of all available facilities and resources.

Partnerships with other institutions

Parks and recreation departments should initiate contact with agencies and organizations (e.g., colleges, universities, military bases, churches, etc.) to determine the feasibility of creating partnerships with the institutions to make recreational facilities and programs more accessible to local citizens. Further, local governments can and should enter into agreements to access or manage private facilities, where possible, for the public’s use and enjoyment.

Safety

Safety is an important consideration for managers of park and recreation facilities. Of particular concern is the safety of playground areas. The United States Consumer Product Safety Commission and ASTM International (formerly the American Society for Testing and Materials) provide guidelines on the design and installation of playground equipment. The National Recreation and Park Association conducts the National Playground Safety Institute Playground Safety Inspector.
Course and Exam. Individuals who take the course and pass the exam become certified playground safety inspectors.

Pools represent particular safety challenges. Pool personnel must receive appropriate training in supervising participants, as well as lifesaving and first-aid techniques. Staff must also be trained in the overall operation of the pool complex, including the handling of chemicals and recognizing potential health and safety hazards. The National Recreation and Park Association is one of the lead organizations in providing training to pool operators. The American Red Cross is recognized as a leader in training lifeguards and swimming instructors.

While the safety of facilities is important, it also important that staff and volunteers are trained to supervise and teach children. Staff and volunteers working with children should pass a criminal background check. Coaches should be provided training on teaching athletic skills, as well as sportsmanship, first aid and safety. Appropriate sportsmanship standards should be set and enforced for coaches, participants, parents and fans.

Youth sports, and sports in general, have recently come under fire with regard to the number of injuries, in particular head injuries, related to participation in a variety of sports. The Virginia Department of Health, through its Division of Prevention and Health Promotion, works to promote healthy lifestyles and to prevent injury through training, consultation, education, data and support for community prevention programs, including sports- and recreation-related injuries. To help ensure the health and safety of young athletes, the Centers for Disease Control and Prevention has developed the Heads Up: Concussion in Youth Sports initiative to offer information about concussions to coaches, parents and athletes involved in youth sports. The Heads Up initiative provides important information on preventing, recognizing and responding to a concussion.

Park planning
Local governments should coordinate planning efforts to incorporate recreation, parks and open space. Preparing and adopting an open-space and recreation plan is a key element of the local planning process. Planning for green infrastructure, trails and recreational programs is important to overall quality of life in a community. These plans should be incorporated into the locality’s comprehensive plan and be consistent with the 2013 Virginia Outdoors Plan.

Estimates for park acreage are based on park type and use. Parks and recreation plans should include a walking and bicycling trail component. An adopted bicycle-pedestrian trail plan is required in order for the Virginia Department of Transportation to include these components as part of road construction.

Advances in technology for marketing provide many opportunities for parks and recreation providers and can be of great service to parents and caretakers. Activity Rocket is a first-of-its-kind search engine that connects caregivers to after-school activities and enrichment camps for kids up to 18 years old in the Washington, D.C. region. More than 50,000 users have visited the site, and 240 activity providers list their classes and camps. www.activityrocket.com

Virginia State Parks

“Virginia State Parks provide a therapeutic tonic for the mind, body and spirit.”

— Joe Elton, Virginia State Parks director

Having celebrated the 75th anniversary of the state park system in 2011, the Virginia Department of Conservation and Recreation now manages more than 70,000 acres of state parkland, which includes 40 state parks (five of which are land-banked and under development. (See Map 9.2). Attendance in 2012 exceeded 8.3 million with a projected economic impact of close to $199 million. This section details the state park system’s role in meeting the Commonwealth’s demand for outdoor recreation opportunities and open space.

Recommendations

- Continue efforts to increase funding to achieve full staff levels and operational funds for existing parks, to develop, operate and staff land-banked parks at phase 1 level, to acquire in-holdings within existing parks, and to address backlogs of maintenance reserve and other capital construction needs.

- Develop comprehensive management plans for state parks including completion of visitor experience plans and updating resource management and master plans.
• Expand interpretive and educational programming to continue focus on connecting children and families with both cultural and natural resources, taking into consideration the changing demographics of park visitors.

• Increase efforts to maintain and upgrade existing trails while implementing efforts to provide additional and varied types of trails.

History of Virginia State Parks

Leaders of the state park movement in the 1920s and 1930s recognized the value of state parks to individuals and communities. In 1936, Virginia opened its first six state parks. By 1965, the park system had grown to 12 park sites and six natural areas. That same year, the state released “Virginia’s Common Wealth,” its first comprehensive study of outdoor recreation. This study reiterated the earlier recognition of the value of parks, stating, “Virginia’s lands and waters have abundantly nourished its citizens, in body and spirit, for nearly four centuries. To neglect these resources — to abandon their conservation — to let heedless exploitation consume them or remove them from the reach of the great majority of our citizens — is to sell their birthright for a mess of pottage. Once sold, it cannot be recovered.” Read more history about Virginia State Parks: [http://www.dcr.virginia.gov/state_parks/his_parx.shtml](http://www.dcr.virginia.gov/state_parks/his_parx.shtml)

Since 1965, the state park system has tripled its number of park sites. In 1992, and again in 2002, Virginia voters overwhelmingly approved the use of general obligation bonds to acquire new parklands and to further develop existing parks. The 2011 Virginia Outdoors Demand Survey identified the following as the top four reasons to have state parks: places for people to explore and enjoy nature (61 percent); conserving natural resources (58 percent); places for walking, running, and other activities (48 percent); and places for families and friends to spend time together (45 percent). The 2011 survey continued to show that more than 90 percent of respondents feel it is very important or important to have access to outdoor recreation opportunities. What is reassuring
for the future is that 72 percent of respondents aged 18-24 considered access to outdoor recreation very important.

State parks planning and protection
The mission of Virginia State Parks is to conserve the natural, scenic, historic and cultural resources of the Commonwealth and provide recreational and educational opportunities consistent with the good stewardship of these lands, waters and facilities that leave them unimpaired for future generations (see Table 9.2). This is accomplished by actively managing natural resources, preserving cultural resources and providing recreational facilities and programs that complement these resources. Maximizing the public’s enjoyment of state parks, while minimizing potential impacts on resources, requires careful planning.

Table 9.2 Most important reasons for Virginia State Parks

<table>
<thead>
<tr>
<th>reason</th>
<th>% households</th>
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<tbody>
<tr>
<td>Places for people to explore and enjoy nature</td>
<td>61</td>
</tr>
<tr>
<td>To conserve natural resources</td>
<td>58</td>
</tr>
<tr>
<td>Places for walking, running and other activities</td>
<td>48</td>
</tr>
<tr>
<td>Places for families and friends to spend time together</td>
<td>45</td>
</tr>
</tbody>
</table>

Source: 2011 Virginia Outdoors Demand Survey.

The department uses three planning documents to establish a comprehensive approach for the management and development of a park: a natural and cultural resource management plan, a visitor experience plan and a master plan. The resource management plan endeavors to identify the base components or resources of a park site (whether it is a unique ecosystem or a Civilian Conservation Corps structure), to define what the desired future or long-term condition of those resources should be and to develop prescriptions or management actions that need to be implemented in order to enhance, restore, conserve or protect those resources. The visitor experience plan, using information developed for the enhancement and protection of the park resources, provides a vision for the future of interpretation, education and visitor experience opportunities in a park. It addresses personal services, media, facilities and landscapes that are important elements of visitor experience. These plans should form the basis for future park development that is identified in the park master plan.

The Code of Virginia §10.200.1 describes the components of a state park master plan, as well as the process for developing and adopting a plan and five-year review. The department has developed an open planning process that provides multiple opportunities for public involvement and participation.

Funding and development
To successfully implement a park resource management or master plan requires adequate funding and staff. While the past five years of funding have been reflective of the economy, the state park system has seen improvements and expansion. With grant funding and appropriations from the governor and General Assembly for a mix of development, staff and operating costs, High Bridge Trail State Park opened to the public in 2008. Powhatan State Park was appropriated funds for development in 2011 and for staff and operating costs in 2013. The park opened to the public in 2013.

The department has relied on general obligation bonds over the past 20 years to expand and improve the park system. The 1992 and 2002 bond packages provided significant funding for the acquisition of new state parklands and to construct facilities identified in master plans. There continues to be a need for additional funding for park development, whether through another general obligation bond referendum, site-specific appropriations by the governor and General Assembly or new grant opportunities. Along with development funds, there is a greater need for additional funds for staff and operating costs that has not kept pace with new development. Efforts to increase operating funds should continue and remain priorities for agency leadership and elected officials.

Trails in state parks
Among all park amenities, trails continue to receive high rankings of importance. There are more than 570 trail miles in the state park system that provide an array of opportunities for hiking, family biking, mountain biking and horseback riding. Households responding to the 2011 Virginia Outdoors Demand Survey identified hiking and walking trails as the most needed recreation opportunity in Virginia. Eighty-two percent of households participated in walking for pleasure, according to the survey.
When asked to rank the importance of specific amenities provided by state parks, three types of trails ranked in the top 10, just as they did in the 2006 survey: hiking trails ranked first (43 percent); family bicycle trails ranked fifth (28 percent); and multiuse trails 10th (26 percent).

Respondents to Virginia State Parks’ 2012 customer satisfaction survey ranked hiking as their most frequent activity. In the same survey, hiking trails were ranked first for park improvement priorities; bicycling trails ranked sixth. These findings continue to stress the importance of routine trail maintenance and proper signage.

**Natural and cultural interpretation and education**

A key component of the Virginia State Parks mission is to provide educational opportunities consistent with good stewardship. Through interpretive programs, exhibits and signage, the opportunity exists to promote public understanding of the need to protect the natural and cultural resources of the Commonwealth, not just those found within a state park. Findings from the 2011 Virginia Outdoors Demand Survey ranked the following (see Table 9.3) in the top 10 preferred amenities offered by Virginia State Parks.

In the 2012 state park customer satisfaction survey, these same amenities were rated between 92 and 95 percent for level of excellence.

| Table 9.3 Top 10 preferred amenities in Virginia State Parks |
|---------------------------------|------------------|
| **amenity**                     | **% households** |
| 1 hiking trails                 | 43               |
| 2 camping facilities            | 31               |
| 3 visitor centers               | 31               |
| 4 school programs               | 30               |
| 5 family bicycle trails         | 28               |
| 6 cultural/historical programs  | 28               |
| 7 playgrounds                   | 27               |
| 8 wifi and/or cell phone coverage | 27            |
| 9 nature programs               | 26               |
| 10 multiple-use trails          | 26               |

Source: 2011 Virginia Outdoors Demand Survey.

In 2012, more than 18,000 interpretive programs were offered in Virginia State Parks, with attendance exceeding 376,000. This was a 27 percent increase in the number of programs offered from 2011, with a 3 percent increase in attendance. The addition of the AmeriCorps Interpretive Project provided staff who conducted a quarter of the programs offered in 2012. Approximately 2,300 educational programs were attended by 109,000 students, almost three times the number of students as noted in 2006. Other initiatives such as First Day Hikes, Great American Backyard Campout and National Kids to Parks Day create opportunities for families to participate in an array of outdoor activities.

Based on findings from the 2011 Virginia Outdoors Survey, visiting historic sites ranked second (64 percent) for activities participated in by respondents. There are 29 state registered and 25 federally registered historic or archaeological sites found within the state park system. These cultural treasures create additional opportunities for interpretive and educational programming across the system.

The General Assembly created the Virginia Sesquicentennial of the American Civil War Commission to commemorate Virginia's participation in that war. Virginia State Parks has entered into a memorandum of understanding with the commission to join the statewide initiative and has accepted its role in interpreting Virginia's historic and cultural heritage. Civil War Traveling Trunks were developed to share among the six different state park districts. Items in the trunks allow for activities ranging from costumed living history to educational programs that fulfill numerous Virginia Standards of Learning.

**Volunteers**

Volunteerism has become a significant component of the success of state parks. Volunteers are individuals, AmeriCorps participants, members of park friends groups, college alternative spring break groups or participants in the Youth Conservation Corps summer program. However, the number of volunteers and hours contributed has not gone untouched by fiscal circumstances. While the number of volunteer hours for 2012 was more than 244,000, or double the hours reported in 2006, there was a significant decrease in hours from 2011 to 2012. This is thought to be the result of fewer YCC programs, fewer AmeriCorps personnel and significant staff vacancies among the parks, which limited the ability of parks to coordinate and oversee volunteer programs. Areas that remained strong include the Camp Host Program and friends group member participation.

The Virginia Association for Parks, which serves as the organizational umbrella for individual park friend groups, was given the National Association for State Park Directors Presidents Award in 2007 for outstanding service, commitment and leadership to preserve, protect and enhance the natural and...
cultural state park resources in Virginia. In 2012, the VAFP celebrated 15 years as an organization. In addition to its role in supporting volunteers, the association has been a strong advocate not just for state parks but national parks. Numerous other initiatives have been implemented through collaborative efforts of the VAFP, such as:

- Partnering with Keep Virginia Beautiful and Dominion Virginia Power to enhance recycling in state parks.
- Working with a variety of partners to develop new exhibits at the Southwest Virginia Museum, Sailors Creek Battlefield and Lake Anna state parks.
- Forming a new collaborative that will result in the development of the Pocahontas State Park Mountain Bike Center.

**Economic benefits and revenue generation**

The location of a state park within a community can have a significant impact on the local economy. Based on overnight and day-use attendance in 2012, the impact on the state’s economy was estimated at $199 million. This is an increase of $40 million from 2006 estimates. These benefits are derived mostly from visitor spending but also include the impact of park operating and construction expenditures. Many parks are a significant source of jobs in rural communities.

The revenues generated by park visitation have become a significant source of operating funds. All park revenues are returned to the state park system and are used for annual operations and maintenance. These revenues comprise approximately 48 percent of the annual state park budget. Revenues have increased by 124 percent since 2006. This is partially a result of additional facilities and fee adjustments but primarily the result of increased attendance.

**Information on parks**

Obtaining information about parks or knowing where to find information is important (see Figure 9.1). In the 2011 Virginia Outdoors Demand Survey, 28 percent of respondents identified a lack of information as the reason for not using state parks. While this is down slightly from the 2006 survey, it still indicates a segment of the population does not readily have access or actively seek information on state parks. In the 2012 customer survey, when asked how they found out about the park, 30 percent stated the Internet and 25 percent stated friends or family (see Figure 9.2).

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**Figure 9.1 How people find out about recreation opportunities**

<table>
<thead>
<tr>
<th>method</th>
<th>% households responding</th>
</tr>
</thead>
<tbody>
<tr>
<td>word of mouth</td>
<td>72</td>
</tr>
<tr>
<td>internet</td>
<td>59</td>
</tr>
<tr>
<td>magazine or newspaper</td>
<td>46</td>
</tr>
</tbody>
</table>

*Source: 2011 Virginia Outdoors Demand Survey.*

**Figure 9.2 Top technologies used in connection with outdoor activities**

<table>
<thead>
<tr>
<th>technology</th>
<th>% households responding</th>
</tr>
</thead>
<tbody>
<tr>
<td>internet</td>
<td>67</td>
</tr>
<tr>
<td>smartphone</td>
<td>27</td>
</tr>
<tr>
<td>social media</td>
<td>26</td>
</tr>
</tbody>
</table>

*Source: 2011 Virginia Outdoors Demand Survey.*

Virginia State Parks have made significant efforts over the past five years to enhance visibility on the Internet through social media outlets and with the development of a smartphone app for accessing state park information. Marketing efforts have also increased by hiring additional staff, expanding staff presence at weekend expos and outdoor shows, and providing promotions and incentives to potential visitors.

[www.dcr.virginia.gov/state_parks](http://www.dcr.virginia.gov/state_parks)
[www.virginiaoutdoors.com/](http://www.virginiaoutdoors.com/)

**Future needs**

Through the use of remaining funds from the 2002 general obligation bone, grants, tax incentives and donations, efforts have continued to acquire and protect significant natural and cultural resources and to meet recreational needs. The selection of a park site is based on several considerations and certain basic criteria need to be met for a site to qualify for acquisition as a state park.

Methodology originally developed by the National Recreation and Parks Association identified a standard of 10 acres of state parkland for every 1,000 people. Based on this standard and projected population growth of 8.8 million by 2020, there will be a need for more than 16,000 acres of additional parkland. Set forth in the 1965 “Virginia’s Common Wealth,” the goal was to have a state park located within an hour’s drive of major population centers. In the 2011 Virginia Outdoors Demand Survey, lack of time (40 percent) and distance from home (20 percent) were the first and third reasons given for not using state parks. Those who responded to Virginia State Parks’ customer satisfaction surveys in 2012 appeared willing...
to drive approximately 1½ hours for more typical day-use activities and up to 2½ hours for overnight stays.

During the next five years, efforts should focus on potential acquisitions that would expand Middle Peninsula and Mayo River state park sites so that these sites meet the identified desired acreage, and opportunities to acquire in-holdings and land adjacent to existing state park sites. Regions where local initiatives have identified potential future park sites that would meet the basic criteria include Brunswick County along the Meherrin River, Loudoun and Highland counties, and Tazewell, Russell, Scott, and Wise counties in the Clinch River region.

**Virginia Natural Heritage Program**

"To avoid squandering the country’s biological riches will require a far more concerted and systematic effort than has characterized our nation’s conservation efforts to date."

— Bruce A. Stein, Precious Heritage: The Status of Biodiversity in the United States

The Virginia Department of Conservation and Recreation’s Natural Heritage Program plays a central role in the Commonwealth’s overall land conservation efforts as it is charged with protecting biodiversity by focusing on the most significant natural communities and rare and imperiled species. Working closely with other state, federal and local agencies, nonprofit conservation organizations and private citizens, the Natural Heritage Program collects and shares information on the state's biodiversity for the protection of sites that support significant natural communities and rare species. DCR manages the state’s growing natural area preserve system, which supports many populations of rare species and examples of the state’s diverse natural communities. Natural area preserves (see Map 9.3) contribute to a sense of place, improve scientific understanding, enhance public education and increase outdoor recreation opportunities.

The Natural Heritage Program focuses on the identification, protection and stewardship of natural heritage resources defined in the Code of Virginia as the habitat of rare, threatened or endangered plant and animal species, rare or state significant natural communities or geologic sites, and similar features of scientific interest benefiting the welfare of the citizens of the Commonwealth.

Central to this mission is the identification and protection of natural areas, both lands and waters, supporting significant natural communities and habitats for rare species. Natural areas support living resources and are important to outdoor recreation. Many of the nation's state natural heritage programs were launched with federal Land and Water Conservation Fund grants because natural areas are a critical component for outdoor recreation.

**Land conservation highlights**

- Developing and managing Virginia’s Natural Area Preserve system, which comprises 61 dedicated natural areas totaling 54,803 acres (see Table 9.4).
- Identifying and maintaining information on approximately 600 globally significant conservation sites that total nearly a million acres. Most are not adequately protected to ensure the long-term viability of the natural heritage resources they support and thus are important targets for voluntary conservation measures.
- Developing and maintaining the conservation lands database, which maps and tracks information on all lands protected for conservation throughout Virginia.
- Managing the Natural Heritage Data Explorer, an interactive data and mapping service that provides citizens, conservation organizations, businesses and government agencies information about the locations of sensitive habitats and conserved lands across the state.
- Working closely with land trusts to ensure the best possible protection of natural heritage resources on private lands being protected with conservation easements.
- Partnering with other government entities and conservation organizations to protect the most biologically significant lands in Virginia.

*Savage Neck Dunes Natural Area Preserve in Northampton County supports migratory songbird habitat and one of the largest known populations of the federally listed northeastern beach tiger beetle. Photo by DCR.*
Outdoor recreation highlights

- The 2011 Virginia Outdoors Demand Survey found that the fourth most popular activity was visiting natural areas, up from fifth in 2006 and 11th in 2001.

- Appropriate public access to natural area preserves provides unique opportunities for outdoor recreation and increases appreciation for Virginia’s rarest and most special landscapes.

- Supporting some of the most spectacular scenery in Virginia, all 44 state-owned natural area preserves, as well as several owned by private organizations and local governments, are open to the public. Not all have parking areas and trails, though, so it is recommended people call before visiting.

- The Natural Area Preserve System provides 79 miles of hiking trails.

- With more than 100 miles of frontage on rivers and tidal waters, many natural area preserves are well suited for exploring by boat and for fishing.

Recommendations

- DCR, other natural resource agencies and academic institutions should expand biological inventory efforts across the state to better understand the distribution, status and population trends of natural heritage resources.

- DCR should promote use of online natural area and land conservation information such as Natural Heritage Data Explorer and LandScope Virginia.
### Table 9.4 Public access at natural area preserves

<table>
<thead>
<tr>
<th></th>
<th>Location and County</th>
<th>Birding and Wildlife Watching</th>
<th>Boardwalk</th>
<th>Canoe/Kayak Landing</th>
<th>Hiking</th>
<th>Observation Deck</th>
<th>Parking</th>
<th>Self-guided Trails</th>
<th>Toilets</th>
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<td>1</td>
<td>Goshen Pass, Rockbridge County</td>
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<td>2</td>
<td>Poor Mountain, Roanoke</td>
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<td></td>
<td><strong>Northern Virginia</strong></td>
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<tr>
<td>3</td>
<td>Bull Run Mountains, Fauquier and Prince William counties**</td>
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<tr>
<td>4</td>
<td>Crow’s Nest, Stafford County</td>
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</tr>
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<td></td>
<td><strong>Chesapeake Bay</strong></td>
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<td>New Point Comfort, Mathews County**</td>
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<td>North Landing River, Virginia Beach</td>
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<td>Cumberland Marsh, New Kent County**</td>
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<td>Mutton Hunk Fen, Accomack County</td>
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<td>Savage Neck Dunes, Northampton County</td>
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<td>Chub Sandhill, Sussex County</td>
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<td>Pinnacle, Russell County</td>
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* Owned by Northern Neck Audubon Society
** Owned by The Nature Conservancy
*** Owned by Virginia Outdoors Foundation
• DCR should support and expand Virginia Commonwealth University’s Interactive Stream Assessment Resource (INSTAR) to better understand and conserve the Commonwealth’s freshwater biological diversity.

• The Commonwealth should continue to implement the Virginia Department of Game and Inland Fisheries’ Virginia Wildlife Action Plan.

• The Commonwealth should increase assistance to localities in their planning efforts for the protection of natural areas as a part of their recreational offerings.

• The Commonwealth should develop a comprehensive land conservation plan and expand the funding source for land conservation, including lands that support natural heritage resources, and ensure representation on protected lands for all of the state’s natural community types and rare species.

• State and local land conservation organizations should strengthen natural-heritage resource protection through conservation easements.

• DCR should expand the natural area preserve system to strengthen protection of natural communities and rare species, to increase public access, to increase the ability to manage the preserves in light of expanding pressures from invasive species and a changing climate and to better implement specific management actions, such as prescribed fire.

• DCR should increase awareness of the environmental signficance of Virginia’s karst regions (limestone areas with underground streams, sinkholes and caves) through the Virginia Cave Board, the Natural Heritage Karst Program and the Virginia Cave and Karst Trail.

• DCR should increase its capacity to assist public and private land managers and owners with the management and restoration of natural heritage resources on their properties.

• DCR should secure the resources necessary to meet the stewardship needs of an expanded system of lands supporting natural heritage resources. For example improve resource management, increase public access opportunities and improve site security.

• Local and state natural resource agencies should enhance efforts to determine the distribution and status of invasive exotic species and to devise effective measures for their control, particularly where they threaten rare species or significant natural communities.

Natural heritage key facts

• Virginia has more than 1,600 rare plant and animal species and 311 community types.

• Five plants, six vertebrates and many invertebrates are found only in Virginia.

• At least 12 species of vertebrates and six species of freshwater mussels have been extirpated from Virginia.

• Due to habitat alteration from dam construction, water withdrawal, sedimentation, pollution and introduction of nonnative species, 75 percent of Virginia’s freshwater mussels are at risk.

Program overview

DCR’s Natural Heritage Program is divided into five interdependent units listed here in logical order of their work flow — inventory, information management, environmental review, natural area and karst protection and natural area stewardship.

The Natural Heritage Program inventory scientists conduct the only comprehensive statewide inventory that documents the location and ecological status of natural communities and rare plant and animal species. This ongoing inventory is conducted by staff ecologists, botanists, zoologists, contract staff, volunteers and cooperators. These staff members assist private and public land managers with local and regional natural area surveys. Inventory ecologists continue to refine the state’s natural community classification system with descriptions for Virginia’s 94 ecological groups and 311 community types, including state and globally rare limestone barrens, shale barrens, sea-level fens and tidal freshwater marshes, as well as outstanding examples of more common types such as Central Appalachian dry-mesic chestnut oak-
CHAPTER 9

Outdoor Recreation Providers

northern red oak forests and coastal plain/piedmont floodplain swamps.

Virginia’s natural heritage at a glance:

- The Virginia Natural Heritage Program was founded in 1986.
- The program has twice been recognized as the most outstanding natural heritage program in the Western Hemisphere.
- Virginia supports some 32,000 plant and animal species.
- Virginia ranks fourth among eastern states for the number of federally endangered and threatened species.
- Fewer than 9 percent of Virginia’s 1,600 rare species are protected under federal or state law.
- Virginia is rich in karst resources with more than 4,000 known caves. Karst springs support the base flow of most major rivers west of the Blue Ridge and are critical to the protection of water quality and quantity. More than 122 cave organisms tracked by the Virginia Natural Heritage Program are globally rare, and many live in only one or two caves.
- Southwest Virginia is the country’s leading hotspot of aquatic diversity, but many of the freshwater mussels and fishes found there are at risk of extinction.
- A changing climate is bringing significant new stresses in the form of changing temperatures, rainfall patterns and sea levels to Virginia’s native natural communities and species.
- Invasive exotic species have become the second greatest threat, after habitat loss, to biological diversity. More than 1,000 nonnative species have been reported in Virginia, many of which are invasive.

Since 1986, Natural Heritage Program scientists have discovered some 32 species new to science, and more than 300 species not previously reported from Virginia. The rapid pace of changes in the Virginia’s landscape necessitates more comprehensive inventory of natural heritage resources.

Protecting and managing natural heritage resources requires cataloguing and storing large amounts of data for a variety of users. DCR’s natural heritage information staff members use an assortment of Geographic Information Systems and database platforms to manage collected data. NatureServe’s Biotics 5 is the backbone of this system and is used by natural heritage programs throughout the Western Hemisphere. Data maintained by DCR are used internally, as well as by other land and resource managers and citizens in order to set protection and management priorities and provide a scientific basis for land planning. Some examples of the data maintained are detailed information on the location and condition of rare species populations, significant natural communities and caves, critical areas of Virginia’s landscape — called conservation sites— that should be considered for protection around the viable examples of these rare populations and boundaries of lands already protected in Virginia, along with information on ownership and the compatibility of intended management of those lands with the long-term preservation of biodiversity.

DCR’s natural heritage project review plays a key role in providing natural heritage resource information for land conservation and land planning decision makers. Project review staff members also respond to requests from the public for information about rare species and natural communities and provide outreach to localities in their planning efforts. As Virginia’s population grows, the importance of DCR’s efforts to provide scientific data and readily interpreted information in a timely and cost-effective manner will be increasingly essential.

Key to natural area protection is careful conservation planning that ultimately leads to land protection. Natural area protection can involve nonbinding agreements, conservation easements or fee-simple acquisition of land to secure habitat for the rarest and most threatened examples of natural heritage. Protection methods are chosen based on the specific conservation goals for each natural area. Virginia’s caves and associated karst landscapes receive special attention through DCR’s karst protection program. Staff works closely with agencies, organizations and citizens to identify biologically significant caves, trace complex relationships between surface and underground water systems and educate planners and the public about the importance of these highly sensitive areas.

Natural area stewardship involves maintaining and enhancing natural heritage resources on natural area preserves managed by DCR. Key components of natural areas stewardship include development of site-specific management plans, prescribed
burning, invasive-species control, habitat restoration, research and monitoring, public-access management and site security. Stewardship staff members also provide expertise and assistance in natural-areas management to federal, state and local agencies, as well as to private landowners and land managers, and are involved in statewide efforts to better understand and control invasive species.

State fish and wildlife management

“The continued existence of wildlife and wilderness is important to the quality of life of humans.”

— Jim Fowler, zoologist and host of Mutual of Omaha’s Wild Kingdom

The Virginia Department of Game and Inland Fisheries has statutory responsibility to manage the Commonwealth’s wildlife and inland fisheries and to protect state and federally threatened or endangered species (excluding plants and insects). The department’s mission is to:

• Manage Virginia’s wildlife and inland fish to maintain optimum populations of all species to serve the needs of the Commonwealth.

• Provide opportunity for all to enjoy wildlife, inland fish, boating and related outdoor recreation and to work diligently to safeguard the rights of the people to hunt, fish and harvest game as provided for in the Constitution of Virginia.

• Promote safety for persons and property in connection with boating, hunting and fishing.

• Provide educational outreach programs and materials that foster an awareness of and appreciation for Virginia’s fish and wildlife resources, their habitats and hunting, fishing, and boating opportunities.

Recommendations

The Department of Game and Inland Fisheries should:

• Continue to provide a professional law enforcement presence through effective conservation law enforcement training.

• Expand educational programs offered to the public that emphasize awareness of Virginia’s natural resources and safety associated with hunting, fishing, boating and wildlife viewing.

• Continue to maintain the Virginia Birding and Wildlife Trail and expand the Watchable Wildlife program to provide additional wildlife-viewing opportunities through programs, facilities and assistance to localities and others.

• Provide additional access for hunting that includes expanding managed and quota hunts, access to public and private lands, programs or partnerships that increase hunting opportunities and sound wildlife habitat management that fosters healthy wildlife populations.

• Increase angling access and opportunities, including shoreline fishing on warm-water streams and lakes, wheelchair-accessible facilities at trout-fishing areas where conditions are suitable and sound fisheries management and stocking of fish.

• Provide additional hunting, fishing, boating and wildlife viewing opportunities through public and private cooperative agreements.

DGIF responsibilities

In the execution of its statutory responsibilities, DGIF provides access to lands owned by public and private entities through a combination of cooperative management agreements and by acquiring and managing wildlife management areas. The Commonwealth owns, through DGIF, 39 wildlife management areas comprising more than 200,000 acres (see Map 9.4). DGIF also helps manage wildlife on an additional 2 million acres of land owned by the U.S. Forest Service, Army Corps of Engineers, Department of Defense, Virginia Department of Forestry, Department of Conservation and Recreation and a number of private entities. DGIF also maintains four wildlife refuge areas totaling 1,060 acres of wildlife habitat where hunting is not permitted.
Fishery resources

DGIF has constructed and maintains 38 public fishing lakes with a combined total of 3,318 acres. In addition, the department has agreed to manage fishery resources through contractual arrangements with public entities on 24 large reservoirs and 166 small impoundments that comprise more than 177,000 acres of impounded water. Access is maintained to a large portion of the Commonwealth’s 25,000 miles of warm-water streams and rivers, as well as 2,300 miles of native and wild trout water.

Approximately 1.2 million trout of catchable size are stocked annually in more than 600 miles of streams and 400 acres of lakes included in DGIF’s catchable trout program. The nine DGIF fish hatcheries produce and stock 10 to 20 million fish each year. DGIF has, along with partners on Virginia rivers, been active in the restoration of anadromous fish.

Information on Virginia’s fishing resources, the facilities and programs that DGIF maintains can be found at http://www.dgif.virginia.gov/fishing/.

Boating Access Program

The Boating Access Program provides 219 boating access sites across the Commonwealth. Types of boating access provided include boat ramps, boat slides, low-water ramps and shoreline access depending on site characteristics and water quality. These facilities also are managed and operated through the program. Information about the Boating Access Program can be found at http://www.dgif.virginia.gov/boating/.

Education and outreach

The department’s programs in wildlife education reach more than 30,000 students annually. DGIF conducts teacher training workshops that are tied to the Standards of Learning, which support the Chesapeake Bay Agreement. The Outdoor Education and Hunter Education provide safety and introductory outdoor skills sessions to more than 45,000 participants annually. Virginia Wildlife magazine is published bi-monthly and offers an array of information about hunting, fishing, boating and wildlife-related recreation. There are 45,000 subscribers, and every public school in Virginia receives a complimentary copy each month. Additional information about DGIF’s education programs and publications can be found at http://www.dgif.virginia.gov/education/.

Law enforcement

DGIF has the responsibility to enforce all laws and regulations for the protection, propagation and preservation of wildlife species, including all fish in the inland waters of the Commonwealth. DGIF also enforces boating laws of the state for compliance and safety. Information about DGIF’s law enforcement and canine team can be found at http://www.vawildlife.org/k-9.html.

Nongame Wildlife Program

In 1981, the Virginia General Assembly passed legislation giving taxpayers the option to donate a portion of their tax refunds to the Endangered Species and Non-Game Wildlife Fund. This fund helps support the DGIF Nongame Wildlife Program. The term “nongame wildlife” generally includes all species that are not actively sought by hunters, trappers or anglers. This includes more than 90 percent of the approximately 1,000 vertebrate species occurring in the Commonwealth and virtually all of the thousands of native invertebrates. This tremendous variety of species includes animals such as the regal fritillary butterfly, Virginia fringed mountain snail, pimpleback mussel, Roanoke logperch, carpenter frog, oak toad, eastern tiger salamander, timber rattlesnake, chicken turtle, eastern box turtle, Atlantic loggerhead sea turtle, Wilson’s plover, great egret, cliff swallow, blue jay, bald eagle, short-tailed shrew, hoary bat, Delmarva fox squirrel and eastern chipmunk. Additional information about DGIF’s nongame wildlife program can be found at http://www.dgif.virginia.gov/wildlife/.

Environmental review

DGIF participates in the interagency review and coordination of environmental permit applications and project assessments coordinated through the Virginia Department of Environmental Quality, the Virginia Marine Resources Commission, the Virginia Department of Transportation, the U.S. Army Corps of
Engineers and other state and federal agencies. DGIF’s primary role in these projects is to determine likely impact on fish and wildlife resources and habitats and to recommend appropriate measures to avoid, reduce or compensate for those impacts. This review process is linked to the computerized Virginia Fish and Wildlife Information System, which contains information about the natural histories and surveyed locations of more than 3,000 vertebrate and invertebrate species.

**Virginia Watchable Wildlife Program**

DGIF continues to support and participate in the development and delivery of wildlife viewing opportunities for Virginians and visitors. Four birding and wildlife festivals are cosponsored with local partners. These festivals promote wildlife-conservation awareness and education while providing opportunities for wildlife-viewing activities. The Virginia Birding and Wildlife Trail, the first statewide wildlife viewing trail in the United States, was completed in 2004. This driving trail links more than 650 of the state’s wildlife-viewing areas. The department provides technical assistance to landowners to provide public access for wildlife viewing and works with localities and local partners to improve wildlife-viewing habitat for public enjoyment. In addition, the Wildlife Mapping Program and the Virginia Master Naturalist Program (in coordination with four other state agencies) continue to promote volunteer participation in wildlife conservation efforts.

**State forests**

“It is not so much for its beauty that the forest makes a claim upon men’s hearts, as for that subtle something, that quality of air that emanation from old trees, that so wonderfully changes and renews a weary spirit.”

— Robert Louis Stevenson
Virginia’s forests are extremely diverse and important in cleansing air, purifying water, providing products and jobs and supporting outdoor recreation. Forests also provide important habitat and serve as wildlife corridors for the movement of terrestrial animals and maintenance of species biodiversity. Of the Commonwealth’s 15.8 million forested acres, 79 percent are in private ownership. It is estimated that 16,000 acres of Virginia’s forests are converted to non-forest uses each year.

While the Virginia Department of Forestry manages almost 70,000 acres of state forest land (see Map 9.5), Virginia’s forests are predominantly privately owned. These working forests provide forest products, wildlife habitat, water quality protection, recreation opportunities and aesthetic benefits needed to sustain Virginia’s ecological balance, as well as a healthy quality of life. Conservation of Virginia’s working forest lands as a part of the Commonwealth’s green infrastructure is essential.

Urbanization is a major factor in forest land conversion as the rate of people moving from central cities to surrounding suburbs increases. Land for homes, businesses, shopping, schools, recreational areas and other needs will continue to reduce forest land. This conversion increases the wild-land/urban interface and the threat of wildfires. With 15.8 million acres of forested land, Virginia is 58 percent forested. According to U.S. Forest Service Forest Inventory Analysis data from 2001 to 2010 urban growth and development in Virginia resulted in an average net loss of 16,000 acres per year. More acres of forest are developed each year, but reversion of some agricultural land to forest partially offsets the loss.

Increasing population, changes in land use and more intensive use of the land are decreasing the forest cover within watershed drainages and adversely affecting the ability to filter, slow and stow water. The loss of forest land has an adverse impact on timber-related economy, but the economic impact of forest loss in terms of ecosystem values, such as clean water and air, is of equal concern.

**Recommendations**

The Department of Forestry should:

- Conserve the forestland base by encouraging land-use conservation policies of the Commonwealth and individual landowner land-use decisions.
- Expand and improve urban and community forests by continuing to focus on delivery of urban forestry programs and projects.
- Initiate and maintain cooperative agreements to support the Virginia Department of Conservation and Recreation Natural Heritage Program’s natural resource database.
- Work with other natural-resource agencies to promote good resource-stewardship principles and conduct citizen education and outreach activities on state-owned land.

**Economics of Virginia’s forests**

Since 1607, forests have played a prominent role in the economic prosperity of the Commonwealth. Virginia’s forests provide a vital income source for rural areas and smaller cities. Based on a Weldon Cooper Center study, Virginia forests provide more than $23.4 billion annually in benefits to the Commonwealth. This includes jobs and income created when forestry and forest-product workers buy goods and services. Societal and ecological benefits of forestry add another $4.1 billion annually. The industry also generates 144,000 jobs, and landowners receive $350 million annually for harvested timber.

**State forest history**

Virginia’s state forests system began in 1919 with a gift of 589 acres of land in Prince Edward County. In the mid-1930s, additional land was added as a result of federal government acquisitions under the Bankhead-Jones Farm Tenant Act. The purpose of state forests is demonstration of scientific forest management; applied forest research; development of diverse wildlife habitat; watershed protection; forest management to develop diverse timber stands that support biological diversity; and provide for passive outdoor recreation. State forests are managed by the Department of Forestry, which
became a department-level agency in 1987. The forests system comprises 22 state forests consisting of 67,920 acres. In addition to managing the state’s forests, DOF operates two tree nurseries that produce more than 26 million seedlings annually.

**Existing state forests**

Each of Virginia’s 22 state forests has a unique purpose and is funded and used by the public. All state forests are managed to provide the greatest benefit to citizens while remaining self-supporting and protecting or improving the forest ecosystem.

The state forests are well distributed around the Commonwealth and vary in size from 121 acres to 19,808 acres. The large state forests in central and southeastern Virginia are the core of the working-forest concept and provide the majority of income to fund the forest system. The smaller forests meet the needs of local users.

Recreation opportunities are focused on self-directed activities not available on many other state lands. Because of their large size, the central Virginia state forests provide for unique opportunities to enjoy the out-of-doors. These forests provide outdoor experiences removed from the distractions of densely populated areas. Use of the state forests must consider and protect the purpose and integrity of the state forest. A signage program is being expanded within the state forests to help educate the public about silvicultural operations required to maintain a healthy forest.

Forest users have become more diverse as have their expectations of forest accessibility. Traditional uses such as hunting and fishing remain popular, while interest in hiking, horseback riding, mountain biking, adventure races, orienteering, wildlife viewing, and as a place where people come just for the solitude is steadily increasing. As the areas surrounding the state forests continue to grow in population, recreational uses and expectations of the general public are changing. State foresters will continue to be conscious of

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*Casting a line into one of the lakes at the Cumberland State Forest. Photo by DOF.*
outdoor recreation providers

2013 Virginia Outdoors Plan

9.20

www.dcr.virginia.gov

public expectations and will work to provide recreational opportunities compatible with state forest timber-management objectives.

Virginia Department of Forestry mission

The department’s mission is to “protect and develop healthy, sustainable forest resources for all Virginians.” The strategic plan lists four land management goals for the agency:

• Protect the citizens, their property and the forest resources from wildfire.
• Protect, promote and enhance forested watersheds, nontidal wetlands and riparian areas.
• Conserve the forest land base.
• Improve the stewardship, health and diversity of the forest resource.

DOF accomplishes these goals through work with private, nonindustrial landowners, localities and other stakeholders. To conserve, manage and protect Virginia’s forests, conservation organizations, such as land trusts and other nongovernmental organizations, assist DOF with protection, conservation and management efforts. DOF assists landowners with demonstrations of wetland practices, preparing forest stewardship plans, implementation of best management practices, hardwood improvement practices and other projects. An urban forestry program offers cities and smaller communities the expertise to maintain a forest canopy and take advantage of the environmental and aesthetic benefits provided by tree cover. DOF is also the lead state agency for the conservation and restoration of riparian forest and other buffers in the Commonwealth.

DOF strives to educate Virginians about the importance of land conservation and natural resource stewardship. The agency’s conservation education efforts are targeted to both youths and adults. In both cases, programs are delivered mainly by DOF staff at the local level. Adult outreach focuses on helping landowners maintain their land as a forested resource through management that is both environmentally sound and economically prudent. Programs include forestry tours, workshops and one-on-one planning. Youth education, using Project Learning Tree and other research-based materials, reaches youths throughout communities.

State forests and other state lands provide excellent venues for place-based education or outdoor environmental education. DOF encourages outdoor recreation on state forests, recognizing that time spent outdoors develops stewardship behaviors and a conservation ethic. A forest education center is planned for the Matthews State Forest near Galax, in addition to the education center at New Kent Forestry Center near Providence Forge. These centers will provide access to forest lands, self-guided learning opportunities and educator-led programs about forest resources.

National Park Service

“Leave it as it is. The ages have been at work on it and man can only mar it.”

— Theodore Roosevelt

Established in 1916, the National Park Service is charged with caring for national parks. The Park Service has more than 400 sites that receive more than 275 million visitors every year. Additionally, the Park Service assists organizations and citizens with revitalizing communities, celebrating local heritage and creating close-to-home parks and recreational opportunities. Click here for a look at the Park Service’s lands and highlighted programs in Virginia (see Map 9.6).

The Park Service supports the economies of state and local governments through the Land and Water Conservation Fund. In fiscal 2012, the Park Service awarded more than $42 million in grants for the acquisition and development of parks and outdoor recreation facilities in 314 communities across the country. These grant dollars helped leverage an additional $48 million in state, local and private matches.
Working with partners, the National Park Service has:

- Leveraged more than $55 billion in historic-preservation investment through tax incentives.
- Awarded more than $5 billion in preservation and outdoor recreation grants.
- Listed more than 85,000 properties in the National Register of Historic Places.
- Designated more than 1,000 National Recreation Trails.

The Park Service:

- Honors the nation’s history at National Historic Landmarks, National Trails and National Heritage Areas.
- Conserves rivers and plans, builds and preserves open spaces and outdoor recreation places.
- Documents historic buildings, structures and landscapes.
- Turns surplus federal land into local parks and acquire surplus federal buildings for community uses.
- Highlights local history with a Teaching with Historic Places lesson plan or Discover Our Shared Heritage travel itinerary.
- Acquires and develop parks and outdoor recreation facilities.

National forests

“Forestry is the preservation of forests by wise use.”

— Theodore Roosevelt

The U.S. Department of Agriculture Forest Service administers the 1.8 million-acre George Washington and Jefferson National Forests in Virginia. This national forest constitutes nearly 50 percent of the public outdoor recreation land in the Commonwealth. The George Washington and Jefferson National Forests stretch the length of the western portion of the state and have acreage in 31 counties. National forests are lands of many uses and the George Washington and Jefferson National Forests provide a wide variety of outdoor recreation opportunities (see Table 9.5 and Map 9.7).
CHAPTER 9

Outdoor Recreation Providers

Table 9.5 Top five activities in national forests

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<tr>
<td>Viewing natural features</td>
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<tr>
<td>Hiking/walking</td>
<td>42</td>
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<tr>
<td>Viewing wildlife</td>
<td>37</td>
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<tr>
<td>Relaxing</td>
<td>36</td>
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<tr>
<td>Driving for pleasure</td>
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The national forests are managed for multiple uses and sustained yield. This means that approved uses are accommodated to the capacity of the land to support these uses without degradation. The George Washington and Jefferson National Forests’ recreation niche is dispersed recreation and they offer more than 2,000 miles of trails. Most trails allow use by hikers, mountain bikes and horses. The national forest provides the only publicly managed motorized trails in Virginia.

The George Washington and Jefferson National Forests contain 23 Congressionally designated wilderness areas totaling 139,461 acres. These areas provide 64 percent of the wilderness opportunities in the state. Other Congressionally designated areas include Mount Rogers National Recreation Area and three National Scenic Areas — Mount Pleasant, Seng Mountain and Bear Mountain.

Recommendations

The Forest Service should:

- Continue to develop new partnerships to market recreational opportunities and rural economic development through tourism. Work with the Virginia Department of Conservation and Recreation, Virginia’s Blue Ridge Highlands Tourism Inc., Shenandoah Valley Tourism Association and the Virginia Tourism Corp. to develop regional and international marketing strategies to showcase Virginia’s outdoor recreation opportunities.

- Retain manageable-sized parcels to avoid fragmentation on Forest Service lands. Identify opportunities to exchange land in order to consolidate public ownership and enhance access to land and water resources of national forest lands.

- Continue to focus programs on areas designated by Congress such as the Appalachian National Scenic Trail, Mount Rogers National Recreation Area, National Scenic Areas and Wilderness Areas.

- Continue partnerships with the Virginia Department of Historic Resources to enhance the preservation of historic and cultural sites, interpret cultural, historic and natural
resources and exchange cultural resource information with the State Historic Preservation Office.

- Survey and protect natural heritage resources on national forest lands.

- Continue to provide outdoor recreational facilities that are compatible with national forest objectives and that meet needs identified in the 2013 Virginia Outdoors Plan.

- Facilitate the activities of guide services and outfitters that provide equipment and access to backcountry areas of national forests and incorporate education for backcountry skills.

- The George Washington and Jefferson National Forests should continue to work with DCR to transfer management of New River Campground adjacent to New River Trail State Park.

George Washington and Jefferson National Forests

The Forest Service is the largest federal supplier of outdoor recreation in the nation. Recreation use on the George Washington and Jefferson National Forests for fiscal year 2011 was estimated at 2.3 million visits, up from an estimated 1.63 million in 2006. The Forest Service has a strong commitment to meeting current and future recreation needs of forest users within the limits of the land’s carrying capacity and the agency’s budget. Satisfying the increasing demand for dispersed, natural resource-based recreation opportunities, particularly trails, is a focus. The forests also provide other dispersed recreation opportunities such as hunting, fishing, bird watching, driving for pleasure, nature and scenery photography. The proximity of large, urban areas promotes high-volume urban escapes. The national forest is the backyard playground and a tourism attraction for rural communities across western Virginia.

In 2007, visitors to George Washington and Jefferson National Forests created an estimated local economic impact of more than $203 million.
The George Washington and Jefferson National Forests are the largest suppliers of backcountry recreation opportunities in Virginia. The 23 designated wilderness areas allow natural processes to dominate with minimal human activity. These areas ensure that primitive, backcountry opportunities will be available for future generations. In 2009, the Virginia Ridge and Valley Act established six new wilderness areas, 13 additions to existing wilderness areas and two National Scenic Areas on the Jefferson National Forest. A large portion of forests is managed for backcountry recreation under the Land and Resource Management Plans for each forest.

The recreation management objective of the Forest Service is to enhance public use and enjoyment of its lands. The George Washington and Jefferson National Forests offers its own unique variety of special places, recreational resources, scenic areas and trails. Management of national forest resources differs from that of national parks and other federal lands. The multiple use sustained yield concept ensures the continued provision of forage, recreation, timber, water, wilderness and wildlife resources needed by future generations. Although opportunities for outdoor recreation are extensive and the public demand for these opportunities is seemingly endless, the agency's capability to meet these demands is neither static nor endless. As visitor preferences shift over time, financial limitations and environmental impact must be considered. The George Washington and Jefferson National Forests support a mix of recreation activities from destination campgrounds to boat launches and observation towers.

In these times when traditional funding is decreasing and demands on the national forests are increasing, partnerships play a critical role in the Forest Service’s mission of “Caring for the Land and Serving People.” Partnerships allow the Forest Service to accomplish more work, while volunteers and partners are given a chance to get involved, make a difference and learn new skills. The George Washington and Jefferson National Forests workforce capacity is increased through a variety of programs, including individual and sponsored-group volunteers, college internships, agreements with student conservation associations, Youth Conservation Corps and hosted Title 1 senior and youth employment programs. Volunteers and partners provided as many as 205,000 hours toward the accomplishment of the George Washington and Jefferson National Forests goals and objectives from 2009 through 2011. In fiscal year 2012, volunteers provided approximately 113,230 hours of service, which compares to about 62.9 full-time workers for a total value to the forest of $2,467,273. The vast majority of those hours were completed in the areas of developed and dispersed recreation and trails.

Recreation information: http://www.fs.usda.gov/recmain/gwj/recreation


National wildlife refuges and fish hatcheries

“To the greatness of a nation and its moral progress can be judged by the way its animals are treated.”
— Mahatma Gandhi

The U.S. Fish and Wildlife Service manages the National Wildlife Refuge System, a network of 560 National Wildlife Refuges (NWR) dedicated to conserving 150 million acres of strategically located habitats throughout the nation. The system provides habitat for threatened and endangered species, migratory birds and some of the nation’s most important fishery resources. The refuges are managed primarily to provide habitat and to protect valuable ecosystems; however, they also provide significant outdoor recreational opportunities.

The system offers outstanding wildlife-dependent recreational opportunities, including fishing, hunting, wildlife observation and photography, as well as environmental education and interpretation. Around 40 million people visit the refuges annually.
In Virginia, 14 refuges and one national fish hatchery comprise more than 150,000 acres (see Map 9.8). The following provides additional information about the role of the USFWS in meeting Virginia’s outdoor recreation and open space needs.

**National Wildlife Refuge System Improvement Act**

The National Wildlife Refuge System Improvement Act, signed into law in 1997, provides guidance for the management and establishment of a national network of lands and waters deemed appropriate for conservation, and it is designed to encourage public access to the refuge system. As defined by the act, the mission of the refuge system is to “administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.”

A key provision of the act defines compatible wildlife-dependent recreation as a legitimate general public use of the refuge system. It also establishes the following six activities as appropriate: hunting, fishing, wildlife observation, photography, environmental education and interpretation. The act establishes a formal process for determining compatible public use and retains refuge managers’ authority to use sound professional judgment in determining whether or not that use will be permitted.

The National Wildlife Refuge System Improvement Act requires each refuge to prepare a Comprehensive Conservation Plan. See the links below for details about objectives and strategies for each refuge.

- Back Bay National Wildlife Refuge
  [http://www.fws.gov/northeast/planning/Back%20Bay/ccphome.html](http://www.fws.gov/northeast/planning/Back%20Bay/ccphome.html)

- Chincoteague and Wallops Island National Wildlife Refuges

- Eastern Shore of Virginia and Fisherman Island National Wildlife Refuges

- Eastern Virginia Rivers National Wildlife Refuge Complex

- Plum Tree Island National Wildlife Refuge

- James River National Wildlife Refuge

- Rappahannock River Valley National Wildlife Refuge

- Great Dismal Swamp and Nansemond National Wildlife Refuges

- Potomac River National Wildlife Refuge Complex

- Featherstone National Wildlife Refuge

- Occoquan National Wildlife Refuge
  [http://www.fws.gov/refuge/Occoquan_Bay/what_we_do/conervation.html](http://www.fws.gov/refuge/Occoquan_Bay/what_we_do/conervation.html)
National fish hatchery

The primary goal of the fish hatchery is to protect and restore declining and endangered populations of migratory fish and shellfish of Atlantic Coast watersheds, with a focus on the Chesapeake Bay and Albemarle Sound.

NFWS Virginia environmental education initiatives

Presquile NWR
http://www.fws.gov/refuge/Presquile/visit/visitor_activities.html

Chincoteague NWR
http://www.fws.gov/northeast/chinco/visitorcenter.html

Eastern Shore NWR
http://www.fws.gov/refuge/Eastern_Shore_of_Virginia/visit/visitor_activities.html

Back Bay NWR
http://www.fws.gov/refuge/Back_Bay/visit/for_educators.html

Springtime at Presquile National Wildlife Refuge in Chesterfield County and Hopewell. Photo by Cyrus Brame.
U.S. Army Corps of Engineers

“A lake carries you into recesses of feeling otherwise impenetrable”
— William Wordsworth

The U.S. Army Corps of Engineers builds, maintains and operates river and harbor projects designed to improve navigation for commerce and recreation. Lakes constructed for flood control often include additional storage capacity for water supply, navigation, irrigation, hydroelectric power, fish and wildlife, and recreation. In recent years the corps has partnered with others to accomplish common goals. The agency developed a Challenge Partnership and Contributions Program as a way for groups, corporations and individuals to help maintain recreation facilities and manage natural resources.

In Virginia, corps lakes offer a wide variety of recreational opportunities and activities, including swimming, boating, camping, picnicking, wildlife watching, hiking, fishing and hunting. The corps leases many of these areas and facilities to federal, state and local agencies. In addition to recreation management, the corps natural resources management program includes forestry, fish and wildlife conservation and other ecological disciplines.

In 1982, the corps gave operational responsibility for two of its reservoirs to the U.S. Forest Service. These were Gathright Dam on Lake Moomaw in the Central Shenandoah Recreation Region and the North Fork of Pound River Lake in the LENOWISCO Recreational Region. The corps operates the following:

- Bluestone Lake in the New River Valley Recreation Region
- John W. Flannagan Dam and Reservoir in the Cumberland Plateau Recreation Region
- John H. Kerr Dam and Reservoir in Southside Recreation Region
- Philpott Lake in West Piedmont Recreation Region

Click here to read about recreation opportunities on corps lakes in Virginia.

Natural and recreational resources at these four lakes provide social, economic and environmental benefits. The corps’ State Level Report for Virginia reports facilities, visits and benefits of corps properties including economic and environmental benefits.

Website directory

Local parks and recreation
Virginia Recreation and Park Society
http://www.vrps.com/

National Recreation and Parks Society – “Parks Build Healthy Communities: Success Stories”
http://www.nrpa.org/uploadedFiles/nrpaorg/Grants_and_Partners/Recreation_and_Health/Resources/Case_Studies/Healthy-Communities-Success-Stories.pdf

National Recreation and Parks Society – Research articles
http://www.nrpa.org/research-papers/

Recreation Resources Service – Benefits of Parks and Recreation
http://cnr.ncsu.edu/rrs/benefits_of_pr.html

American Planning Association – Parks and Recreation
http://www.planning.org/nationalcenters/health/parks.htm

Virginia Department of Conservation and Recreation – Directory of parks and recreation departments in Virginia

Enrichmond Foundation
http://www.enrichmond.org/

U.S. Consumer Product Safety Commission
http://www.cpsc.gov/

ASTM International
http://www.astm.org/

National Recreation and Park Society – Certified Playground Safety Inspector Certification
http://www.nrpa.org/content.aspx?id=413

American Red Cross – Lifeguard training
http://www.redcross.org/services/hss/aquatics/

Centers for Disease Control and Prevention – Heads Up: Concussion in Youth Sports
http://www.cdc.gov/concussion/HeadsUp/youth.html

Virginia Department of Transportation – Bicycle-Pedestrian Trail Plan

Activity Rocket
http://www.activityrocket.com/
Website directory continued

**Virginia State Parks**
Virginia Department of Conservation and Recreation – Virginia State Parks history
http://www.dcr.virginia.gov/state_parks/his_parx.shtml

Virginia Department of Conservation and Recreation – Virginia State Parks master plans
http://www.dcr.virginia.gov/recreational_planning/masterplans.shtml

Virginia Sesquicentennial of the American Civil War Commission
http://www.virginiacivilwar.org/

Virginia Association for Parks
http://www.virginiaparks.org/

Virginia Department of Conservation and Recreation – Virginia State Parks
www.dcr.virginia.gov/state_parks

Virginia Outdoors
http://www.virginiaoutdoors.com/

**Virginia Natural Heritage Program**
Virginia Department of Conservation and Recreation – Virginia Natural Heritage Program

Virginia Department of Conservation and Recreation – Virginia Natural Area Preserves

Virginia Department of Conservation and Recreation – Natural Heritage Data Explorer
http://www.dcr.virginia.gov/natural_heritage/nhdeinfo.shtml

LandScope Virginia
http://www.landscope.org/virginia/

Virginia Commonwealth University – Interactive Stream Assessment Resource
http://gis.vcu.edu/instar/

Virginia Department of Game and Inland Fisheries – Wildlife Action Plan
http://bewildvirginia.org/wildlifeplan/plan.asp

Virginia Department of Conservation and Recreation – Virginia Cave Board
http://www.dcr.virginia.gov/natural_heritage/cavehome.shtml

Virginia Department of Conservation and Recreation – Natural Heritage Karst Program
http://www.dcr.virginia.gov/natural_heritage/karsthome.shtml

Virginia Department of Conservation and Recreation – Natural Heritage Program Inventory
http://www.dcr.virginia.gov/natural_heritage/inventory.shtml

Virginia Department of Conservation and Recreation – Natural Heritage Information Management
http://www.dcr.virginia.gov/natural_heritage/infomgt.shtml

Virginia Department of Conservation and Recreation – Natural Heritage Project Review
http://www.dcr.virginia.gov/natural_heritage/ereview.shtml

Virginia Department of Conservation and Recreation – Natural Area Protection
http://www.dcr.virginia.gov/natural_heritage/protection.shtml

Virginia Department of Conservation and Recreation – Natural Area Stewardship
http://www.dcr.virginia.gov/natural_heritage/stewardship.shtml

State Fish and Wildlife Management
Virginia Department of Game and Inland Fisheries
http://www.dgif.virginia.gov/

Virginia Department of Game and Inland Fisheries – Fishing resources
http://www.dgif.virginia.gov/fishing/

Virginia Department of Game and Inland Fisheries – Boating resources
http://www.dgif.virginia.gov/boating/

Virginia Department of Game and Inland Fisheries – Education and outreach
http://www.dgif.virginia.gov/education/

Virginia Department of Game and Inland Fisheries – Law enforcement and canine team
http://www.vawildlife.org/k-9.html
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