



JAMES RIVER HERITAGE TRAIL CONCEPTUAL PLAN

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Preamble

Winding its way through Virginia's heartland and contained entirely within the state, the geographically diverse James River corridor is a national treasure with the potential to attract visitors from all over the world. The stories waiting to be told about the triumphs and tragedies that unfolded within the river's watershed are second only to the memories visitors will cherish after exploring in and along the river and its tributaries. Much of the pastoral beauty of the surrounding watershed has been preserved by large landowners, some of whom have ancestral ties to the land going back hundreds of years.

The idea of a James River Heritage Trail dates back to the 1930's in Lynchburg. Ed Page was instrumental in sharing his vision for a statewide trail that would connect the mountains to the Appomattox River. The scenic mountain landscapes, geological formations, piedmont vineyards, coastal wetlands and shorelines that surround the river should be linked by a trail network that attracts both close-to-home explorers and international visitors.



Figure 1 Presquile National Wildlife Refuge

Over the past several years, the JRHT vision has progressed in various ways through many different partners. What has been lacking, however, has been a coordinated approach to trail development among the various stakeholder interests -- water quality, historic preservation, habitat conservation, working lands, navigation, commercial use,

private property rights, public recreation, safety and stewardship. The vision provided in this concept plan will help support inter-jurisdictional, and multi-objective planning so that organizations and governments are not working at cross purposes or duplicating efforts.

The concept plan establishes a vision and brand for the JRHT, discusses demand and existing conditions, catalogs obstacles to trail development and threats to the trail experience, provides recommendations to address obstacles, and establishes a phased approach to trail development.

The plan defines a trail network that would include the following:

- a) an on-road bicycle route, including historic river roads, ferries, bridges and underpasses
- b) a system of water trail access points and land trail access points

- c) trunkline segments that provide multiuse paths, some with paved paths for bicycles beside a soft surface for joggers and equestrians
- d) connecting trails that meet established criteria
- e) local pocket parks that preserve and interpret historic features while also providing water access and visitor services
- f) other support facilities like signs, landscaping, picnic areas, camping, and water and sanitary facilities

This braided trail network will be flexibly implemented in four regions to capitalize on the variety of visitor experiences available. In the Tidal region, connecting rivers and creeks offer the best paddling experiences, whereas the main stem of the James is principally used by power boats. Trails pass through many urban areas, requiring extra capacity and safety considerations. There are many opportunities for partnerships with federal agencies in this region. Williamsburg, Newport News, Hampton, Suffolk and Chesapeake are watershed cities.

Whitewater paddling and tubing is a highlight in the Fall-line region, and river rocks encourage sunbathing and wading. More rolling terrain is appealing to mountain bicyclists, and remaining canal and towpath structures have great potential for the development of a major tourist attraction. Richmond is emerging as a bicycling Mecca, with connections to U.S. Bike Routes 1 and 76, the East Coast Greenway and the Virginia Capital Trail. Watershed cities include Richmond, Hopewell, Colonial Heights, and Petersburg.

Batteaus can navigate the gentle river along the Piedmont region, and river roads still retain their historic character. In this agrarian region, private enterprise will define the trail experience, supported by public efforts to preserve the area's intrinsic qualities and promote local businesses. Opportunities for railroad excursions, horse-back riding, ATV/OHV riding, fishing, paddling, tubing and bicycling or driving on scenic river roads are complimented by destinations like riverfront towns, wineries and orchards. Many trails are available within the watershed cities of Charlottesville and Lynchburg.

The Mountain region has spectacular views, and large amounts of public lands. Here connections to the Blue Ridge Parkway and the Skyline Drive offer scenic drives, and the Appalachian Trail offers a world-class hiking experience. Long-distance single-track trails appeal to hikers, joggers, mountain bicyclists and horse-back riders. Paddling, fishing and river-road bicycling are especially appealing because of the scenery. Connections to the headwaters expand the river experience. Watershed cities include Lexington, Buena Vista and Covington.

Map 1 indicates how these regions are divided in this conceptual plan. Leadership should emerge within each region to guide the development of the braided trail system so that regional differences are preserved. Coordination with the State will ensure a consistent experience for visitors.



Map 1 Regional Variation along the James River Heritage Trail

The James River holds a special place in the hearts of Americans because so many trace their ancestry to communities that sprang up along the river as goods and ideas were exchanged and the nation developed. The full potential of the James River Heritage Trail, however, has yet to be realized. These intrinsic qualities of the river – historic, natural, scenic, and recreational -- along with the quality and supply of its water are at risk, if measures are not taken to ensure their long-term sustainability. This document suggests steps that can be taken now to invite nature and heritage based tourism, sustain working farms, encourage small business development, and increase stewardship to preserve a special place and its people.



Figure 2 The Maury River empties into the James at Glasgow, photo by Gary Kappesser

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I. Introduction

In his book *The River Where America Began: A Journey Along the James*, Bob Deans complains that “the cartography of our national origins has rendered the James River’s contribution in muted tones of low relief, thin and sketchy lines across some faded map of our collective past, as if we as a people slipped briefly and all but unnoticed through its turbid waters.” This plan proposes specific actions for how to work together to refocus national attention on this majestic river. The following section provides background information on the corridor’s significance, and past planning efforts, documents the need for improved connections between the resources and stories of the James, and provides an overview of tasks completed under the project work plan.

A. Corridor Significance

In addition to the nation’s ancestral ties that distinguish this corridor, its geographic position within the heart of Virginia is important. Out of state tourist travelling to the James watershed, will pass through adjacent communities on their way, supporting local tourist initiatives. Jurisdictions throughout the state will not only experience increased tourism revenue, but also have a model to follow for similar watershed promotional efforts.

The River’s watershed, the largest in Virginia, drains over 10,000 square miles (see Map 2, Municipalities within the Watershed). It encompasses the colonial cities of Jamestown (1607—first permanent English settlement in the Country), Hampton (1610), Newport News (1613), Williamsburg (1632), Norfolk (1682), Richmond (1733), Charlottesville (1761) and Lexington (1778). According to John Smith’s map, many Indian communities existed in the watershed. Today, the four state-recognized tribes in the James River drainage are the Nansemond, the Chickahominy, the Chickahominy Eastern Division and the Monacan.

During the Seven Years War, Indian reprisals against encroachment by the settlers caused many casualties along the headwaters of the James. Several important Revolutionary War battles were fought within the watershed at Great Bridge and Petersburg. The Colonial National Historical Park traces the beginning and end of English Colonial America. At Portsmouth’s Craney Island, American militiamen repulsed British Redcoats in Virginia’s only land battle of the War of 1812. But the importance of the watershed to the Civil War is paramount, as it was home to the Capital of the Confederacy, the site of Lee’s surrender, and many strategic battles.

Another important watershed story concerns civil rights, as the James was an artery for the African slave trade. Many plantations that used the river for commerce also built their wealth upon slave labor. The school walkout happened here that led to the Supreme Court’s *Brown vs. Board of Education* decision ending segregation.

In addition, the watershed played an important role in the nation’s growth of the free enterprise system, capitalism, and industry. Chesterfield County boasts the first iron furnace in the Country, the first commercially mined coal in America and the first cultivation of tobacco by the English. The development of the reaper that revolutionized agriculture took place at McCormick’s Farm near Lexington. Ruins from the James River and Kanawha Canal, iron

furnaces, lime kilns and mills provide picturesque settings for these stories all along the river.

History aside, the river also boasts important bald eagle populations, blue heron rookeries and spectacular fishing and scenery. The river, tributary streams, and riparian areas provide an interconnected open space corridor, linking central Virginia's green infrastructure, and providing habitat and migration pathways for wildlife. Both rough and gentle waterflows entice a wide range of aquatic species, as well as river recreationalists.

The watershed is also a launching point for many heritage tourism experiences. America's most visited national park, the Blue Ridge Parkway, begins at Rockfish Gap where it connects to Skyline Drive and Shenandoah National Park. Meandering nearby, the Appalachian National Scenic Trail is framed by two national heritage areas: the Journey through Hallowed Ground, which begins at Jefferson's Monticello and stretches for 180 miles through a treasure trove of history, and Shenandoah Valley Battlefields National Historic District. Scenic mountain landscapes, geological formations, piedmont vineyards, coastal wetlands and shorelines, are connected via the river and thousands of miles of trails that attract both close-to-home explorers and international visitors.

Figure 3 Lime kiln ruins at Eagle Rock, photo by Gary Kappesser

B. Background and Past Planning Initiatives

James River Heritage Trail Planning Efforts

In 1970, the *Virginia Outdoors Plan* called for four state-provided trails. One trail would allow travel from "Chesapeake Bay

origins of colonial settlement to Cumberland Gap where Virginians crossed the Cumberland Plateau barrier to settle Kentucky. Such a trail would connect Jamestown and early colonial areas with Richmond, up the James past historic sites and Iroquois war trails, through the Cumberland-Buckingham State Forest, joining the Appalachian Trail near the Blue Ridge." The James River Heritage Trail has appeared in various forms in the VOPs since 1970. The last revision in 2007 identified the JRHT as one of the six "trunkline" trails in Virginia, providing a framework for a statewide system of trails for recreation, transportation, exploration, and wellness.

The Greater James River Trail Proposal was put forward by the Commission of Outdoor Recreation to begin in Western Goochland or Powhatan Counties and eventually tie in with the trail system of Richmond's James River Park. East-west corridors were inspected on both the



north and south sides of the river. The Southern Route was proposed to begin in Cartersville, following the river and agricultural fields to Deep Creek and connect to Powhatan Wildlife Management Area. From there the route could cross the river at Route 522 or follow unimproved roads, wooded bluffs and the river's edge into Chesterfield County. A check into the tax records of the involved counties at that time found nearly 90 owners along the southern route, and the planning effort was abandoned.

In spite of this slow start, Ed Page's vision for a statewide trail is beginning to take root in plans all along the river. Regional plans in three planning districts west of Richmond have identified a connected trail system along the river. East of Richmond, a shared-use path connection is under development to Jamestown, with existing a proposed bike trails completing the connection through the City of Hampton to historic Fort Monroe.

Related Programs

American Heritage Rivers Initiative: In 1997, the James River Heritage Partnership put forward a nomination for American Heritage Rivers Designation supported by 20 local governments, 2 planning district commissions, 3 private corporations, 33 non-profits, and 5 garden clubs. The nomination sought federal support for, among other things:

- Technical assistance for planning and research, resource identification, training opportunities, and marketing of the James River to the state, across the nation, and world-wide
- Assistance in federal permitting processes for local and regional industrial prospects and streamlining of permitting processes
- Recognition of important natural and historic resources in the James River Basin
- Communication links (inclusive of Internet access) among James River communities and the communities affiliated with the nine other rivers designated.

Although the proposal received significant support, several local representatives were concerned about impacts to private property, and the initiative failed to receive endorsement from the state legislature.

Chesapeake Bay Agreement: In June 2000, the governors of the Bay states signed the 2000 *Chesapeake Bay Agreement* to improve the quality of the bay and its tidal tributaries. One of the agreement's major initiatives was to improve public access to the tidal waters of the Bay. This commitment called for a 30 percent increase in enhanced or new access sites, including boat ramps to the waters of the Bay region.

Chesapeake Bay Gateways and Water Trails Program: In 2000, the *Chesapeake Bay Gateways and Water Trails Program* was also established to help the American public, access, enjoy, understand and appreciate the resources and values of the Chesapeake and engage in its stewardship. Since 2000, more than 160 special places for experiencing the Bay have been identified. The James River Water Trail became a designated component of the Chesapeake Bay Gateways Network in 2002. A map and guide set for the Lower James (Richmond to the Chesapeake Bay) was developed by the James River Association (JRA) with funding support from the Chesapeake Bay Gateways Program. A second map series was published by JRA for the Middle James (Lynchburg to Richmond), and a web-based guide was launched by Botetourt County for the upper James in 2010.

Captain John Smith Chesapeake National Historic Trail: The U.S. Congress and former President George W. Bush established the Captain John Smith NHT in December 2006, making it the first nationally-designated water trail under the National Trails System Act. The trail commemorates Captain John Smith's 1607-1609 exploration of the Chesapeake Bay, including his explorations of the lower James (see Figure 1). The trail also commemorates the American Indian communities met by Smith and their descendants living in the watershed today. The National Park Service manages the trail in partnership with the Commonwealth of Virginia and many other organizations, and published a draft Comprehensive Management Plan in September 2010. Staff is currently working on segment management plans that will help define the routes for land trails and auto tour routes. For more information: www.nps.gov/cajo.

Figure 4, John Smith's Map of Virginia



Chesapeake Bay Executive Order: In 2009, President Barack Obama signed an Executive Order that recognized the Chesapeake Bay as a national treasure and called on the federal government to lead a renewed effort to restore and protect the nation's largest estuary and its watershed. The Chesapeake Bay EO supports and extends the significant state and national investment made to-date in the James River watershed. A comprehensive approach to cultivating nature and heritage based tourism and protecting critical resources would also support the goals of the numerous local jurisdictions located in

the watershed. In the September 2010 Implementation Plan, the EO strategy sets out a goal of protecting an additional 2 million acres of high-priority conservation lands by 2025. The President's FY 2011 Budget and this Action Plan include some \$30 million dollars for direct land protection. Due for completion by 2012, a public access plan will help focus access funding efforts (<http://executiveorder.chesapeakebay.net>).

Map 3 National Resources in the James River Watershed illustrates federally managed areas in the watershed.

C. Recreational Use and Demand

National Trends

In 2008, almost half of Americans age six and older participated in outdoor recreation, with activities like backpacking, mountain biking and trail running showing double-digit increases in participation.¹ Adult participation in watersports is also increasing. The Outdoor Industry's 2009 report on paddlesports showed that between 2006 and 2008, participants increased from 4.7 to

¹ Outdoor Recreation Participation Report, 2010. Outdoor Foundation. Available online at www.outdoorindustry.org/images/researchfiles/TOF_ResearchParticipation2010.pdf?121.

6.4 percent of the nation’s population. **Table 1: National Paddlesport Participants (2010)** below shows the number of participants nationwide based on water sport category.

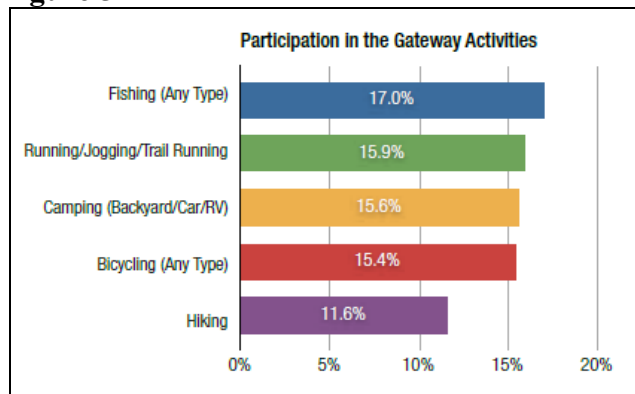
Table 1: National Paddlesport Participants (2010)

Type of Paddlesport	Participants	Annual Outings	Southeast Region Share of US participants [includes Virginia]
Kayaking	7.8 million	10	20.9%
Rafting	4.7 million	1	19.2%
Canoeing	9.9 million	7	20.6%

Among regions, most paddlers participate in the southeast, and this is true also of fishing participants (19.4% of US participants).

Participation in outdoor recreation often begins with specific “gateway” outdoor activities. Gateway activities as defined in this study are popular, accessible activities, like fishing, bicycling, running, camping, and hiking that often lead to participation in other outdoor sports. Recreational fishing is the most popular “gateway” activity, attracting more than 48 million participants who make an average of 20.8 trips each year (see **Figure 2 Participation in Gateway Activities**, from the Outdoor Foundation’s 2010 Special Report on Fishing and Boating).

Figure 5



Recreational Trends in Virginia

Based on the 2006 *Virginia Outdoors Survey (VOS)*, the two highest needs for outdoor recreation in the next five years are access to recreational waters of the state, and trail-related activities. These findings were supported by comments received during the fall 2005 public meetings. The VOS revealed that an overwhelming 91.9 % of Virginians indicated that having access to outdoor recreational opportunities was either important or very important.

Participation is most likely on weekends; however, with flexibility in work schedules and the numbers of retired or semiretired persons increasing, almost one-third or 28 % of Virginians participate in outdoor recreation equally on weekends and during the week. With demographics in Virginia shifting to an increasing aging but active population, the number of persons who

enjoy outdoor recreation both during the week and on weekends is likely to increase into the foreseeable future.

Based on the 2006 *VOS*, over 50 % of Virginians felt the most needed outdoor recreation opportunity was public access to state waters for boating, fishing, swimming and beach use. Fishing is also a popular activity dependent on water access. It is ranked as the seventh most popular outdoor recreational activity with 26 % of households participating.

Trails and greenways rank alongside water access as equally important to citizens responding to the 2006 *VOS*. Some 49 % of those surveyed indicated a high need for walking and hiking facilities. Walking for pleasure is Virginia's most popular outdoor activity with 71.7 % of households participating. In addition to walking, another 16 % of households hike and backpack.

As the population expands, diversifies and ages, the need for safe places to walk and ride is expected to increase. In order to meet this growing demand, the 2007 *Virginia Outdoors Plan (VOP)* recommended that a statewide trails and greenways plan be developed in collaboration with various stakeholders and the general public. The James River Heritage Trail was sited as one of the key long distance trails in the statewide system.

The VOP also provided recommendations for water-based recreational needs. The plan calls for strong partnerships between localities, planning districts and various state agencies including, the DCR, the Department of Game and Inland Fisheries, the Virginia Coastal Zone Management Program, Virginia Marine Resources Commission and the Department of Transportation. Public interest in existing and potential water trails along rivers and streams is growing, and these resources are being recognized for their contributions to local economies.

Figure 6 Regional meeting at VCU's Rice Center in Charles City County

D. Overview of Project Work Scope

In fall 2009, the James River Heritage Trail Concept Planning process was initiated by Virginia Department of Conservation and Recreation, with support from the National Park Service Rivers, Trails and Conservation Assistance Program. Other advisors included members of the Greenways and Trails Task Force, including representatives from the James River Association, Virginia Horse Council, and Virginia Odysseys Bike Touring Company. Local government staff within each jurisdiction provided feedback on the proposed on-road bicycle network.



The work plan included data collection, mapping, and analysis, as well as forums and workshops to engage area stakeholders, collect information and ideas, and brainstorm options to address

trail development challenges. (For additional detail on work plan tasks and community outreach, see Appendix A).

Principal accomplishments of the JRHT concept plan process included:

- Compiled Inventory of Watershed Features. Various methods were used to collect and assemble information on the watershed and its natural, cultural and recreational attributes.
- Mapped Watershed Resources and On-road Bicycle Route. Modern GIS (Geographic Information System) and GPS (Global Positioning System) mapping techniques were utilized to develop a more detailed and accurate mapping of the existing trail system.
- Identified and Communicated with Public Land Managers and Local Stakeholders. Building upon previous outreach efforts, over 350 individuals representing a diversity of organizations and perspectives were invited to help develop this report, and many shared their expertise, resources, and suggestions on how to move the trail from vision to reality.
- Identified Trail Issues and Opportunities. Working with trail user groups, community officials, businesses, landowners, and others, information was compiled to better understand trail issues and opportunities. This task also included an evaluation of past challenges and future opportunities.
- Identified Potential Trail Management Options. Discussions were convened regarding various approaches to long-distance trail management practices to better inform the study process and products.
- Recommendations for the Future of the JRHT. This concept plan is the result of the planning process and includes potential solutions to trail development challenges and recommended next steps.

II. The Vision

Proposed Vision Statement: The James River Heritage Trail is a network of communities that share their traditions, history and lifestyle to foster sustainable recreation and stewardship of treasured landscapes and local waters, trails and byways.

The James River Heritage Trail weaves together the significant resources and historic treasures found in central Virginia. The Trail is envisioned as a tangible asset that enhances exploration and understanding of the river corridor, promotes land and water stewardship and pride, encourages healthy recreation, and protects the public investment for future generations.

The following section describes a vision for the James River Heritage Trail that incorporates the needs and desires of local stakeholders and accommodates close to home recreation, as well as an attraction for out-of-state visitors. Included are general guiding principles for trail development, as well as a description of the trail corridor, based on the following geographic segments: Mountain Section, Piedmont Section, Fall Line Section, and Tidal Section. The final map shows the potential network or long-term vision of the trail network.

A. Guiding Principles

The following Guiding Principles underlie the James River Heritage Trail concept and are critical to its success:

- ✓ The JRHT will provide multiple avenues to explore and learn about the heritage of the James River including off-road pathways, water trails, and on-road bicycle accommodations and driving routes.
- ✓ The JRHT will allow for and encourage the full involvement of a wide range of trail constituents, local citizens, and stakeholders.
- ✓ The JRHT will build upon existing trail plans, partnerships and traditions.
- ✓ The JRHT will be developed in a manner that ensures respect for private property, and be designed to complement and enhance, rather than detract from adjacent lands.
- ✓ The JRHT will support local businesses and regional economic revitalization efforts by creating a network of interconnected pathways and bike routes that link communities and showcase attractions throughout the watershed.
- ✓ The JRHT will serve as an outdoor classroom, connecting children to nature, and provide opportunities for active recreation that promotes health and wellness.
- ✓ The JRHT will serve to enhance existing land conservation efforts, promote wildlife corridors, and promote access to existing protected lands

Figure 7 Confluence of Craig Creek and the James River near Eagle Rock, photo by Gary Kappesser

B. Trail Network Description (by Segment)

The vision for the James River Heritage Trail encompasses the following facilities creating a braided trail network and linking existing parkways, bike routes and trails of national significance:

- a) an on-road bicycle route, including historic river roads, ferries, bridges and underpasses
- b) a system of water trail access points and land trail access points
- c) trunkline segments that provide multiuse paths, some with paved paths for bicycles beside a soft surface for joggers and equestrians
- d) connecting trails that meet established criteria



- e) local pocket parks that preserve and interpret historic features while also providing water access and visitor services
- f) other support facilities like signs, landscaping, picnic areas, camping, and water and sanitary facilities

See Map 4 for more information on the Potential Connecting Trails within this network.

Due to restricted access to the James River, most of the public trail development within the watershed has occurred along the tributary rivers. While most of these trails don't yet connect to the James River, many local government plans include these connections in their long range plans. To become part of the James River Heritage Trail network, connecting trails should meet the following basic criteria:

- a) public access—a trailhead with parking and trail information should be available
- b) trail features—the trail should invite and reward users with a mix of historic assets, scenic features, visitor services, and places to play
- c) maps—the trail should be mapped with key information for wayfinding, safety, etiquette and emergency response
- d) maintenance—the trail should be adopted by an organization that will sponsor regular maintenance activities and report hazards or closings

The following section provides a description of existing trail segments that may be candidates for the trail network.

Figure 8 *Twin River Outfitters canoes at Buchanan, photo by Gary Kappesser*



Mountain Section

In the mountains, the Forest Service has developed an extensive trail network through eight ranger districts within the watershed, including popular trails along the Blue Ridge Parkway and trails that connect to a 43-mile trail system at Douthat State Park. Trails along Craig Creek and the Jackson River connect into trails managed by local jurisdictions. The Jackson River Scenic Trail runs for 17 miles in Alleghany County, and the Craig Valley Scenic Trail, complete in Craig County, could eventually connect to Eagle Rock in Botetourt. The 7-mile [Chessie Trail](#) along the Maury River from Lexington to Buena Vista was developed by the Rockbridge Area Conservation Council and is now owned by the Virginia Military Institute.

See Trail Map 5-A: Mountain Section

Piedmont Section

On National Trails Day in 2000, the City of Lynchburg dedicated the first two segments of the James River Heritage Trail, the Blackwater Creek Bikeway and RiverWalk, a new Millennium Trail totaling 6.5 miles. Today the Blackwater Creek Natural Area in Lynchburg has 11 miles of trail, with another 2.5 miles of trail along Ivy Creek. To the east, the James River State Park has 15 miles of trails. The 16-mile Willis River Hiking Trail connects to the 17-mile Cumberland Multiuse Trail in Cumberland State Forest. South of the river, additional on-road route connections are available to three state forests, one wildlife management area, four state parks, one National Park and two colleges.

Figure 9 Blackwater Creek Bikeway in Lynchburg

North of the river, the Rivanna Trails Foundation has developed the 20-mile [Rivanna Trail](#) in partnership with the City of Charlottesville and Albemarle County. The Fluvanna Heritage Trail network, 6-plus miles of river trails and 14-miles of equestrian trails at Pleasant Grove, is maintained by the Fluvanna Heritage Trail Foundation in partnership with Fluvanna County Parks and Recreation. Nelson County has planned greenways in early stages of development along the Piney, Tye and Rockfish rivers.

See Map Trail Map 5-B: Piedmont Section



Fall Line Section

Below and around the fall line, the Friends of the Lower Appomattox River and local governments have built 12 miles of a proposed 22-mile network of hiking, biking and water trails along the Appomattox River in Tidewater. Chesterfield County has developed river trails along the James and Appomattox at five parks, and is planning a greenway connection from Falling Creek to Henricus. Chesterfield has also been a leader in the redevelopment of Historic Route 1. In Petersburg National Battlefield, a four-mile route connects eight battle sites. The Slave Trail Commission has developed the Richmond Slave Trail, a walking trail that follows the route traveled by some of the thousands of Africans from the docks to the slave market. The James River Park System has developed an extensive trail network, and has plans for connecting the City of Richmond to neighboring counties through the East Coast Greenway.

See: Trail Map 5-C: Fall Line Section

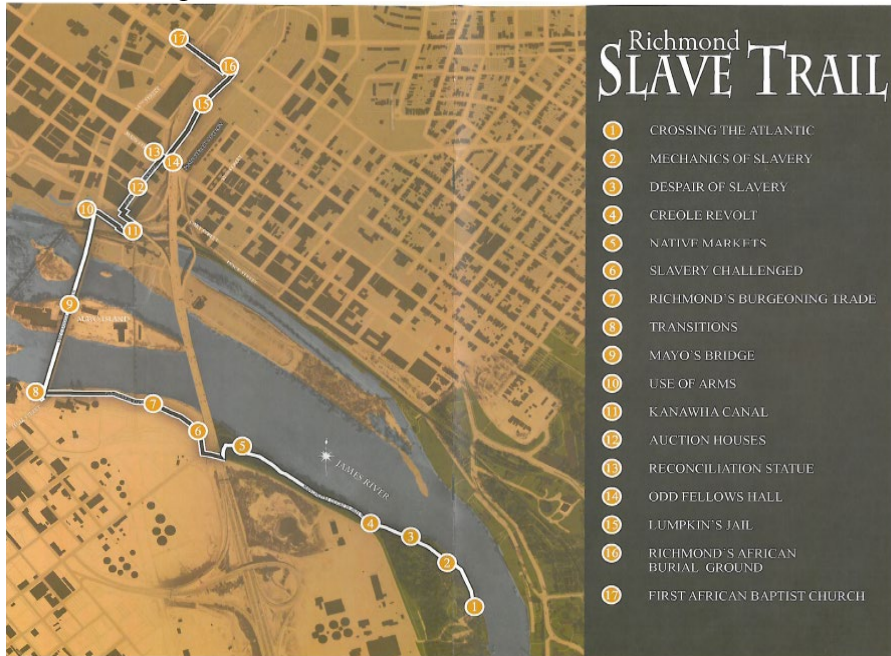


Figure 10 Richmond Slave Trail map

Tidal Section

Parallel to the James River, the Virginia Capital Trail (VCT) Foundation has completed 17 miles of the proposed 53-mile shared use path from Richmond to Jamestown, connecting into the Colonial Parkway. Bike Route 76 parallels the VCT and connects to Yorktown. In Hampton Roads, the Elizabeth River, Suffolk Seaboard Coastline, and Portsmouth trails connect to the East Coast Greenway.



Figure 11 Virginia Capital Trail is scheduled for completion in 2014.

See Trail Map 5-D: Tidal Section

III. Inventory of Trail Corridor Resources

A. State Resources

In addition to the national resources outlined in section I, there are many state resources that draw visitors to the James River watershed. Eleven state parks, six natural area preserves, 9 forest natural areas, seven state forests, nineteen wildlife management areas, eight public fishing lakes and three fish hatcheries provide a wide range of recreational opportunities. *Map 6: State Resources*” shows areas managed by the Commonwealth of Virginia. Appendix B lists the trail facilities available on these state and federal lands. Civil War Trails (particularly Lee’s Retreat), Birding and Wildlife Trails, Winery Trails, and stops along the Virginia Indian Heritage Trail, the Road to Revolution, the Civil Rights in Education Tour and African American Heritage sites provide more points of interest for travelers.

B. Natural Resources

The 2006 Virginia Outdoors Survey (*VOS*), undertaken every five years to update the state’s comprehensive outdoor recreation plan, measured the perceived value of natural resources to citizens throughout the Commonwealth, and the importance of conserving Virginia’s green infrastructure. When asked how important it was to protect Virginia’s natural and open space resources, 94 % indicated it was either important or very important. Only 2 % did not think it important to protect these resources, and another 4 % responded they did not know if it was important.² The following section describes some of the key natural features found in the James watershed.

Forests and Open Space

Forests play an important role in the ecological and economic health of Virginia. In addition to providing opportunities for recreation, protected forestlands in Virginia provide important ecological services which include: 1) protection of water quality, 2) protection of air quality, 3) aesthetic quality, 4) moderation of climate, including the offsetting of carbon emissions contributing to climate change, and 5) provision of habitat for many plants and animal species.

In the James watershed, a significant amount of land is currently forested. In 2005, approximately 71% of the watershed land cover was forestland, followed by agriculture (17%), urban (5%), open water (4%), and wetlands (3%).³ As development pressure continues across the state, remaining forest resources are being irretrievably lost to development.



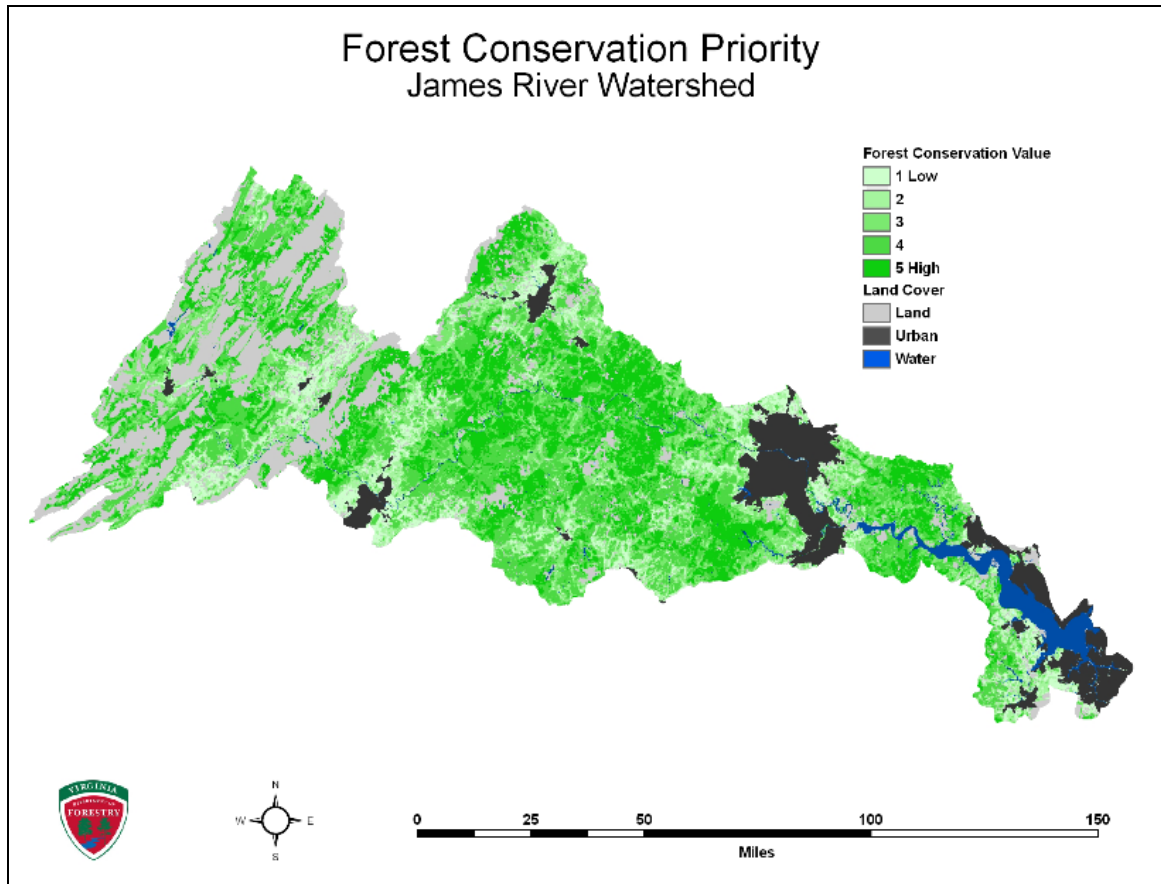
² The Virginia Outdoors Plan is available online at www.dcr.virginia.gov/recreational_planning/vop.shtml

³ Commonwealth of Virginia’s Chesapeake Bay Nutrient and Sediment Reduction Tributary Strategy for the James River, Lynnhaven and Poquoson Coastal Basins, March 2005.

Figure 12: The James River at Reed Creek Landing, photo by Gary Kappesse

In 2008, more than 15.7 million acres – more than 62 percent of the Commonwealth – qualified as forestland. Of this forestland, 15.2 million acres are categorized as commercial timberland and 500,000 acres are categorized as reserved forestland. With an average plot re-measurement period of five years, the net loss of forestland was 27,000 acres per year, up from 20,000 acres per year during the seventh survey period. This translates to a rate of one acre lost every 20 minutes. If the long-term trend continues, Virginia could lose one million acres of forest within the next 25 years.⁴

A GIS-based model has been created by the Virginia Department of Forestry to delineate where valuable forest land exists, as a tool for public and private entities involved in land use decision-making. The Forestland Conservation Priority Areas map (see **Map 7** below) ranks all forested acres in the state based on the level of benefits provided and the risk of conversion faced. The forest benefits in the analysis fall into three broad categories: water quality protection; integrity of aquatic and terrestrial habitats, and forest productivity.



Map 7 Virginia's Forestland Conservation Priority Areas

The model also serves as part of a larger green infrastructure plan that identifies significant resources in Virginia to facilitate an integrated approach to conservation planning priorities.

⁴ 2010 State of the Forest Report, available online at www.dof.virginia.gov/resources/pub-2010-State-Of-Forest.pdf

Planning for the trail can help to enhance conservation and connection of existing significant forest blocks. Trail corridors may help to connect existing forest blocks providing important wildlife corridors. Trail design could minimize fragmentation of forest blocks by considering widths that would minimize breaks in the canopy and provide interpretive signage on the importance of forest blocks for native species and water quality. (For information on the Virginia Conservation Lands Needs Assessment and the Green Infrastructure Modeling effort, visit the VCLNA website: www.dcr.virginia.gov/natural_heritage/vclna.shtml)

Wildlife and Fisheries

Traversing multiple physiographic regions between the Appalachian Mountains and the Atlantic Coast, the James watershed encompasses a diversity of habitat types that are home to an abundant array of wildlife species including amphibians, reptiles, mammals, fish, and birds. In recent years, the bald eagle has become a common sight along many parts of the James, along with osprey, great blue heron, and other river birds. Many eagles reside along the Lower James River in Charles City, James City and Surry Counties, and the population is increasing. A great blue heron rookery has established itself on the river in the heart of Richmond, where trees, fish, water, and a protected area from predators invited 40 nests last spring. Other important birding areas recognized by the Audubon Society within the watershed include the Upper Blue Ridge Mountains, the Alleghany Highlands, Central Piedmont and the Great Dismal Swamp. The area around the mouth of Chesapeake Bay is globally significant for migratory birds.

While some bird species continue an impressive expansion, many other species are at risk and fish populations throughout the river basin face ominous threats. Brook trout populations remain unhealthy in most of its range, mysterious fish kills are impacting smallmouth bass, shad are at historic lows and striped bass stocks in the river have fallen and are susceptible to bacterial infections. Although oyster populations have seen slight increases in recent years, they continue to struggle at near historic lows due to high incidents of diseases and persistent water quality problems.

On the positive side, some aquatic habitats have seen improvements in recent years. The resurgence of underwater grasses in parts of the James is a positive sign for river health, providing habitat for juvenile fish, crabs, and waterfowl. Underwater grasses have reached their highest levels in 30 years, now covering 40 percent of where they have been documented in the past, although there are still no grass beds on the main stem between Richmond and Newport News due to poor water clarity.

Exemplary Natural Communities and Rare Species

The Department of Conservation and Recreation's Natural Heritage Program manages information for the conservation of the Commonwealth's natural communities and rare plant and animal species. DCR's 2003 Natural Heritage Plan summarizes much of this information, and the plan is currently under revision in 2011. The James River watershed is home to 441 different significant natural communities and rare plant and animal species. Many of these are not only of significance here in Virginia but have global significance. This includes 37 globally imperiled natural communities and species ranging from the Coastal Plain Dry Calcareous Forest community to High Elevation Outcrop Barrens; suites of cave invertebrates found in Virginia specific caves and nowhere else in the world, including the Natural Bridge Cave Isopod and the

James Spiny mussel; freshwater mussel species found in the watershed's headwater streams. Globally rare plants make their home in the watershed such as the Virginia quillwort found in sinkhole ponds and woodland streams in the watershed's upper reaches or Bentley's coralroot from the western mountains. Pressures on these significant natural resources include habitat fragmentation, habitat loss, invasive species and water quality degradation. Future conservation needs focused on these threats and efforts to provide important wildlife corridors and linkages will be important in the watershed.



Figure 13 Exposed shell material on a ravine supporting Coastal Plain Dry Calcareous Forest near Williamsburg, James City County. Gary P. Fleming / © DCR Natural Heritage.



Figure 14 High Elevation Outcrop barren on the exfoliating granitic dome of Spy Rock in Nelson County (George Washington and Jefferson National Forests). Gary P. Fleming / © DCR Natural Heritage.

The aquatic species vary from freshwater mussels that prefer the upper to middle James River regions to sea turtles that occur around the river's mouth. Various obstacles certainly play a role in habitat quality for these species. Pollution in the form of non-point source runoff is on the increase from so many areas where development is on the rise. Federally listed species have recovery plans that should be referred to when developing management plans to protect and restore populations of these species.

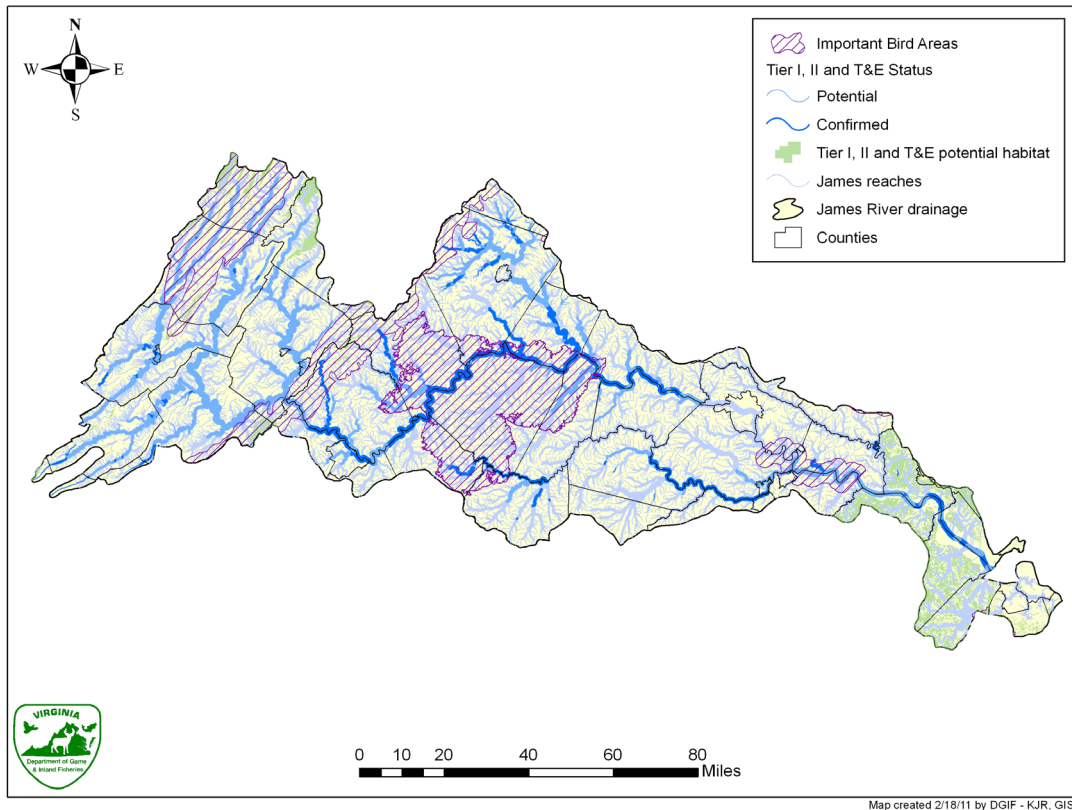
The James River watershed is also home to seventeen more species that are only designated by the State of Virginia as Threatened or Endangered. These species vary from bald eagles (still listed as State Threatened) to terrestrial snails, like the shaggy coil, which occurs in the watershed of the upper James. Of these seventeen species, six are highly aquatic. The aquatic habitats for these species vary from lotic, such as that of the green floater, to wetland habitats, such as that of the barking treefrog. These species too are potentially affected by non-point

pollution, while wetland species are also impacted by direct habitat destruction due to development and some forms of agriculture and other land uses.

Virginia's Wildlife Action Plan

In 2005, the Virginia Department of Game and Inland Fisheries and partners completed Virginia's Wildlife Action Plan. The action plan identifies Virginia's species of greatest conservation need, the habitats those species require, issues impacting species and habitats, efforts needed to address threats impacting species and habitats, and work required to monitor status and gauge effectiveness. Although the action plan discusses species that are already threatened or endangered, this document was primarily created to help the conservation community prevent species from becoming threatened or endangered.

Virginia's Wildlife Action Plan identifies scores of species of greatest conservation need which occur in the James River watershed. These include critically imperiled species such as the James spinymussel and the bridal shiner. However, this list also includes species which were once more abundant in Virginia but are currently declining such as the eastern box turtle, northern bobwhite, the American eel, and eastern meadowlark. All species of greatest conservation need are impacted by the loss or degradation of their habitats. Some of the most significant threats to terrestrial habitats include fragmentation, conversion of habitats to human uses, and colonization by invasive species. Aquatic habitats in the James River are impacted by increased sediment loads, chemical pollutants, and alterations made to the channel and shoreline. The most strategic conservation actions, which would benefit the greatest numbers of species at once, involve the conservation and restoration of aquatic, riparian, early successional, and savannah forest habitats.



Map 8, Tiered Species Distribution in the James River Watershed



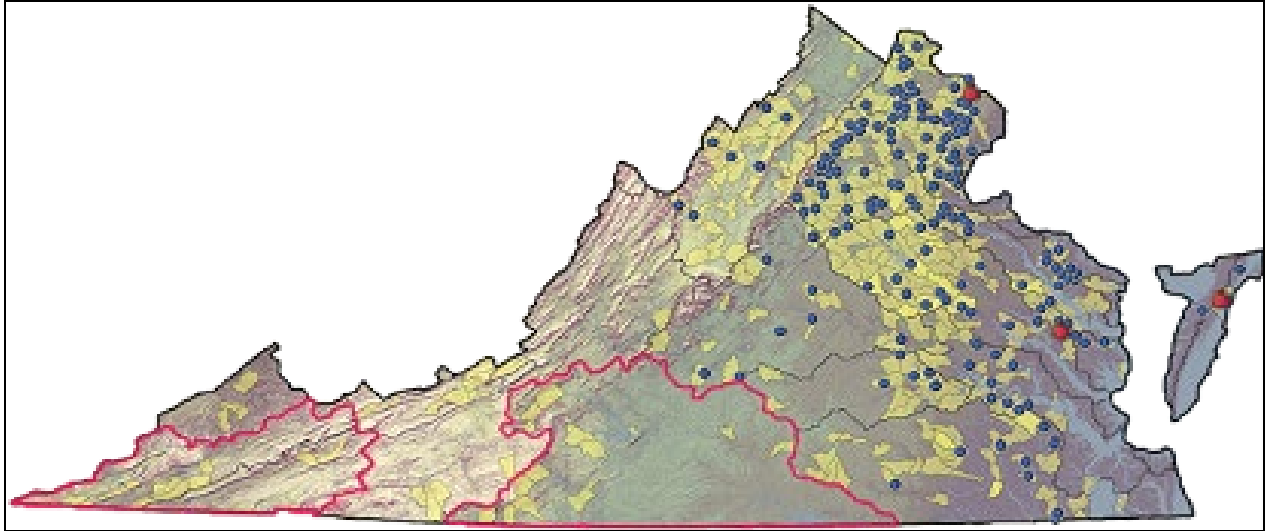
Figure 15: Cool stream bank under the forest floor.

River Health and Water Quality

Through Virginia’s Healthy Waters initiative, field work has been completed to assess much of the James basin to identify healthy streams in the watershed (indicated by blue dots on *Map 9*). This initiative broadens conservation efforts to include these critical healthy resources before they are compromised. Many streams are ecologically and biologically robust and represent a significant natural legacy for the Commonwealth to be conserved using every possible means.

Knowing where these streams are represents the first step in conserving them. It also informs recreational opportunities. These ecologically healthy streams and rivers offer some of the best wildlife viewing and

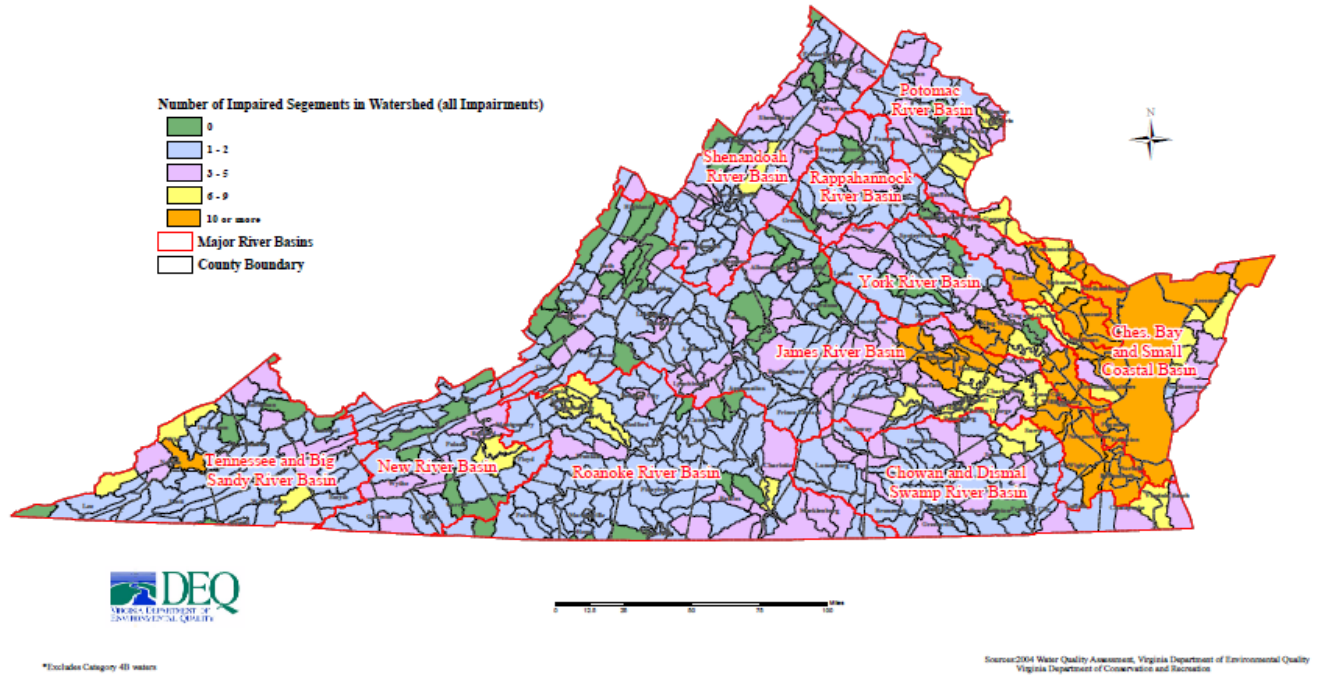
fishing habitat in the James River basin. More information about Virginia’s Healthy Waters initiative can be found at www.dcr.virginia.gov/soil_and_water/healthy_waters/index.shtml.



Map 9 Healthy Waters

Conversely, there are areas in the James watershed where impairment is a critical issue. *Map 10* below shows the distribution of impaired watersheds in Virginia. As is evident from the map, there is a higher concentration of impaired waters in the lower portion of the watershed, where there is a greater density of impervious surface and higher intensity land use. Also see *Appendix C* provided by Virginia Dept. of Environmental Quality for a map of the impaired waters within the James watershed.

Map 10, Distribution of Impaired Watersheds throughout Virginia



B. Historic Resources

Along with the resources described in the introduction, the watershed encompasses 38 Civil War Battlefield sites, 56 National Historic Landmarks (see Appendix D) and over a thousand sites that are on or eligible for the National Historic Register (listed by jurisdiction at www.dhr.virginia.gov/registers/register.htm). A sampling of these sites is on Map 11 and Table 2, *Historic Treasures within the James River watershed*

National Scenic and Historic Trails

Three national trails intersect the watershed, and planning for two more is underway. The *Appalachian National Scenic Trail* is the nation's longest marked footpath, approximately 2,179 miles. It was the first completed national scenic trail, designated in 1968. In 2006, President Bush established the *Captain John Smith Chesapeake National Historic Trail*, the first national water trail in the United States. It follows the historic routes of Smith's exploratory voyages on the Chesapeake Bay and tributaries in 1607-1609. The *Washington-Rochambeau Revolutionary Route National Historic Trail* traces the 600-mile route followed in 1781 and 1782 by American and French armies under generals George Washington and comte de Rochambeau on their way to and from the siege and victory of Yorktown. The *Star-Spangled Banner National Historic Trail*, currently in the planning phase, was shaped by the events of the Chesapeake Campaign during the War of 1812. Also in the planning phase are the Eastern Legacy sites that may extend the *Lewis and Clark National Historic Trail*.

James River and Kanawha Canal

The James River and Kanawha Canal was planned and surveyed by George Washington to bring goods from western Virginia (now West Virginia) to the coast. The project was completed to the Town of Buchanan, largely financed by the Commonwealth of Virginia. After the Civil War, the resources were not available to repair war and flood damage, and the canal was sold to the Richmond and Alleghany Railroad, which later became part of the Chesapeake and Ohio Railway (now CSX).

Figure 16: Gwynn Lock, part of the James River and Kanawha Canal below Eagle Rock, photos taken by Gary Kappesser



The James River and Kanawha Canal Historic District extends approximately 10 miles (138 acres) from the Ship Lock at the south end of Peach St. in Richmond, westward to the intersection of an extension of Sleepy Hollow Rd. and the C & O Railroad tracks (outside the City in Henrico County). The linear district consists of earthen excavations that comprise the greater part of the canal system as well as the stone locks, bridges, culverts, walls, towpaths and other related objects.

C. Other Recreation and Tourism Resources

Other resources contribute to the experiences that could be enhanced and packaged to attract visitors to the watershed. These resources are getting scarcer within the urban crescent and will become more valuable with the passage of time.

Green Infrastructure

DCR has developed a Geographic Information System (GIS) product called the Virginia Natural Landscape Assessment (VaNLA) to help identify the best areas to link lands already protected, such as parks, preserves and refuges. Natural corridors between larger natural areas are important to allow plants and animals to move between populations and thus assure genetic diversity and the long-term health of those species. By analyzing a wide variety of data, VaNLA

identifies the least fragmented corridors of natural cover between protected lands, as well as large blocks of undeveloped, yet unprotected, land along those corridors. The maps and other information generated by VaNLA are then useful to public and private land trusts and local, regional and state planners to target land conservation efforts, establish greenways and to direct development to places with the least impact to natural populations.

The James River watershed has a wealth of local, state and national parks, state natural area preserves, state and national forests, state wildlife management areas, and national wildlife refuges. As illustrated by the VaNLA analysis in map 11, many of these protected public lands retain natural connections between them and these corridors may be suitable for trails and other green infrastructure projects. DCR will continue to develop and promote VaNLA and other important planning tools within the James watershed to help make these connections possible



Map 12: Green Infrastructure: Federal, state, local and non-profit conservation lands are in green, VaNLA identified corridors are in yellow

Green infrastructure plans at the planning district level are also helping to shape connectivity and future development of the James River Heritage Trail. Regional green infrastructure plans have

been completed in the Richmond Metropolitan Region, Hampton Roads, and the Thomas Jefferson Planning District Commission. More detailed plans are being crafted by localities.

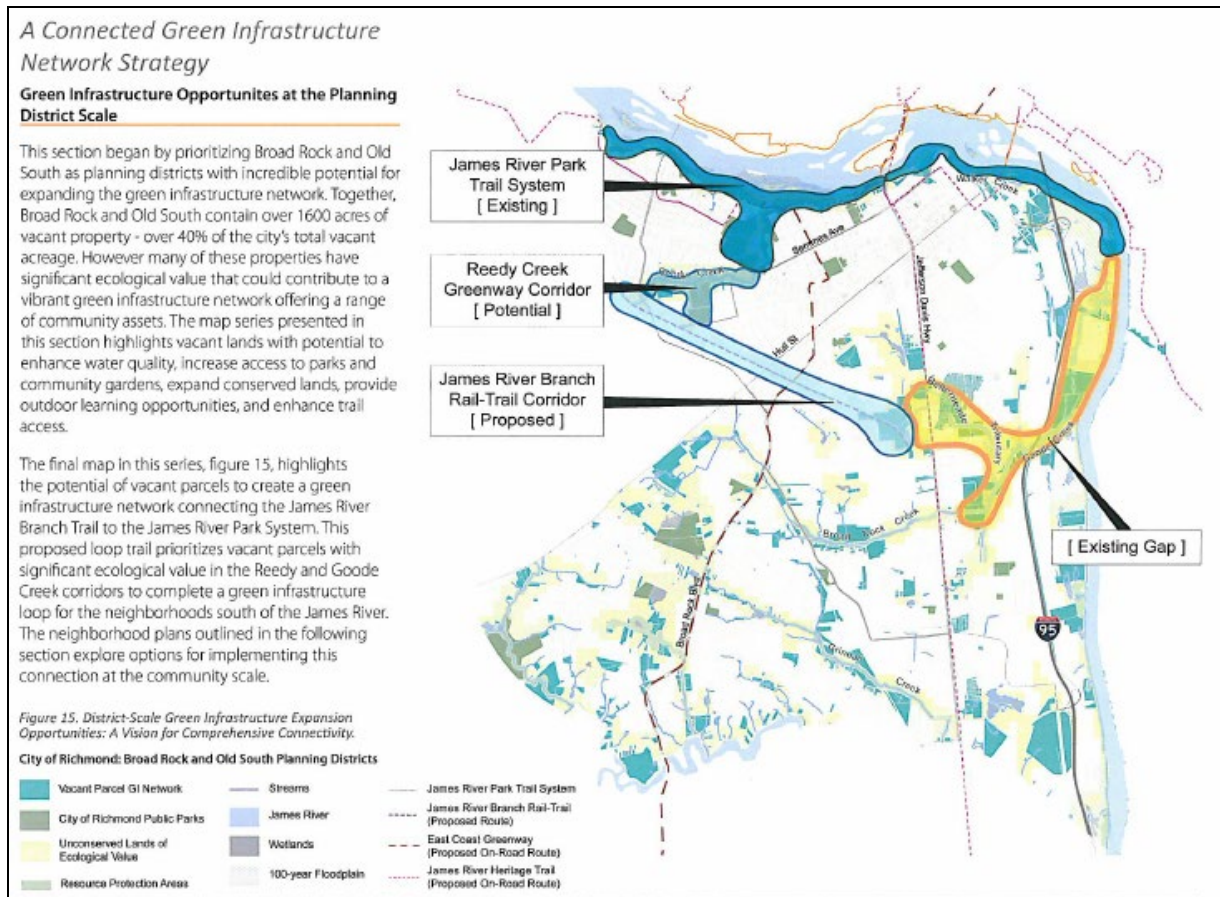


Figure 17: Excerpt from Richmond's Green Infrastructure Pla

Byways, Parkways, and Driving Routes

Many historic, cultural, and natural sites throughout the James watershed have been linked together through the development of thematic trails for walking or driving; some of the most notable are mentioned below.

Virginia Birding and Wildlife Trail. The Department of Game and inland Fisheries (DGIF) is the lead wildlife agency in Virginia, and plays a key role in the development and delivery of wildlife viewing opportunities for Virginians and visitors. In 2004, DGIF completed the Virginia Birding and Wildlife Trail, the first statewide wildlife viewing trail in the United States. This driving trail links together more than 650 of the state's wildlife viewing areas, including hundreds in the James watershed. In addition, DGIF assists with four birding and wildlife festivals, which are co-sponsored with local partners. These festivals promote wildlife conservation awareness and education while providing opportunities for wildlife viewing activities.

National Scenic Byways. Four nationally designated Scenic Byways are located within the James River watershed. *The Colonial Parkway* is a twenty-three mile scenic roadway stretching from the York River at Yorktown to the James River at Jamestown. It connects Virginia's historic

triangle: Jamestown, Williamsburg, and Yorktown. The *Blue Ridge Parkway*, which celebrated its 75th anniversary in 2010, offers 469 miles of stunning views and recreational opportunities between the Shenandoah National Park in Virginia and the Great Smoky Mountains National Park in North Carolina. Both of these roadways have received “All American Road,” designation, the highest status in the Byways program.

The third roadway, *Skyline Drive*, is located within the protected setting of Shenandoah National Park, and offers two visitor centers, miles of hiking trails, and opportunities for wildlife viewing. The *Journey through Hallowed Ground* is a 180-mile route from Monticello to Gettysburg, and the Nation’s 38th National Heritage Area. The byway offers more than 10,000 listings on the National Register of Historic Places, including 9 presidents’ homes, 30 historic Main Street communities, 13 National Parks, and hundreds of African and Native American historical sites.

State Scenic Byways: The watershed also has a number of scenic byways recognized by the state and promoted by local groups. Connecting the state and Confederate Capital of Richmond with the colonial Capital of Williamsburg, Route 5 boasts political, architectural and social history at every bend. The 35-Mile Drive Association celebrates businesses along River Road and Goochland County as a tourism and hospitality destination (35miledrive.com). Across the river in Powhatan County, the Huguenot Trail Advisory Committee works to enhance and preserve Route 711 and its unique assets and cultural experiences. Scenic Route 39 offers steep mountains and deep gorges, with access to National Recreation Areas, the Virginia Horse Center and Warm Springs.

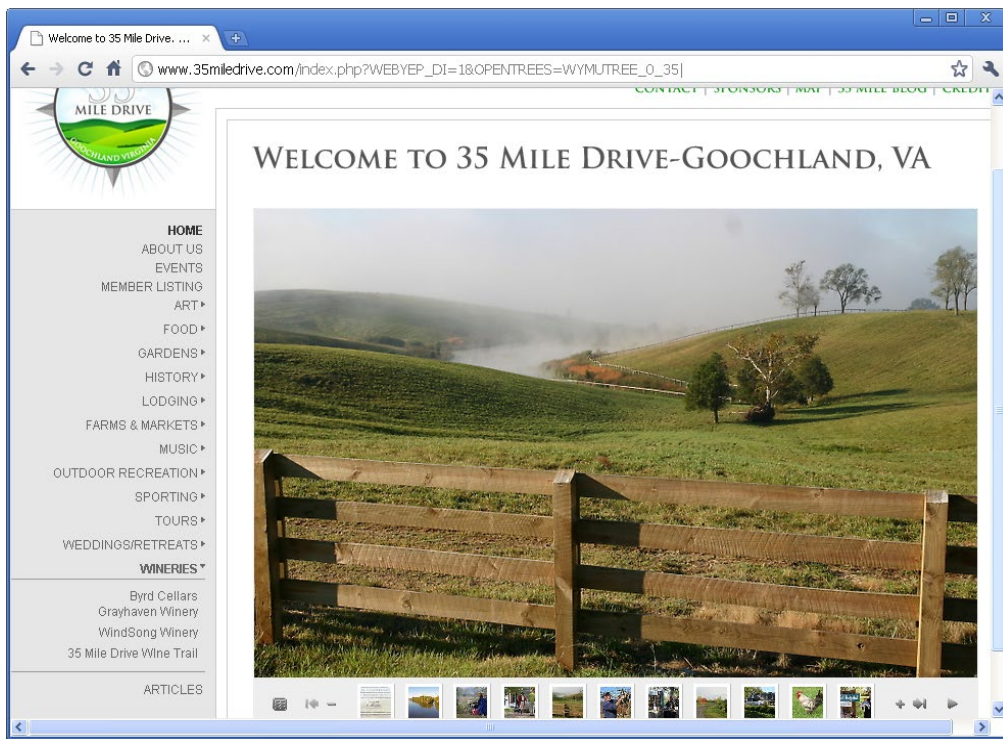


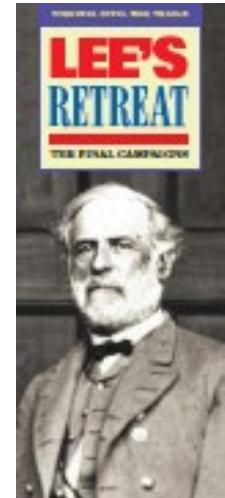
Figure 18: A compelling online view of Goochland County from Route 6

Civil Rights in Education Tour: The birthplace of the free public education system our country

now enjoys has its roots right here in Southside Virginia. It was here, along the sleepy back roads of a few rural counties, that today's African Americans, Native Americans and women developed the right to an education that equaled that of white males. Today, a new self-guided driving tour brings together for the first time 41 of these historically significant sites and tells the poignant and often explosive story of civil rights in education in our country.

Lee's Retreat: The Lee's Retreat driving tour follows his army's retreat from Petersburg to Appomattox Court House on roads that were used April 2–9, 1865 in the final days of the Civil War. Short-range radio messages at more than 25 waysides along the way explain the activity to radios tuned to AM1620 and AM 1600 near Appomattox.

Figure 19: Lee's Retreat Brochure available at www.varereat.com



Water Trail Resources

The tidal James River system supports a nationally recognized largemouth bass and trophy blue catfish fishery. Both American shad and rockfish have rebounded in the tidal James in recent years. Six public boat launches are complimented by a number of private marinas along the lower James.

From the confluence of the Jackson and Cowpasture Rivers in Botetourt County, downstream to Richmond, the James River offers a wide range of angling opportunities and settings. Smallmouth bass are the dominant game species, but many other species can be hooked.

Along with maps for paddlers created by the James River Association and Botetourt County's water trail map, DGIF has mapped a 139.1-mile float trip from Horseshoe Bend in Botetourt County to Maidens in Goochland. The mountain and piedmont sections of the river have many well-maintained access points for boaters and fishermen.

Virginia State Scenic Rivers

The Virginia Scenic Rivers Program was established in 1970 as a way to celebrate outstanding examples of Virginia's rivers. The program is managed by the state in partnership with citizens and the local government and focuses on enhancing the conservation of scenic rivers and their corridors. Recognized for their scenic, recreational, historic and natural characteristics, rivers and streams that gain this designation are honored by community groups, localities, DCR and Virginia's General Assembly as being Virginia's finest.

Three segments of the James River are designated under the Virginia Scenic River Program, as well as sections of five tributary rivers (see *Table 3* below):

Table 3: James River Watershed- Virginia Scenic River Designations

River Name	Designated Reach		Total Miles	Administrating Legislation	Original Date Approved	Extension Date
	From	Downstream to				
Appomattox River	100 Ft. from the Lake Chesdin Dam	Rte. 36 (Petersburg)	6.2	§10.1-409	1977	1998
Appomattox River	From the Route 36 bridge excluding Port Walthall Channel	Confluence with James River	19.2	§10.1-409.1	2011	
Chickahominy River	Rte. 360	Hanover/Henrico/New Kent County Line	10.2	§10.1-410.1	1990	
Historic Falls of the James*	West Richmond 1970 City Limits	Orleans Street (extended)	8.6	§10.1-412	1972	1984
Upper James River	.02 miles SE of Rte. 43 @ Eagle Rock	Rte. 630 Bridge at Springwood	14	§10.1-413	1985	
Lower James Historic River *	1.2 miles east of Trees Point	Lawnes Creek (James City / Surry County)	25	§10.1-419	1988	
Rivanna River	South Fork Rivanna River Reservoir	Confluence with the James River	46	§10.1-416	1975	1988, 2009
Rockfish River	Rte. 693, Schuyler	Confluence with the James River	9.75	§10.1-415.1	1990	
St. Mary's River	Headwaters in Augusta County	George Washington - Jefferson National Forest Boundary	6	§10.1-418.2	1979	

* River protected with separate Act of the General Assembly and included with program

An analysis of priority conservation lands along the Lower James was prepared for The Conservation Fund in 2009, as part of the Captain John Smith Chesapeake National Historic Trail management plan. A watershed analysis was part of the work undertaken for this effort. Based on a 30-meter digital elevation model, similar watershed analysis can be conducted for points of interest along the remaining corridor, if the parameters for the study are developed cooperatively with local governments. The results of these studies, in turn, may provide valuable information for local land use plans.

Agritourism Resources

Virginia maintains a healthy and robust agricultural sector that contributes over \$2.9 billion annually to the state's economy. The watershed counties of Hanover, Amelia, Cumberland, Augusta, and the City of Chesapeake are ranked within the top 20 jurisdictions for agricultural products sold in the state.⁵ VDACS Marketing Services assists the state's varied agricultural communities by enabling producers and processors to locate the best markets for their products both here at home and abroad. With field offices located throughout the state, the Division of

⁵ 2007 Census of Agriculture, Market Value of Agricultural Products Sold, prepared by U.S. Department of Commerce, Bureau of the Census; and Virginia Fact Sheet, prepared by USDA Economic Research Services, updated December 2010. (<http://www.ers.usda.gov/StateFacts/VA.HTM#FFI>)

Marketing serves producers, commodity boards and associations, retailers and buyers by providing marketing assistance. Their [Virginia Grown](#) Web site provides directions, hours of operation, available products and special activities for agritourism resources in the state.

[Virginia's Finest](#) is a trademark program that provides a standard of excellence in specialty foods, beverages and agricultural products, and the Virginia Farm to School Program is an effort to increase the amount of fresh and nutritious Virginia Grown products offered in schools and to promote opportunities for schools and local farmers to work together. A related effort by the Piedmont Environmental Council and its partners, the [Buy Fresh, Buy Local](#) Web site offers information on local foods by county or by chapter.

Recent development of “Buy Fresh, Buy Local (BFBL)” chapters that promote local agritourism products and services may provide opportunities for collaborative advertising throughout the watershed. Map 13 Agritourism Resources depicts how these goods are purchased by tract. Many people who visit the river for recreation will appreciate the opportunity to take home fresh produce and value-added products from the farms within the watershed.



Equestrians are interested in the James River Heritage Trail and other trunkline trail systems because many farms that used to provide space to ride are being sold for development. However the number of farms with horses in Virginia rose 23 percent from 1997 to 2007. The state's horse industry has an annual economic impact of \$1.2 billion and accounted for 16,091 jobs in 2010⁶

Figure 20. Horses help haul supplies for backcountry trail construction.

D. Stakeholder Analysis

In addition to taking stock of the natural, cultural, and recreational resources found in the watershed, the project team also developed an inventory of interest groups engaging in various aspects of river stewardship, recreation planning and tourism development. The following section identifies these groups including non-profit, state and federal agencies, and local and

⁶ The Economic Impact of the Horse Industry in Virginia. Terance J. Rephann, University of Virginia's Center for Economic and Policy Studies at the Weldon Cooper Center for Public Service, 3.29.2011

regional partners. Additional detail on organizational missions and interests can be found in Appendix E.

Non-Profit Partners

A number of non-profit organizations have been identified that currently support, advocate for, or manage programs and resources in the James watershed. Some of these organizations are listed in Table 4, and although this list is not comprehensive, it illustrates the magnitude and diversity of current interest in the corridor.

Table 4: National and Statewide Non-Profit Stakeholders

Alliance for the Chesapeake Bay
American Canoe Association
Appalachian Trail Conservancy (and local clubs)
APVA Preservation Virginia
Audubon Society
BikeWalk Virginia
Chesapeake Bay Foundation
Chesapeake Conservancy
Civil War Preservation Trust
Ducks Unlimited
Coastal Canoeists
East Coast Greenway Alliance
Float Fishermen of Virginia
Foundation for Virginia's Natural Resources
Friends of the Rivers of Virginia
International Mountain Bicycling Association (and local clubs)
James River Association
Scenic Virginia
The Archaeological Conservancy
The Conservation Fund
The Nature Conservancy
Trust for Public Land
Virginia Association of Convention & Visitors Bureaus
Virginia Bicycling Federation
Virginia Canals and Navigations Society
Virginia Civil War Roundtables
Virginia Conservation Network
Virginia Horse Council
Virginia Society of Ornithology
Virginia's United Land Trusts (VaULT)
Virginia Outdoor Foundation

Federal and State Agency Partners

In addition to non-profits, a number of public entities including federal, state, regional, and local

agencies manage lands or administer programs responsible for resources located in the James watershed. State and federal partners are listed in Table 5, with additional information in Appendix E.

Table 5: State and Federal Agencies Operating in the James Watershed

State Agencies	Virginia Council on Indians Virginia Department of Agriculture and Consumer Services Virginia Department of Conservation and Recreation Virginia Department of Game and Inland Fisheries Virginia Department of Environmental Quality Virginia Department of Forestry Virginia Department of Health Virginia Department of Historic Resources Virginia Department of Transportation Virginia Institute of Marine Science Virginia Marine Resources Commission Virginia Tourism Corporation Virginia Resource Conservation and Development Councils Virginia Watershed Roundtables Virginia State Colleges and Universities
Federal Agencies	U.S. Army Corps of Engineers USDA, National Forest Service US DOI, National Park Service US DOI, National Fish and Wildlife Service US DOI, Geological Survey US Environmental Protection Agency National Oceanic and Atmospheric Administration

Local and Regional Partners

The importance of regional leadership to drive the JRHT effort cannot be overstated. The following table lists the jurisdictions located within the James watershed.

Table 6

Planning District	Local Jurisdictions
PDC-5 Roanoke Valley -Allegheny Regional Commission	Counties of Alleghany, Botetourt, Craig and Roanoke; the City of Covington, Towns of Clifton Forge, Iron Gate, Fincastle, Troutville, Buchanan, and New Castle
PDC-6 Central Shenandoah Planning District Commission	Counties of Bath, Rockbridge, Highland, and Augusta; Cities of Buena Vista and Lexington, and the Towns of Goshen, Glasgow and Craigsville
PDC-10 Thomas Jefferson Planning District Commission	Counties of Albemarle, Fluvanna, Greene, Louisa, Nelson, the City of Charlottesville, and the Towns of Scottsville, Columbia and Stanardsville

PDC-11 Region 2000 Local Government Council	Counties of Amherst, Appomattox, Bedford, and Campbell; City of Lynchburg; and Towns of Amherst, and Appomattox
PDC-14 Commonwealth Regional Council	Counties of Prince Edward, Buckingham, Cumberland and Amelia, and Towns of Dillwyn, Farmville and Pamplin City
PDC-15 Richmond Regional Planning District Commission	Counties of Charles City, Chesterfield, Goochland, Hanover, Henrico, New Kent, and Powhatan; City of Richmond
PDC-19 Crater Planning District Commission	Counties of Chesterfield, Dinwiddie, Prince George, and Surry, Cities of Colonial Heights, Hopewell, and Petersburg
PDC-23 Hampton Roads Planning District Commission	Counties of Isle of Wight, James City, and York, Cities of Suffolk, Chesapeake, Portsmouth, Norfolk, Virginia Beach, Hampton, Newport News, and Williamsburg, and Towns of Claremont, Surry, Smithfield and Windsor

Note: Small areas of New River Valley and Rappahannock-Rapidan Planning Districts and Nottoway County are also located within the watershed

Local and regional governments within the watershed have used a wide range of tools to enhance riverfront areas, preserve water quality, and plan for a connected trail system. Plans for public parks and open space, greenways, green infrastructure, and riverfronts are some tools currently in use. Overlay districts are useful tools for protecting resources and providing consistency across jurisdictional boundaries. Municipalities can enact an historic overlay district through local zoning regulations, as set forth in Virginia Code § 15.2-2306. Many jurisdictions are using this tool in Virginia, particularly high-growth commuter communities around Washington, DC. Outside the state, this district has been used along rivers.

Another important group of stakeholders are the recognized tribes in the James River watershed. These tribes include the Nansemond, the Chickahominy, the Chickahominy Eastern Division, and the Monacan.

A working list of regional and local partners can be found in Appendix E, and a table of existing local and regional plans from jurisdictions along the James that support the trail or protect the river corridor is included in Appendix F.

IV. Issues and Challenges

After significant discussion with trail stakeholders, public land managers and corridor citizens, several issues related to JRHT development began to emerge. They have been grouped into three broad topic areas: 1) obstacles to trail development, 2) obstacles to preserving the trail experience, and 3) limitations regarding organizational capacity. These issues are listed in the sidebar, and discussed in the section below.

A. Obstacles to Trail Development

Given all the extensive interest in the James River corridor, the magnitude of stakeholder support, the trail proposal's long history and the area's national significance, why has the vision of the JRHT not been successfully realized? A list of the top ten obstacles to completion of the JRHT has been developed based on input received at community workshops, supplemented by research and analysis conducted by the project team. Four of the top ten issues relate directly to trail design.

1. Scale of the Planning Effort

The effort to connect a trail system along the river is daunting considering the river runs for over 340 miles from Iron Gate to the Chesapeake Bay. When stakeholders indicated that they wanted the tributary rivers to be included in planning efforts, the problem of scale increased to 10,000+ miles of watershed. When each locality is managing its waterfront differently, using different techniques applied under different political pressures, a unified approach seems an unachievable goal, in spite of the efficiencies it would bring.

A second component to the "scale issue" is the complexity of assembling the land base needed for trail development. The Greater James River Trail effort was abandoned when planners realized that at least 90 property owners would have to voluntarily allow a public trail to cross over or run adjacent to their property. When a whole watershed is involved, encompassing parts of 10 planning districts, the task becomes incredibly complex and time consuming.

Top 10 Challenges to Completion of the James River Heritage Trail

Obstacles to Trail Development

1. Scale of the Planning Effort
2. Limited Access to Waterfront
3. Private Property and Liability
4. Safety Concerns on Roadways

Threats to the Trail Experience

1. Pressure on the Resource
2. Quality and Consistency of Experience
3. Future Stewardship

Limited Organizational Capacity

1. No Designated Funding or Staff
2. No Central Leadership or Organizational Structure
3. Lack of Coordinated Communication /Information

2. Limited Access to the Riverfront

One of the greatest concerns expressed at public forums during fall 2009, was limited access to the riverfront due to rail lines that run adjacent to the James River's north and south banks for approximately 450 miles. The bulk of this rail line is owned or leased by CSXT; as a matter of policy, CSXT states that “private or public parallel at-grade paths are not permitted on active CSXT right-of-way” and “bicycle/pedestrian pathways cannot cross tracks at-grade” (Commonwealth of Virginia Report Document 404). To address this concern, in 2009, legislators extended the current liability law protections (Virginia Code § 29.1-509), specifically to railroads (HB504), but no additional access points have yet resulted from this legislation.

3. Private Property and Liability Concerns

In the late 90's the City of Richmond worked with many partners to develop a nomination package seeking American Heritage River Designation for the James River corridor. Although the nomination had widespread support, it was shelved because of concerns over property rights. Similar concerns were voiced at public meetings in the fall of 2009, from riverfront landowners who said that trespassers currently use their property illegally to camp, hunt, and picnic.

In addition to these intrusions, landowners fear that trespassers could be injured on their property, resulting in a lawsuit. Landowners have also expressed concerns over potential damages to property or interference with agricultural activities that could ensue if they permit public uses. Although a liberal landowner liability law was enacted in the early 90s to protect landowners from damages (Virginia Code § 29.1-509), the protection only exists if they allow use of their property without a fee. Agritourism professionals are not liable for injury or death of participants resulting from agritourism activities, so long as appropriate warning is posted (§ 3.2-6401-2).

4. Safety Concerns on Shared Roadways

Many river roads have restricted right of way, and limited space for separate bicycle accommodations. Although these roads (many state scenic byways) are currently used by experienced bicyclists, others will not feel comfortable using these roadways until safety improvements are made. Some residents object to any changes in the roadway because of fears that the historic quality of the roadway will be compromised.

Use of existing road right of way for bicyclists and pedestrians was clarified under VDOT's 2004 bike-ped policy (Appendix G), which acknowledged that “bicycling and walking are fundamental travel modes and integral components of an efficient transportation network.” The policy also states that “bicycling and walking accommodations can serve as unique transportation links between historic, cultural, scenic, and recreational sites, providing support to tourism activities and resulting economic development.”

Although on-road accommodations may assist in connecting some communities and points of interest, many of the historic attractions like canal features along the river, cannot be accessed via existing roads. The development of an off-road trail network, developed in conjunction with on-road routes, is needed to allow access to these sites as well as the riverfront.

B. Threats to Preserving the Trail Experience

When Earl Swift made his 22-day *Journey on the James* by canoe and kayak in 1998, he experienced many sections of the river lined with trees or picturesque farms. He describes the section through Richmond as “a playground, the city’s getaway, clean and clear and the centerpiece of a remarkable park that hugs the river’s south bank and includes Belle Isle.”

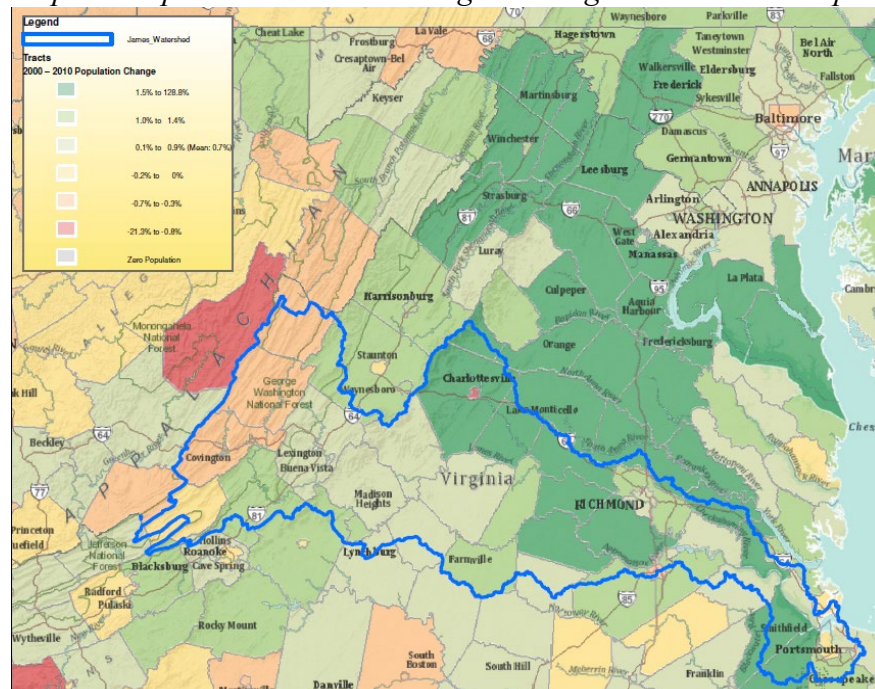
In 2009, the City of Richmond placed all of the James River Park system under a conservation easement. This is one example of how the corridor landscape can be protected so that future generations can continue to experience the river as Earl Swift did. This section will describe challenges to protecting the trail experience including land development, climate change, inadequate facilities, and/or a lack of awareness and understanding of the river’s value, especially among youth.

1. Pressures on the Resource

Land Development: Population growth and conversion of land from open space to urban use can impact the river in a number of ways including impacts to water quality from increased impervious surfaces, and fragmentation of wild habitat and migration patterns. Jurisdictions within the James watershed have averaged over 8 percent of growth since 2000, with some areas like Fluvanna, New Kent, James City, and Suffolk counties growing by over 30 percent (see Appendix H).

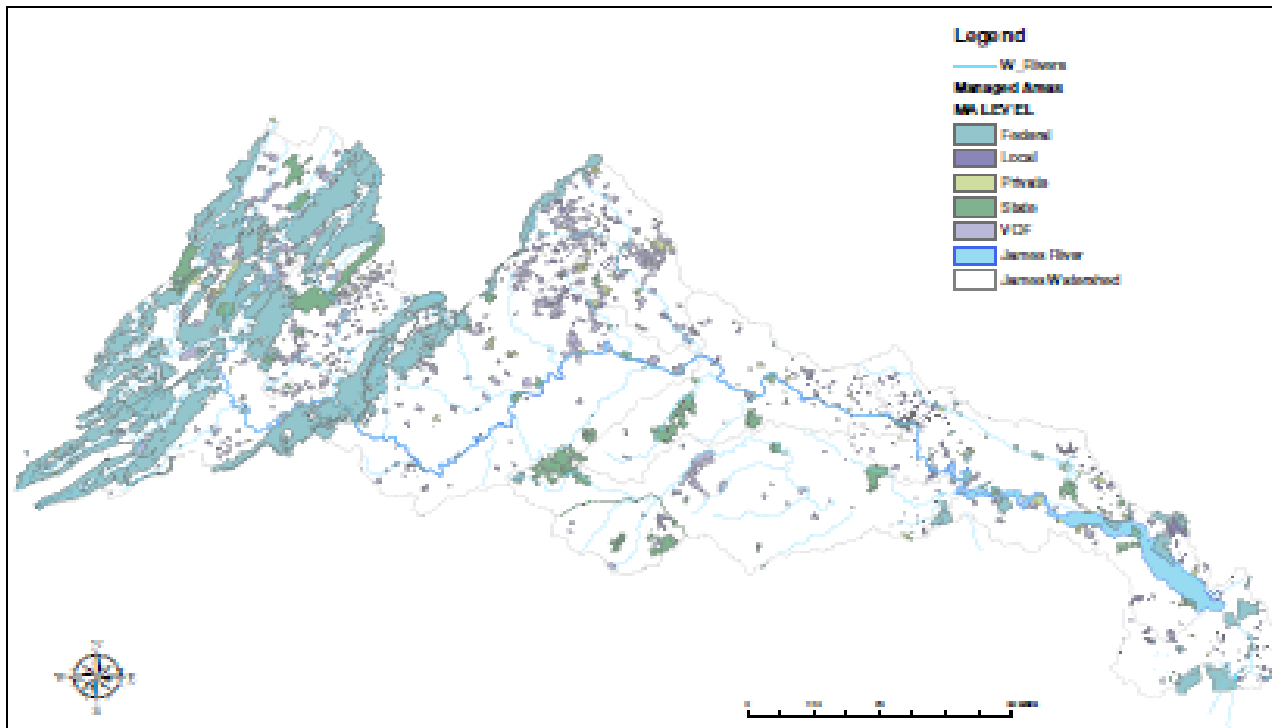
As the population continues to migrate into the heart of Virginia (see Map 14), demand for housing and related commercial services and community facilities will compete with trails, parkland, and other natural areas for space.

Map 14: Population Growth in Virginia using an ESRI Base Map



While the US Forest Service and the National Park Service have protected large areas of land

along the headwaters of the Upper James, most of the middle and lower sections remain unprotected. Currently managed conservation lands in the watershed are depicted on *Map 15* below.

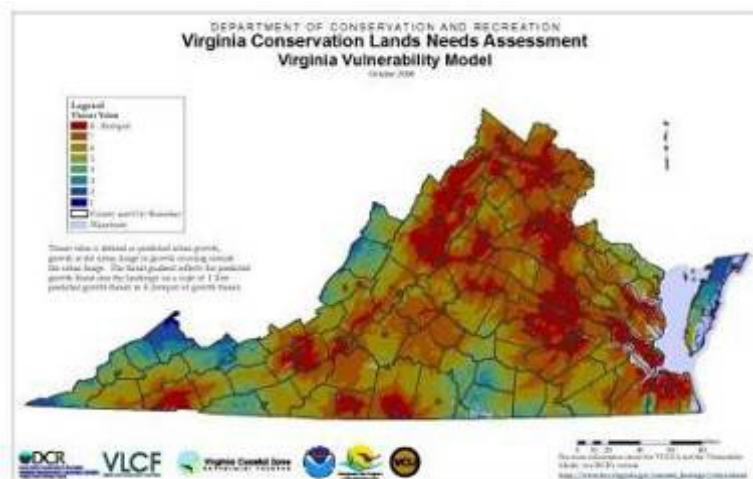


Map 15 Managed Conservation Lands

The Virginia Conservation Lands Needs Assessment (VCLNA) is a landscape-scale geospatial analysis tool for identifying, prioritizing, and linking natural lands in Virginia. Conversion of natural land to residential and commercial development is the primary mechanism by which habitat is lost permanently in Virginia. Subsequently, habitat loss is the greatest threat to biodiversity. The VCLNA Vulnerability Model indicates that the James watershed is very vulnerable to habitat fragmentation. Hotspots indicated on Map 16 in red should be the highest priority for trail planning efforts, so that these facilities can be used to preserve important ecosystems or occur in conjunction with development where it occurs. This resource is available online at http://www.dcr.virginia.gov/natural_heritage/vclnavulnerable.shtml.

Map 16 Vulnerability Model

Climate Change: According to the report *Global Climate Change Impacts in the United States*, summer precipitation has decreased over almost the entire southeast region while the percentage of the region in moderate to severe drought increased over the past three



decades. The report further states that “effects of increased heat include more heat-related illness; declines in forest growth and agricultural crop production due to the combined effects of heat stress and declining soil moisture; declines in cattle production; increased buckling of pavement and railways; and reduced oxygen levels in streams and lakes, leading to fish kills and declines in aquatic species diversity.” Sea level rise is also a consequence of climate change. All of these climate-related factors could impact the resources that people enjoy most along the river—shady forests, green farmland, and abundant fishing. See Appendix I for more information.

A connected trail network will offer a transportation system throughout the watershed that could reduce congestion. Urban portions of the trail could promote pedestrian-oriented development and healthy living travel patterns. As people become more sensitized to their collective impacts, there will be more demand for these alternative networks. Subsequent inventories of bicycle repair, boating services, medical facilities and other businesses that serve trail users will be needed.

2. Gaps in the Quality and Consistency of Experience

In order to provide a high quality visitor experience, sufficient services and amenities need to be provided at reasonable intervals throughout the corridor. The following table of recreational activity time-distance was compiled for the New River Trail State Park master plan, but is geared to experienced adult users. Families with small children will require a higher level of service.

Table 7: Recreational Activity Time-Distance Criteria

Activity	Miles Between Rest Stops	Miles Between Overnight Use Areas
Walking	1-2	N/A
Hiking	5-7	10-15
Bicycling	8-12	20-25
Horseback Riding	5-7	10-15
Canoeing	8-12	12-15
Float Fishing	4-6	8-12

Source: Strategic Land Planning, Inc., Alexandria, Virginia, April 1991

Private support services like campgrounds and other lodging, restaurants, restrooms, and places to get water, are essential to fill in the gaps between public use areas. Agritourism based enterprises could complement the trail experience by providing additional food services, rest stops and recreation opportunities.

Where there is flexibility to do so, land managers could coordinate their policies for managing the visitor experience. The trail will link a variety of federal, state, and local public lands, often with differing missions, mandates, and visitor use policies. For example, wildlife refuges managed for flora or fauna provide a very different experience than parks or forest areas managed for public recreation. With funding shortfalls within all public agencies, attempts to recapture expenses through various permit fees or parking fees may also be confusing to visitors, along with different rules for camping.

Providing a variety of experiences that meet the needs of different user groups is also important. Some recreation areas will need to provide trail-related services at smaller intervals to meet the needs of families with small children. Other areas may be more rugged and isolated. Some areas can accommodate equestrians while others allow mountain bicyclists, beginning bicyclists or hikers. Most areas can now serve on-road bicyclists and paddlers, but gaps still exist.

Communicating both the different levels of service and the permitted uses will be an important task for trail promoters.



Figure 21 Children walk along the trail at High Bridge Trail State Park.

In regards to water trail development, access points can be spaced at five to eight-mile intervals for the experienced paddler. For families enjoying the river, access points should be spaced at half that distance.

There are a variety of ways to derive information about where the highest priority access points are needed; this plan used 1) information provided by seasoned staff members from the Dept. of Game and Inland Fisheries, 2) a distance based map, and 3) public input through meetings and interviews with avid paddlers and outfitters.

The following information on trail issues within the James River watershed was provided by the Dept. of Game and Inland Fisheries (DGIF).

Dam portage issues (no direct/short portage):

- Cushaw Dam – Take out at Snowden Landing / Put in at Reed Creek Landing
- Boshers Dam – Take out at Robious Park Landing / Put in at Huguenot Bridge Landing

Most heavily used boat access facilities: (with shortages of parking spaces during peak periods)

- #1 = Osborne Landing – Henrico County
- #2 = Dutch Gap Landing – Chesterfield County
- #3 = Ancarrows landing – City of Richmond
- #4 = Deep Bottom Landing – Henrico County

Major gaps between boat access facilities:

- Lower James River between Deep Bottom Landing and Lawnes Creek Landing.

Additional boat access under consideration:

- Gala Site - between Iron Gate Landing and Craig Creek Landing.
- Alpine Site – between Arcadia Landing and Locher Landing.

Use Restrictions:

All boating access facilities provided through funding from DGIF are for the sole purpose of boating and/or fishing. Any other use of these facilities is considered trespassing, so these facilities are not available to support land trail users.

Water Access Distance Based Map

Based on a distance-based map (see Map 17) with dark green circles that have a five-mile radius, the four highest priority gaps needing additional river access are in the vicinity of:

- Milepoint 214--Fine Creek Mills in Goochland/Powhatan (Milepoint 214)
- Milepoint 148-- East of McCullough in Albemarle/Buckingham (Mill Creek/Ramsey Creek)
- Milepoint 107—Pettyjohn Island area/Walkers Ford in Amherst/Appomattox
- Milepoint 52—Cedar Creek/Gilmore Hollow in Rockbridge

Note: There are also major gaps in the area between Lynchburg and Glasgow because of a series of dams through this industrial area, and gaps along the Lower James due to heavy commercial use of shipping lanes.

A second and much longer list of lower priority sites could be developed where there are gaps in the light-green circles, which have a 2.5-mile radius. Areas where these light green circles are overlapping are some of the most popular sections of water trail for paddlers along the James.

Based on public feedback through meetings and interviews with seasoned paddlers, the highest priority access points for non-motorized boat use along the James are Alpine, Gala, Balcony Falls (Glasgow Canal Path), Snowden (Cushaw project), Riverville and Howardsville. Seven dams in 29 miles between Snowden and Lynchburg discourage most paddlers, who prefer to avoid most of this industrial area by taking out at Snowden Landing and putting in at Reed Creek Landing.



Figure 22 Boat ramp at Joshua Falls near Lynchburg, photo by Gary Kappesser

3. Future Stewardship

Participation in outdoor recreation by youth ages 6 to 17 dropped 16.7 percent from 2006 to 2008, due in part to a lack of time, interest, and/or competing activities.⁷ The rate of decline is steepest among the youngest age groups, particularly young females.⁸ Today's youth

have been “plugged in” since early childhood, and often lack the desire to spend time outdoors,

⁷ Outdoor Recreation Participation Report 2009, Outdoor Foundation, 2009. p. 4. Available online at www.outdoorfoundation.org.

⁸ Special Report on Youth: The Next Generation of Outdoor Champions, by the Outdoor Foundation, 2010, p. 6. Available online at www.outdoorfoundation.org.

where they lose connection to the Internet, their social networks, and entertainment. In many cases, parents don't have the time or skills to take kids camping, paddling, or bicycling—or they worry about ticks, mosquito bites, allergies and sunburn.

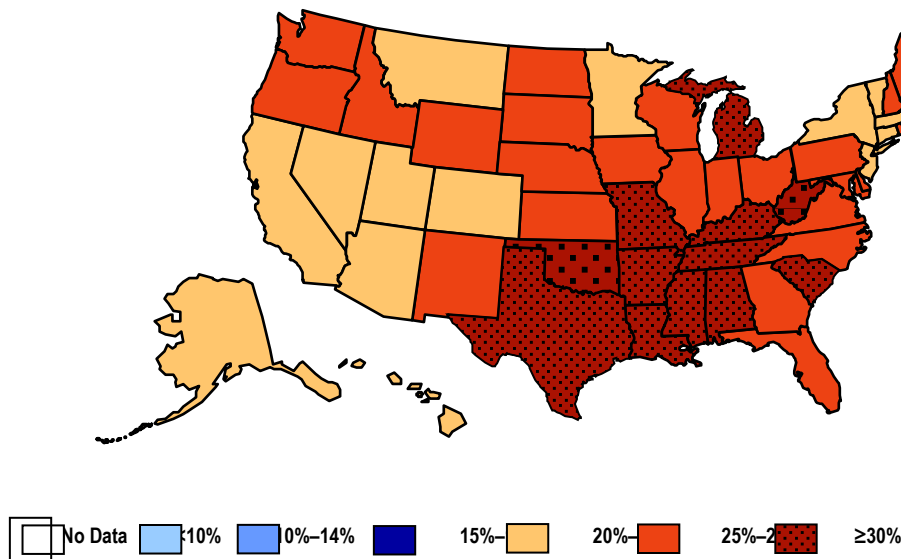
Richard Louv's recent book *Last Child in the Woods* describes this phenomenon as “nature deficit disorder.” Louv states that: “children cannot love what they can never touch. As a matter of policy, the conservation services should view the child-in-nature as an endangered species, an indicator species of the future—because if the young are not bonding with nature now, who will care about the refuges in the future?”

The lack of unstructured “active” time outside for American youth has also contributed to a declining health profile. Obesity rates have risen dramatically for children over the last two decades, leading retired Rear Adm. James A. Barnett of the “Mission: Readiness Task Force” to announce in April 2009 that "Our national security in the year 2030 is absolutely dependent on reversing the alarming rates of child obesity."

Obesity is a complex issue that includes eating patterns, access to healthy foods, physical activity and the physical environment. In Virginia, obesity rates for adults increased from less than 10 percent in 1985, to 25 percent in 2009. A study from 2006-2008 differentiated rates among Whites (23.6%), Blacks (34.5%) and Hispanics (24.7%) in Virginia⁹. Rates also vary significantly by county, as evidenced by Figure 23. In response to this growing trend, Governors Tim Kaine and Bob McDonnell have both brought attention to the growing problem of childhood obesity, and First Lady Maureen McDonnell is championing obesity reduction as her signature issue.

Obesity Trends* Among U.S. Adults BRFSS, 2010

(*BMI ≥30, or ~ 30 lbs. overweight for 5' 4" person)



⁹ Differences in Prevalence of Obesity Among Black, White, and Hispanic Adults --- United States, 2006—2008. Available online at http://www.preventionman.com/PM/HOME_files/Obesity-WBH-Adults-2006-2008.pdf

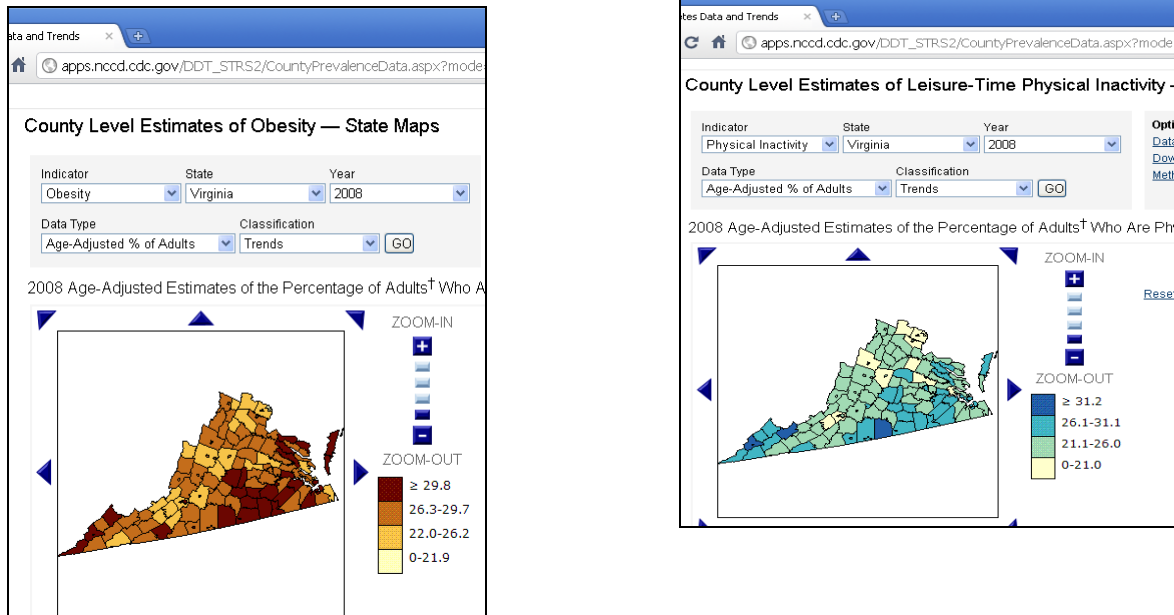


Figure 23 CDC Online maps of Adult Obesity and Physical Inactivity Levels by State and County¹⁰

A key element of the Centers for Disease Control’s plan to prevent and reduce obesity in the U.S. is to improve access to walking and biking trails. Other strategies include: environmental and policy approaches, behavioral and social approaches, or simply providing information to the public about places to recreate.

Concerns over obesity and the associated increases in chronic disease have also prompted partnerships between the medical community and recreation providers to get people moving. One approach is to have physicians write “prescriptions” requiring physical activity for treatment or prevention of chronic disease. Several “Prescription Programs,” models have already been implemented in locations such as Portland, OR, Albuquerque and Santa Fe, NM, and San Diego, CA. The James River Heritage Trail provides an opportunity to launch a pilot Prescription Program within Virginia that could become a model for other areas of the state.

C. Organizational Capacity

The final topic in this section relates to administrative and organizational issues that must be addressed in order to establish a viable trail system including funding, leadership, communication and outreach. While this section recognizes existing limitations, specific action steps to make the trail successful are provided in Section V-9-- Leadership and Organizational Alternatives (pages 49-51).

¹⁰ Centers for Disease Control and Prevention: National Diabetes Surveillance System and Behavioral Risk Factor Surveillance System

County maps available online at apps.nccd.cdc.gov/DDT_STRS2/CountyPrevalenceData.aspx?mode=OBS
 State maps available at www.cdc.gov/obesity/data/trends.html

1. No Designated Funding or Staff Support

Although legislation was passed in 1972 authorizing the Department of Conservation and Recreation to “establish and administer a state-wide system of scenic, recreational, and connecting side trails,” (§10.1-204) no funding was allocated for this effort. Although DCR administers several federal pass-through grant programs that can assist trail development, the funds are scant and the competition fierce. For an effort of this magnitude, a dedicated source of funds will be needed.

With only one staff person at the state level to help direct the development of five proposed statewide trails, and only a handful of jurisdictions with a “trail coordinator” or equivalent position, there is no one to direct on-the-ground improvements or coordinate volunteer maintenance/monitoring of the trail networks. There is also no one designated to coordinate corridor wide promotion and outreach for the trail.

2. No Central Leadership

As illustrated in the “Stakeholder Analysis” section of this report, there is considerable investment in the river and the watershed, but no one entity that has committed to lead the trail effort. Until this entity emerges, either as a friends group, a coalition or board of existing leaders, or as a program mandated and staffed by the Commonwealth, plans for a coordinated network will continue to be hampered.

3. Lack of Coordinated Communication and Marketing

A coordinated system of communication, including consistent messages and branding through electronic media, printed advertising, and signage along the corridor, is critical for creating a world-class experience. Publicizing the trail and making it accessible to the public are also keys to building support for the network.

A website for communicating the existing amenities and promotions along the James River is needed. Many initiatives are underway, including the James River Association’s interactive map and specific sites for individual jurisdictions or resources, but no umbrella site is established to catalog these efforts. DCR maintains a placeholder for the future website, but identification of a lead entity responsible for on-going maintenance and a dedicated funding source for hosting the site has not been identified.

Although an email list of over 350 people has been developed as a component of the concept planning process, the full potential of an Email constituency has not been realized. If user groups and all other stakeholders are added to the list, there would be thousands of subscribers. Linking the website and E-News to other social media would help expand the constituent list.

The Virginia Tourism Corporation publishes a hard copy travel guide and group itinerary guide each year. They now publish an E-Travel guide, and offer electronic marketing devoted to [sports and recreation](#), [outdoors and sports](#) and [water activities](#). There is a page devoted to [Virginia’s Rivers](#), to [professional sport events](#), and even a page for [wineries and breweries](#). A host of local government and organization event guides complement and often duplicate promotional efforts.

The annual [James River Days](#) brochure promotes recreational activities along the river

throughout the year. The James River Advisory Council also publishes a newsletter called the *James River Reach*. The Council has also partnered on river maps published by the Richmond Times Dispatch, a regional newspaper with an online “James River Journal.”

V. Recommendations

The following recommendations have been developed to address the issues identified in the previous section. They have been organized by topic area and begin with a goal statement followed by a discussion of potential solutions and concluding with recommended actions developed with input from stakeholders across the watershed.

1. Scale of Planning Effort

Goal: Establish mechanism for inter-jurisdictional coordination that allows for information sharing, joint decision-making and the tracking and updating of trail data.

Discussion

Although the scale of this planning effort is daunting, the advent of new technology, particularly Geographic Information Systems (GIS), makes the task achievable. In fact, many other states or regional governments have undertaken the planning and development of long-distance trails (see sidebar).

During summer 2010, a Web site was set up for sharing GIS data layers related to the trail, and can be found at:

<http://gismaps.virginia.gov/trailsftp>. A user name and password is needed, so that information will only be shared by designated staff for quality control. A second mechanism available for information sharing is being developed by the James River Association. Their interactive website will provide information on attractions, river conditions, and an interactive function that allows data sharing opportunities for the community at large.

Successful Multi-Jurisdictional Trails

Many examples of successful multi-jurisdictional trails exist, both within and outside of the United States. For example, the San Francisco Bay Trail Project is a 500-mile shoreline trail around the bay with 300 miles on the ground in just two decades. In 2008, American Trails honored Florida with the first ever “Best Trails State Award,” recognizing Florida’s success in facilitating an outstanding statewide system of trails. Illinois has the Grand Illinois Trail, North Carolina has the 900+-mile Mountains to the Sea Trail, Tennessee has the 300-mile Cumberland Trail State Park. The Northern Forest Canoe Trail meanders 750 miles through four states and Canada. See *Northern Forest Canoe Trail: Trails and Economic Development Report* at www.northernforestcanoetrail.org

In addition to technical support, the issue of multi-jurisdictional coordination is surmountable if a mechanism is in place to allow non-profits, businesses, and government agencies at all levels to work cooperatively on the planning effort, and if there is trust that all partners are working together for a common goal. (*The structure that this can take is discussed further under Leadership and Organizational Alternatives on p. 40*).

Actions

1. Establish data-sharing program, and protocol for managing, promoting, and training planners and technical staff on use of the JRHT ftp site.
2. Establish mechanism for on-going coordination among jurisdictions in the watershed to allow for large-scale technical analysis and decision-making related to trail development.

2. Limited Access to Riverfront

Goal: Develop a continuous trail system with safe access to the James River shoreline for both land-based and water-based recreational activities.

Discussion

Lessons can be learned from planning and design approaches utilized in Europe and other regions around the world to address this issue. At the Community Forums in 2009, Allen Turnbull, President of Virginia Odysseys, an international bike touring company, shared slides and descriptions of rail with trail and rail crossing facilities that are safely operating in places such as Holland, France, Denmark, Austria, Switzerland, Italy, Scotland, and Hungary.

A cooperative approach will be essential to study the surplus property owned by CSX, and assess the potential for conversion to trails or water access points. CSX has taken the first step is addressing this issue by providing a map of surplus property for state review. While this property is not for sale, some may become available if funding for acquisition is identified and proper management is in place. Parks developed along the water by municipalities should be eligible for Land and Water Conservation Funds, a competitive grant program requiring a 50 percent match that sets the land aside for recreation in perpetuity.

Actions

1. Conduct detailed analysis of river corridor (in phases) to determine potential crossings and location of trail segments adjacent to CSX right-of-way.
2. Develop design solutions and best management approaches to address safety issues raised by CSX or other utilities running adjacent to the river that create a barrier to river access.
3. Coordinate with the National Park Service on CAJO segment management plans and with the US Fish and Wildlife Service on Presquile/James River WMA plan updates for advancing public access as appropriate.
4. Plan and implement a demonstration project in each section (mountain, piedmont, fall line and tidal) that can serve as a model for future development.

3. Private Property Rights and Liability Concern

Goal: Establish a trail system that is sensitive to private property owners' liability and trespass concerns through carefully crafted design standards, buffering, and adequate monitoring and management of the trail system.

Discussion

DCR has a long history of successfully addressing concerns raised by property owners who

initially are opposed to trail development. Legitimate concerns about liability, trespass, crime, littering, property damage, and property restrictions can be resolved through a well-articulated and comprehensive management system. Property owners need to be assured that there is one entity responsible for addressing any concerns that may arise. While there can be shared responsibility for monitoring and maintenance of public areas, authority must be clearly delineated so any problems are resolved quickly.

The Code of Virginia provides broad protection to landowners who allow use of their land for recreation and do not receive compensation. Often referred to as the landowner liability statute, the provision can be found in § 29.1-509. In 2008, the General Assembly extended freedom from liability to property owners who charge a fee for use of lands through legislation that established the Southwestern Region Recreation Authority (§15.2-6024). Legislation allowing this provision was made based on the experience of the Hatfield-McCoy Trail System in West Virginia, where major landholders like timber and coal companies permit motorized trails on their land.

One approach to address liability concerns would be to establish a recreational authority, in order to have an entity that could assume the risks and/or provide insurance for landowners sharing their property along the trail. A recreation authority would also have the ability to accept easements that are too small for the Virginia Outdoors Foundation, but that could still provide perfect “button” parks for water access along the corridor.

Actions

1. Develop JRHT design criteria for sighting off-road pathways that reduce potential impacts to adjacent property.
2. Determine management point-of-contact for each segment of the trail network so that there is a mechanism in place to address community and landowner issues and concerns.
3. Provide local stakeholders, planners and others involved in corridor analysis with information on Virginia Code § 29.1-509.

4. Safety Concerns on Shared Roadways

Goal: Establish a safe, efficient, convenient, and enjoyable bike route utilizing existing on-road routes and potential off-road trails.

Discussion

Historic river roads are already used by bicyclists and motorists for scenic rides and to reach access points along the river. Improvements to existing bicycle routes could reduce congestion; improve cycling safety; improve bicycle access to businesses, parks and neighborhoods; and institutionalize cycling in public and private organizations. In urban areas, it would provide equity and access to viable, affordable transportation options and create fun, vibrant, and livable neighborhoods.

In addition to roadway improvements for cyclists, a system of off-road shared-use paths along the rivers should be available to serve a greater diversity of trail users and ability levels. A continuous trail along the main stem of the James, similar to the C&O canal towpath along the Potomac should be a long-term goal. In the meantime, this plan proposes a mix of on and off-

road facilities. For some sections, an on-road, signed route for bicyclists along the north and south banks would encourage bicycle travel to and along the river, reduce the need for more parking lots, promote wellness, and be good for retailers.

An analysis of the available road right-of-way and potential safety solutions for the on-road bicycle route is a critical next step. Because state scenic byways along the James River link four American or National byways, there may be money available through the Scenic Byways grant program to fund some road improvements. Recreational access funds assist in providing adequate access to or within public recreational areas and historic sites operated by the State or a local government or authority. Adequate Access” can mean a bikeway from the nearest existing or planned bikeway accommodation to the entrance of the recreational or historic site, or to the entrance of the first bicycle parking/storage area within such facility serving a major focal point. The bikeway may be located adjacent to an access road, or it may be constructed on a separate right of way.

More immediate improvements like asphalt surfacing, improved visibility, shoulder widening and share-the-road signs could be undertaken during routine maintenance work.

Actions

1. Complete construction of the Virginia Capital Trail, and prepare a segment management plan
2. Conduct detailed assessment of roadway conditions, to identify safety hazards, and needed upgrades or improvements for each segment of the corridor.
3. Research potential funding sources for roadway upgrades including Scenic Byway and Transportation Enhancement Grants, Recreational Access Grants, and VDOT maintenance funds.
4. Develop a signage plan and install wayfinding signs along the on-road bicycle route
5. Conduct a feasibility study for extending the VCT Shared Use Path along scenic byways in the Piedmont region



*Figure 24 Virginia Capital Trail,
by Allen Turnbull*

5. Gaps in the Quality and Consistency of Experience

Goal: Ensure adequate visitor services including camping, lodging, food, historic attractions, and amenities that are located at sufficient intervals throughout the JRHT corridor.

Discussion

After the inaugural bicycle tour along the length of the James in August of 2009, participants reported additional work is needed to create a world-class experience. Input from the public meetings indicated that the water trail experience could be improved as well. In addition to a

safe and well-marked bicycle route, there is a need for more camping on public lands, and visitor services strategically placed for all trail users.

An analysis should be undertaken within each region to evaluate where services are adequate, and where improvements or additions are needed. Consideration should be given to the type of experience (i.e. wilderness, backcountry, frontcountry, neighborhood, or urban), with sensitivity to surrounding landscapes and resources. Where appropriate, new destinations could be identified and marketed. Based on the Project for Public Space’s theory that waterfront destinations are successful based on an accumulation of 10 amenities; visitor services and amenities at select locations could be expanded.

Examples of what constitutes an amenity includes fishing piers, ferry landings, water-taxis, boat tours, kayaking, swimming, decorative lighting, benches, fountains/pools, public art, restaurants, lodging, plazas, parks, courtyards, pedestrian promenades, bike lanes, markets, museums, galleries, historic sites, gardens, festivals, fireworks displays, concerts, spontaneous celebrations and other high-energy gatherings.

Based on public feedback through meetings and interviews with seasoned paddlers, the highest priority access points for non-motorized boat use along the James are: Alpine, Gala, Balcony Falls (Glasgow Canal Path), Snowden (Cushaw project), Riverville and Howardsville. Map analysis based on distance between sites, highlighted a need for additional access in Goochland, Albemarle, Amherst, and Rockbridge.

There is great recreation potential along the Cowpasture River if a system of access points is planned and established. Under-served areas east of Hopewell show low potential due to use of this stretch of the waterway for shipping. Further ground-truthing is necessary to see if the map analysis is accurate and to evaluate site-specific conditions. A second tier of priority sites should be developed based on proximity to population centers.

There are also gaps in visitor services including: outfitters that provide shuttle service, equipment rentals, and river skill training all along the river. Targeting gaps in services where they are most needed may encourage entrepreneurs who are considering becoming part of the James River Heritage Trail experience.

In addition to trail infrastructure, welcoming communities with adequate visitor services, can

10 Qualities of a Great Waterfront

- ✓ Surrounding Buildings Enhance Public Space
- ✓ Limits are placed on Residential Development
- ✓ Activities go on Round-the-Clock/Throughout the Year
- ✓ Flexible Design Fosters Adaptability
- ✓ Creative Amenities Boost Everyone’s Enjoyment
- ✓ Access Made Easy by Boat, Bike and Foot
- ✓ Local Identity is showcased
- ✓ The Water Itself Draws Attention
- ✓ Iconic Buildings Serve a Variety of Functions
- ✓ Good Management Maintains Community Vision

From: Project for Public Spaces Newsletter, available at www.pps.org/newsletter/10_Qualities_of_Great_Waterfront_Destinations.htm

either make or break a trail experience. A model for outreach to trail communities has been established in Pennsylvania through the *Trail Towns* program. A marketing specialist works with each town to develop amenities for trail users. These towns are connected by The Great Allegheny Passage, a 132-mile rail-trail that generated over \$40 million in direct spending in 2008 up from \$7.3 million in 2002. (*Additional ideas on marketing, promotion, and outreach are provided under Coordinated Communication and Branding, p.42*)

Encouraging farmers with riverfront property to provide destinations by offering wine-tastings, pick-your-own produce, corn mazes, hayrides, zip lines, camping, river access, fishing, etc. would expand the recreational appeal of the watershed and increase the farmer's revenue. While lack of rain may have an adverse impact on crops, it often encourages outdoor activities, affording farmers a complementary revenue source. Offering a range of products and services may help farms become more sustainable, since extended droughts are predicted as part of the region's overall climate change.

Actions

1. Open Powhatan State Park for day use and as anchor for the JRHT network and continue planning for other state park anchors within the watershed.
2. A detailed analysis should be undertaken within each region to evaluate where services are adequate, and where improvements or additions are needed. Further analysis of water trail access needs should include both along the main stem and tributary streams.
3. Agreement on a permit system that is applicable to all James River public-access sites should be considered. One permit system could provide shared revenue for site upkeep and enable visitors to be tracked and monitored.
4. Discussions should be undertaken with public and private partners to assess opportunities for development of a "Trail Town" program that encourages business development and joint-marketing ventures. Provide entrepreneurial packages with free advertising and business development training.
5. Establish a small business/outdoor recreation/ecotourism loan fund.
6. Seek legislation for communities to establish ecotourism zones, defined and established by each locality.
7. The existing Buy Fresh, Buy Local Chapters across the state could serve as a mechanism for encouraging farmers to participate while continuing to promote their products and services. New chapters may be needed to address gaps in chapter service areas.

6. Preserving the Resource

Goal: Promote sustainable land use practices including conservation design, cluster development, and river set-backs that preserve and integrate green corridors for recreation, water quality, habitat, and aesthetics.

Discussion

People are attracted to the James River and its tributaries to hike, bike, paddle, fish, and swim, because of the beauty, wildlife, history and the quality of the water. While these pursuits have been enjoyed for hundreds of years, its future as a recreation attraction is dependent on maintaining its intrinsic qualities. Recreational users are invested in the quality of the places they frequent, and are more likely to notice day to day changes or conditions that compromise the

resource.

A network of river recreation groups could help monitor river conditions, working in tandem with the Soil and Water Conservation Districts, Cooperative Extension agents, and the James RiverKeeper. Serving as “eyes and ears” on the river, this network could help identify critical properties for protection, or degraded sites for BMP projects or easement purchased through the Conservation Reserve Enhancement Program (CREP) or the Water Quality Improvement Fund. There is a potential nexus between these efforts and Phase II of the Chesapeake Bay TMDL Implementation Plan; since some areas within the watershed are major sources of pollution for the Bay (see Appendix J, Phosphorus and Nitrogen Loads to the Bay).

It is also important to recognize and protect pristine streams within the Bay watershed. The Healthy Waters initiative, for example, is pursuing analysis of most of the James basin to identify where healthy streams exist. Areas that are flagged as exemplary streams through this effort could be mapped and promoted for recreational fishing. Those people who come to fish will be likely advocates for stream protection and river stewardship initiatives.

Public input in the fall of 2009 indicated that local governments are interested in development guidelines that will help them manage growth and development along this heritage corridor. Trail advocates could work with developers and local jurisdictions to encourage the inclusion of the JRHT and connecting trails and greenways in land development plans. In Virginia, counties or cities that had a population growth rate of 10% or more between 2000 and 2010 are required to make provisions for clustering of single-family dwellings so as to preserve open space (§ 15.2-2286). This does not apply to a county or city that has a population density of more than 2,000 people per square mile. Even when not required, clustering development may be an especially useful tool for integrating sustainable growth, conservation, and trail development.

Actions

1. Support local efforts to update comprehensive plans and transportation plans improve water quality through existing programs such as the Chesapeake Bay Act, Chesapeake Bay TMDL implementation plans, and voluntary buffer enhancement, stream restoration, and cluster development programs.
2. Expand river monitoring and reporting measures in collaboration with resource agencies and the James RiverKeeper.
3. Promote recreational fishing and paddling along river segments that have been identified through the Healthy Waters Program as exemplary streams.
4. Promote planned land conservation projects that enhance protection of healthy streams and link existing open space recreational opportunities.

7. Engaging Future Stewards

Goal: Engage youth in healthy outdoor recreation that connects them to the stories and heritage resources of the James River watershed.

Figure 25 Access to the James River near Alpine, photo by Gary Kappesser



Discussion

There is growing evidence that community design including greenways, trails, and non-motorized transportation options can influence, and potentially reduce obesity rates. A recent report in the *American Journal of Public Health* reported that U.S. cities with the highest rates of walking and cycling to work have 20 percent lower obesity rates and 23 percent lower diabetes rates than U.S. cities with the lowest rates of walking and cycling. In addition, youth that engage in healthy outdoor recreation are more likely to engage in future stewardship activities as adults.

Youth have also become detached from a fundamental understanding of agriculture due to a population shift from a predominantly agrarian society to an increasingly urban one. Agricultural literacy is fundamental to the development of the next generation of scientists, teachers, and policy-makers to ensure sufficient world supplies while promoting locally grown produce that minimizes environmental impacts.

The best way to get more youth involved, both for their health and the future of the farms and rivers, is to let other young people coordinate the outreach. College students throughout the watershed could provide this leadership, either through organizing field trips and outings, leading clean-up crews, offering leadership development retreats, or providing the amenities that appeal to their age group. Scouts have done an excellent job building bridges, benches and other recreation amenities; this work could be expanded by having designated mentors within each locality to provide guidance as needed.



Figure 26 Young women enjoy a shady stroll by the river at Robious Landing in Chesterfield.

Other resources that should be preserved are the collective stories about the river's past and the significant buildings, working farms and landscapes that help tell those stories. Collecting the oral histories of the children of slaves and soldiers, farmers, watermen and Indians will help authenticate and personalize interpretive efforts. Sociology or history students may be interested in helping collect this information as part of a class project. Using these stories to develop an interpretive plan in partnership with the Dept. of Historic Resources will enrich both young and old's understanding of the river's collective history.

Actions

1. Initiate dialogue with professors, teachers and scout leaders to discuss club or classroom projects or research related to the JRHT. High school students, many of whom are required to complete community service hours, could be enlisted for riparian buffer plantings, and other Bayscape initiatives.
2. Expand health programming, such as partnerships with local hospitals or doctor's offices to initiate a "Prescription for Physical Activity" program along with promotional materials on places to walk, bike, or paddle within the watershed.
3. Develop opportunities for sponsoring amenities or signage. For example, a business or health partners may be interested in sponsoring a water fountain or trail marker that includes a health message (i.e. bike-riding or walking for 30 minutes improves cardiovascular health and burns calories).
4. Work with students and DHR to capture oral histories and develop an interpretive plan.

8. Financial Planning for Sustainability

Goal: Develop a stable and diversified funding portfolio to plan, construct, operate, and maintain the James River Heritage Trail network.

Discussion

When the depression hit in the 1930's, the development of a recreation infrastructure was undertaken to put people back to work. The James River Heritage Trail could serve a similar function. Underemployed design professionals would be the first ones to benefit from investment in the JRHT, followed by the construction trades. Permanent positions to maintain and promote the trail could be created, subsidized by increased tourism revenue.

In addition to increased business revenue, the trail could help raise awareness about the watershed's intrinsic values, and develop a cadre of stakeholders interested in protecting the resource. The following funding sources could be leveraged for river access, trail and park development. Emerging legislation associated with treasured landscapes may provide access to additional funding in the future.

Potential Sources of Funding

1. Revenue bonds could be issued by creating a James River Heritage Community Development Authority under Article 6 (§ 15.2-5152 et seq.) of the Code of Virginia. This authority could also purchase development rights for the preservation of open space along the river corridor.
2. A general revenue bond package approved by DCR could be issued by the General

- Assembly with funds set aside specifically for James River Heritage Trail Development.
3. A Recreation Authority could be established that could receive direct funding from the General Assembly's annual budget.
 4. The competitive Land and Water Conservation Fund program should be solicited by local governments to support waterside parks that provide visitor services, parking, targeted access points, off-road trails, and campgrounds. These grant funds require a 50 percent local match which can be in-kind or donated services.
 5. A portion of funds from voluntary contributions of income tax refunds from the Open Space Recreation and Conservation Fund (§ 58.1-345.1) could be targeted for trail development. DCR staff manages the fund to acquire land for recreational purposes and preserve natural areas; develop, maintain and improve state park sites and facilities; and provide funds for local public bodies pursuant to the Virginia Outdoors Fund Grants Program. Half the funds are granted to localities through the Virginia Outdoors Fund Grants Program. A public awareness campaign to solicit voluntary contributions could increase these revenues.
 6. Safe, Accountable, Flexible, Efficient Transportation Equity Act (SAFETEA), could be used to fund bicycle and pedestrian facilities along or parallel to roadways. These federal funds have been used for the construction of the Virginia Capital Trail. The newest generation of these funds is coming under FHWA's Livability Program.
 7. A membership fee could be required for use of cooperating private lands along the corridor
 8. Local fundraising programs could be undertaken; for example a Park Prescription Program" could be initiated with doctors along the corridor, and a voluntary "co-pay" could be solicited with each park prescription written, encouraging the patient to support their local park system.
 9. Conservation Incentive Programs allow Virginia land owners to receive a financial benefit for helping in conservation efforts. By "sharing the costs" with government agencies, land users can undertake projects they could not afford to do on their own. More information on these programs is available at www.dof.virginia.gov/mgt/cip-summary.htm
 10. Solicit legacy donations from private landholders who want to contribute pocket parcels for water access or conservation easements for river protection.

Figure 27 Richard Gibbons, Chair of Virginia Scenic River Advisory Board, presents a Scenic River 40th Anniversary Award to Fitzgerald Bemiss at bayscaped riverfront property across from Tredegar Ironworks in Richmond, April 2010, for his work with the Outdoor Commission and instigation of the Scenic River Program.

For land conservation associated



with preserving the trail experience, there are many ways the state can support the effort. The Commonwealth can directly purchase lands for public use, provide tax incentives to private landowners for conservation, or match grants from land trusts that purchase land and easements and the Commonwealth can encourage private donations of land to conservation organizations.

Action:

1. Hire a project coordinator to finalize and implement a business plan and funding strategy, coordinate communication and outreach, field questions, manage donations, build relationships, pursue grant funding to leverage local and state investment, and develop performance metrics to measure and report progress.

9. Leadership and Organizational Alternatives

Goal: Establish an effective and sustainable approach to JRHT management that clearly defines organizational mission and structure, partnership roles, leadership responsibility, and guidelines for decision-making.

Discussion

Perhaps the most challenging issue confronting the James River Heritage Trail is that of leadership. To date, there has been no central entity identified as the lead for coordinating the vast array of partners and to ensure that the vision of the trail becomes reality. There are four types of entities that could take on this role:

- Private Sector/Non-Profit Leader
- Private Sector/Corporate Leader
- Public Sector Leader
- Public-Private Partnership (shared leadership through formal legal mechanism)

In addition to leadership, an organizational structure needs to be established that identifies primary functions of the organization, and recognizes the various entities responsible for each function. There is no one-size-fits-all, in terms of trail management entities, but most have addressed the following in some way:

- Planning and policy development
- Education and interpretation
- Marketing and promotion
- Volunteer coordination
- Construction/capital investment
- Financing
- Land acquisition
- Maintenance and operations

In some instances, the functions are split among various partnering organizations that share responsibility for management. In other words, there may be more than one group or agency assigned to lead a specific program. In other situations, the lead organization may retain responsibility for all of these functions, with input and support from advisors or stakeholders. In some instances an existing organization may expand its mission to take on the new leadership role; in some instances a completely new organization is formed.



Figure 28 Battery Creek Lock on the James River at the Blue Ridge Parkway, photo by Gary Kappesser

Based on feedback from corridor stakeholders, there is interest in a partnership arrangement for the James River Heritage Trail, utilizing existing entities, rather than forming a new organization. There was no consensus, however on who would convene the groups, and lead the effort. To date, many organizations within the James River watershed have undertaken a specific geographic or thematic focus area, but none has emerged as the lead in coordinating a watershed-wide heritage trail development initiative. Due to the size and complexity of the James watershed, the entity that emerges to assume leadership will require the support of all levels of government and a cadre of invested non-profits.

As a next step, a task force or leadership team should be established to answer the question of: “Who will lead the JRHT initiative?” The task force will need to assess potential trail governance options, and select the best alternative for leadership. In addition, a mechanism will need to be established to ensure that all entities are engaged in a meaningful way, based on their interest, mission, and skills.

The five alternative leadership structures that received interest from various participants of concept planning meetings and work sessions include the following:

- 1) Continue under current decentralized structure with a variety of public and non-profit entities assuming responsibility for various regional or local programs.
- 2) Local and regional jurisdictions and non-profits unite to fund a central coordinator who leverages private donations with state and federal grant funding.
- 3) State led initiative through existing watershed roundtables and/or a partnership with Resource Conservation and Development Councils.
- 4) State led initiative through the establishment of a Recreational Facilities Authority supported by VCT, DCR and DGIF land managers and field staff.
- 5) Federal leadership through a national heritage area designation and/or a national trail designation.

Action:

1. Convene study group/task force to assess options for trail management, including leadership, partners, roles, and organizational structure; gain consensus on leadership entity(s), action steps and partnership roles to coordinate future JRHT trail development.

10. Coordinated Communication and Branding

Goal: Establish clear channels of communication between partners, define promotional tools that attract a national/international audience, and plan interpretive tools for educational outreach.

Discussion

Two types of communication avenues must be established: 1) internal communication between and among the various management partners and supporting organizations, and 2) marketing and promotional information between the trail organization and the general public to expand awareness and support for the trail. Good communication is key for increasing organizational effectiveness and encouraging young and old to connect to the great outdoors and become stewards of the resources.

Some work is already underway to improve communication within the watershed. The James River Association has developed an interactive web map for the James River that will enable businesses, outfitters, trail users and others to upload information on the trail experience. Continuing the dialogue established through DCR's email group and quarterly E-News could help with distribution of special events and promotions.

Possible marketing approaches include: morning news blast over the radio that reports river levels, and/or a quarterly magazine that could be distributed in doctor/dentist offices and feature trail maps, seasonal agritourism products, events, and feature articles about cultural or natural resources. Subscriptions from those offices could help offset printing costs. Digital media may be the best way to reach young audiences, but older audiences generally prefer printed products.

There is no shortage of creative ideas to enhance promotion of the trail; however, to keep all these partners working together smoothly and efficiently, staff support is essential. One central point of contact or "communications manager" is needed to ensure all partners are kept informed of progress and activities throughout the system. In addition, a communication plan should be

completed that includes printed products, electronic media such as websites, E-news, and/or email lists, radio broadcasts, and advertising as well as events and in-person forums.



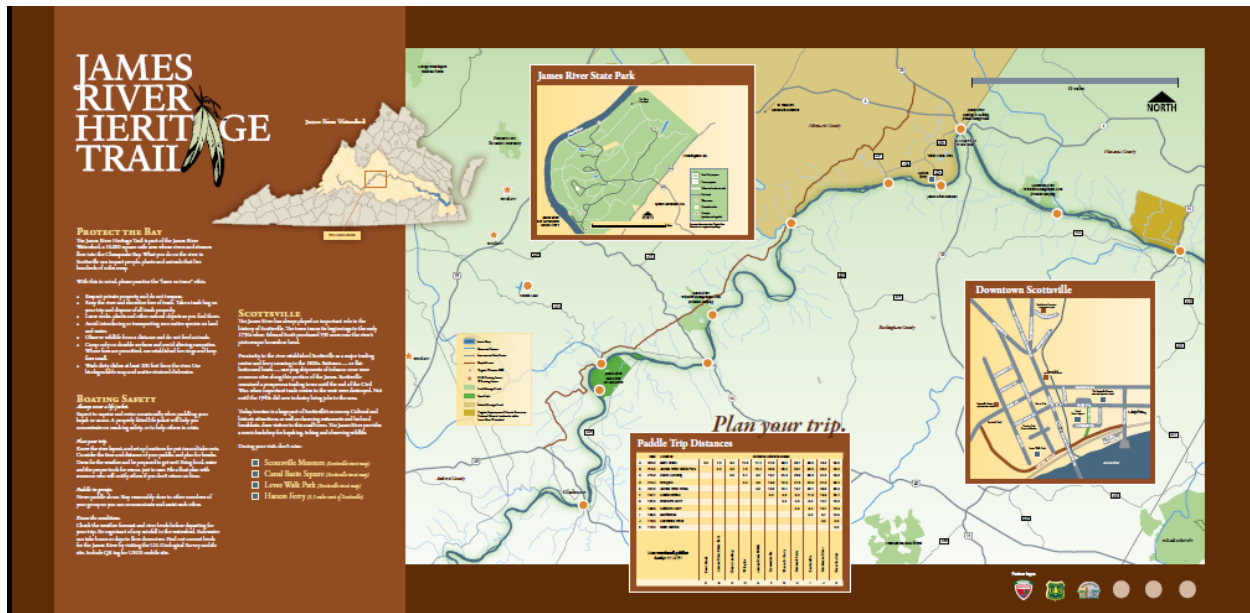
Figure 29: Proposed Logo

In addition, each jurisdiction that manages a trail segment within the network should designate a point person to submit information on promotions and changes in the network, and distribute information through local channels. Each planning district commission in the project area should designate a point of contact at the regional level that could collect information on promotions from each jurisdiction, consolidate changes to the Geographic Information System (GIS) data layers, and collaborate on grant development.

A logo has been developed that is simple, graphically pleasing, and representative of the various regions of the trail corridor from the Atlantic Coast to the Appalachian Mountains. The feathers in the logo honor the original inhabitants and users of the James River, and the four state-recognized tribes who still live in their original homelands in the watershed. The logo has not yet been endorsed by all jurisdictions in the watershed, but has been utilized by some local partners on signage and other promotional materials.

In addition, a pilot signage program has been initiated with four “Plan Your Trip” signs placed at strategic gateway locations in the Mountain and Piedmont regions. The goal is to expand to all four regions of the trail corridor.

Figure 30 Plan Your Trip Sign Concept for Scottsville



Actions

- Once the issue of leadership has been resolved, work should be undertaken with graphic artists and design professionals to develop a graphic identify package that includes the

proposed JRHT logo; a protocol should be developed for use of the brand by partners throughout the corridor to aid in trail recognition and branding.

2. A multi-faceted Communications Plan that specifies goals, tasks, timeline, and mechanism for coordination among the various trail partners should be developed with the assistance of tourism professionals; various products and delivery systems should be evaluated and a decision made as to the best promotional tools to reach target audience(s).
3. Expand the pilot program of “Plan Your Trip” signs along the water trail through additional partnership development, and design and install signs in the Fall-line and Tidal regions.

VI. Trail Implementation Costs and Phasing Plan

The following section provides a phased approach to development of the James River Heritage Trail. Costs associated with JRHT development are identified below by category and phasing including cost for detailed planning, securing the right-of-way, establishing operational costs for state and local entities, for both roadway improvements and trail development, as well as promotional expenses, signage, and staff support. These implementation steps are offered as a starting point, but require more study and additional dialogue between the supporting agencies.

Securing Funds for Future Planning

It is assumed that with direction from the Virginia General Assembly, the cost of most plans and studies outlined in the phasing plan could be absorbed by the lead agencies. If funds are not available through state appropriations, additional funds will need to be secured through corporate or foundation grants or other public funding sources.

Securing the Trail Right-of-Way

Designated funding should be set aside each year to acquire special real estate along the rivers. This money could be used as incentive for local governments to purchase and develop specific parcels that will reduce the number of access and service gaps along the rivers, as identified in the regional gap analyses. As seed money, a line item of \$1,000,000 in each year’s General Assembly budget could be used as match for federal grants or placed in a reserve fund for the eventual purchase of CSX surplus property. When metrics establish the beneficiaries of the JRHT initiative, a percentage of revenues can be redirected to supplement or replace state funding. Additional funds could be directed to this effort in surplus years.

Another strategy is to focus on the development of destinations along the corridor by adding activities to existing or historic river towns. Destinations like Scottsville, for example, could use grant funds to increase focus on “placemaking,” for sustainable communities; creating squares, plazas, parks, streets and waterfronts that are pleasurable and interesting, and connect people to the river.

The CSX line running along portions of the former James River and Kanawha Canal separates many towns from the river. Investment is needed at these locations to improve at-grade

crossings or add grade-separated crossings to reconnect these towns to the waterfront and restore their placemaking potential. Opportunities to purchase excess riverfront corridor from CSX should be fully explored, particularly close to these communities.

Figure 31 CSX Tracks along the James Rive at Indian Rock, near Alpine, photo by Gary Kappesser

Land trusts should continue to acquire the properties that provide key habitat, scenic views and appropriate settings for historic landmarks. Many of these areas have already been targeted through green infrastructure plans.



Undertaking a Phased Approach to Regional Road Improvements

Given the length of the James River, the best approach for completing a land trail system is to share the responsibility. Along the Lower James, where there is considerable investment and land ownership by the U.S. Fish and Wildlife Service and National Park Service, federal participation in managing the visitor's experience on the existing and proposed trail system could be encouraged. South of the river, the East Coast Greenway Historic Coastal Route provides a link from Jamestown to Chesapeake. North of the river, roads from Williamsburg to Norfolk need bicycle accommodations, unless an off-road option is available. A connection to Fort Monroe has been mapped, utilizing existing roads, and could serve as an anchor for the trail in Hampton Roads.

In the Richmond region, where local business cooperation is essential for access to the river, the Capital Region Collaborative is best positioned to negotiate trail connectivity. The 2004 Bicycle/Pedestrian Plan has not been endorsed by all the jurisdictions, and an updated regional plan may be needed for access to federal transportation funds. Fortunately, a mountain bike/hiking trail system is already in place along the river in Richmond that connects to the Canal Walk and the Virginia Capital Trail. This trail system has generated international interest in the City, but is built by and for skilled riders. There is still a need for a trail system that serves families and commuters connecting western areas to the urban core. Scenic byways west of the City provide access to federal grant funds for trail extensions into the Piedmont.

Last year, Chesterfield County estimated the cost of paving both shoulders of a 2.5-mile stretch of road for bike lanes at \$500,000 (assumes no cost for right of way or utility relocation). Scenic byway or highway safety money may also be an appropriate source of funds for improvements along Route 711, Old Gun Road and Cherokee Roads south of the river and River Road through

Henrico and Goochland north of the river.

Some residents in Powhatan County have indicated that they want Huguenot Trail (Rt. 711) to retain the historic qualities of the roadway, so a trail separated and hidden from the roadway may provide the most popular connection to Powhatan State Park. A separate facility would also be consistent with their comprehensive plan.

West of Scottsville, the James River Heritage Trail on-road bicycle route has already been formalized in plans for Region 2000 and the Commonwealth Regional Council. Both Nelson and Albemarle counties within the Thomas Jefferson planning district commission have recognized a bicycle route or greenway along the river. With these established plans, transportation funds and private development proffers should be readily available for improvements. Both the Roanoke Valley Regional Commission and the Thomas Jefferson Regional Commission have received Partnership for Sustainable Communities planning grant funds that could be utilized to plan connections through those regions.

To draw tourists from Richmond and Charlottesville into struggling riverfront towns in rural areas, the feasibility of a shared use path connecting the cities should be studied. If constructed between Powhatan and Biscuit Run State Parks, this path would likely average \$500,000 per mile excluding right of way, design and utility costs. When those costs are included, the cost of this facility development approaches \$60,000,000. Like the Virginia Capital Trail, most of this expense should be eligible for federal open container or scenic byway funds. The feasibility study for this project, estimated to cost \$700,000, is an eligible Scenic Byways project and is a critical next step.

Figure 32: W&OD Trail: this shared use path in Northern Virginia generates revenue for the Northern Virginia Regional Park Authority through utility leases



Estimating Operations and Maintenance Costs for State Agencies

These costs are offered as a starting point for discussion regarding the resources needed to implement the James River Heritage Trail. Further refinement is needed as local and regional governments undertake their feasibility and planning studies.

Coordination and Technical Assistance: Each participating state agency should designate a staff

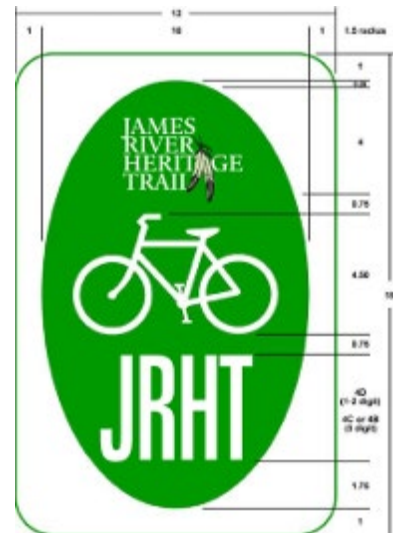
contact to serve as a liaison for their agency. State agency staff could work with regional staff, federal partners, and local interests to identify potential collaborative grants, collect information on promotions, examine performance measures, and make adjustments to policies and procedures as needed. If the JRHT is advanced as a priority by the elected leadership, then some of the staff costs to undertake these tasks could potentially be covered by existing budgets. If a public sector project coordinator is needed, then a new staff position would be required.

Operational Costs: Cost to operate the 60-mile Powhatan State Park to Biscuit Run facility can be extrapolated through comparisons to New River Trail State Park (57 miles), which was estimated at just under \$2 million to operate at build out (FY04 dollars). Each development phase has specific staffing needs and operational costs. In addition, each phase will have one-time expenses for vehicles, tractors, mowers, weed eaters, communications equipment, and other equipment associated with new staff and facility operations. The total cost to bring New River Trail State Park to its desired future condition is estimated at \$39.5 million. Some efficiencies of scale will be possible through the joint operation of this facility with two established state parks.

Figure 33: Proposed Road Sign to use for directional signs

Table 8: Mileage for the on-road bicycle route
(calculated from GIS map layer)

Class	Description	Mileage
1	Proposed Route	540
2	Route segment Needs Safety Improvements	188
3	Proposed Off-Road	14
4	Private or Restricted Road Permission Required	17
5	Proposed Alternate Route	129
6	Unpaved Surface On-Road	65
7	Existing Off-Road	49
8	Ferry	3



Share the Road Signs: The cost for share-the road signs along the entire Class 1 and 2 on-road route, assuming a sign approximately every five miles, would be \$42,078.

Directional Signs: The National Park Service installed 55 directional signs along the Potomac Heritage Trail in the Northern Neck for approximately \$36,000. JRHT sign panels and posts placed approximately every three miles along the Class 1 & 2 route would cost \$158,704.

Interpretive Signs: Interpretive signs were fabricated and installed along the lower James John Smith Trail for about \$1,000 each. Assuming one sign for each five-mile section of river frontage, the cost of interpretive signs along the route for both north and south banks would be a minimum of \$136,000. Additional funding would be needed for audio-visual displays, 3-D exhibits, and site development.

Plan Your Trip signs for the Water Trail: Two 4-foot x 8-foot signs along the water trail have been fabricated at a cost of just under \$1000 each without bases (walls for mounting were available). Plan Your Trip signs along the water trail will provide links to appropriate Web sites and information about how to join the E-News group. An overview map will encourage tourists to explore other parts of the watershed. Additional signs should be developed to fill in the gaps at high use areas along connecting rivers and the main stem.

Estimating Operational Costs for Local Governments

Staffing: Because the success of the trail hinges on local development and maintenance, it is critical to have a staff person who serves as the point person for the trail in each jurisdiction.

Some jurisdictions have an established trail coordinator position to plan and develop a network that ties into public transit and connects to local schools. A full-time equivalent position could undertake jurisdiction-wide trail planning as well as ensure that the James River Heritage Trail was included in comprehensive plans and incorporated into land development decisions.

A trail coordinator could also work to promote activities along the trails that brought in tourist dollars, and coordinate with and build the capacity of local groups to monitor and maintain the trail. Another key responsibility would be to coordinate emergency response, by ensuring that emergency personnel had keys to gates and maps of trail access points, and that they were kept up to date on trail closures and re-routes. Finally, the local trail coordinator would help develop and maintain directional and interpretive signs along the route.

The cost of providing a full-time staff person with the skills necessary to provide these services is estimated at \$67,000 (assuming a mid-level salary for an Environmental Specialist I with 40 percent added for fringe benefits).

If new staff positions are not feasible under the current budget climate, trail development could continue through the contributions of local governments, universities, volunteers, and corporations.

Insurance: To encourage businesses like the railroads to cooperate on trail projects, liability coverage may be required. Most municipal general liability insurance and specific claims insurance amounts will be sufficient through existing policies with the Virginia Municipal League. A copy of the certificate, with the private entity added as an additional insured, is generally adequate.

Law Enforcement: Vigilant monitoring by local user groups will decrease but not replace the need for law enforcement. Existing state and local parks fall under the purview of established law enforcement, but additional resources may be called upon during peak months. Establishment of the trail network will aid in addressing crime and vandalism issues by identifying a point person in each jurisdiction for quick response, providing proper maintenance and patrol, formalizing “trail adopter” programs to increase the “eyes on the trail” and providing a mile marker system and associated maps for ease of location. In addition, one of the greatest deterrents to trail crime will be the increased use and ownership by trail users.

Advertising: Frequent radio or E-news blasts are important because decision timelines for tourists and the length of their vacations are shortening. Because the James River is within an hour's drive of half the state's population, there is an opportunity to capture last-minute tourists for day trips, if current information is readily available. Email blasts encouraging visitors on mild winter days or redirecting paddlers on dangerously high or low-water float days can help tourists make wise decisions and keep them coming back for additional visits. Most of these ideas can be implemented at no cost through public service announcements.

There would be a cost for print publications such as a magazine, but the cost could be used as match for grants that include wellness outcomes. The cost of a quarterly magazine distributed to 69 hospitals within the watershed would be approximately \$100,000 each year for 10,000 copies. These costs include layout and design, printing, and bundled distribution to each hospital. The text and artwork would be developed by the partners and submitted to the magazine production team. If a different trail, farm or historic site were featured in each issue, increases in visitation following publication could be used as a metric to satisfy performance measures.



Figure 34 Sample articles featuring trail experiences from British AAA publication

Phasing Plan and Summary of Action Items

The phasing plan has been compiled to provide a checklist of needed actions for future trail development. The short term action steps, printed in normal type, and long-term actions, printed in italics, have been arranged based on feasibility, complexity, and immediacy of each tasks. The list is a starting point for future consideration by project partners and may be revised, as additional information and/or funding becomes available.

Table 9 Phasing Plan and Action Item Summary		
SHORT TERM ACTIONS (NORMAL TYPE) AND <i>LONG-TERM ACTIONS (ITALICS)</i>		
Goal	Action Items	Potential Lead
	Organizational Development and Management	
9	Convene study group/task force to assess options for trail management, including leadership, partners, roles, and organizational structure; gain consensus on leadership entity(s), action steps and partnership roles to coordinate future JRHT trail development and management	DCR or NGO lead
8	Hire a project coordinator to finalize and implement a business plan and funding strategy, coordinate communication and outreach, field questions, manage donations, build relationships, pursue grant funding to leverage local and state investment, and develop performance metrics to measure and report progress.	DCR or NGO lead
1	Establish data-sharing program, and protocol for managing, promoting, and training planners and technical staff on use of the JRHT ftp site.	DCR/VGIN
1	Establish mechanism for on-going coordination among jurisdictions in the watershed to allow for large-scale technical analysis and decision-making related to trail development.	PDCs
3	Determine management point-of-contact for each segment of the trail network so that there is a mechanism in place to address community and landowner issues and concerns.	DCR or NGO lead
4	Research potential funding sources for roadway upgrades, trails and interpretive signs including Scenic Byway and Transportation Enhancement Grants, recreational access, and VDOT maintenance funds.	MPOs/VDOT
5	<i>Agreement on a permit system or consistent policies for James River watershed state public-access sites if feasible. One permit system could provide shared revenue for site upkeep and enable visitors to be tracked and monitored.</i>	DGIF/DCR/DOF
	Planning	Potential Lead
2	Conduct detailed analysis of river corridor (in phases) to	CSX/local govts

	determine potential crossings and location of trail segments adjacent to CSX right-of-way.	
4	Conduct detailed assessment of roadway conditions, to identify safety hazards, and needed upgrades or improvements for each segment of the on-road bicycle route.	VDOT
5	Conduct detailed analysis within each region to evaluate adequacy of services and where improvements or additions are needed. Analysis of water trail access needs should include tributaries.	PDCs
2	Coordinate with the National Park Service on CAJO segment management plans and with the US Fish and Wildlife Service on Presquile/James River WMA plan updates for advancing public access as appropriate.	DCR
2	<i>Develop design solution and best management approaches to address safety issues raised by CSX or other utilities running adjacent to the river that create a barrier to river access</i>	DRPT
3	<i>Develop JRHT design criteria for sighting off-road pathways that reduce potential impacts to adjacent property.</i>	Univ Planning Project
4	<i>Develop signage plan for on-road bicycle route</i>	VDOT District offices
4	<i>Conduct a feasibility study for extending the VCT Shared Use Path along scenic byways in the Piedmont region</i>	MPOs/VDOT/DCR
	Construction	
4	Complete construction of the Virginia Capital Trail and determine management entity	VDOT/VCTF
5	Open Powhatan State Park for day use and as anchor for the JRHT network and	DCR
10	Design and install “Plan Your Trip” signs along the water trail	DCR/Local govts
2	Plan and implement a demonstration project in each section (mountain, piedmont, fall line and tidal) that can serve as a model for future development.	DCR/Local govts
4	<i>Complete Virginia Capital Trail management plan</i>	VDOT/DCR/VCTF
5	<i>Continue construction of other planned facilities at state park anchors within the watershed</i>	DCR
4	<i>Install wayfinding signs along roadways</i>	VDOT Districts
	Outreach and Education	
3	Provide local stakeholders, planners and others involved in corridor analysis with information on Virginia Code § 29.1-509 (landowner liability law).	DCR
6	Expand river monitoring and reporting measures in collaboration with resource agencies and the James RiverKeeper.	James River Association
7	<i>Capture oral histories and develop an interpretive plan</i>	Univ students & DHR

7	<i>Initiate dialogue with professors, teachers and scout leaders to discuss club or classroom projects or riparian buffer plantings/Bayscape initiatives or other research related to the JRHT.</i>	<i>James River Association</i>
6	<i>Promote planned land conservation projects that enhance protection of healthy streams and link existing open space recreational opportunities</i>	<i>James River Association</i>
Marketing and Entrepreneurial Support		
10	Develop a multi-faceted Communications/Tourism/Marketing Plan that specifies goals, tasks, timeline, and mechanism for coordination among the various trail partners should be developed with the assistance of tourism professionals; various products and delivery systems should be evaluated and a decision made as to the best promotional tools to reach target audience(s).	VTC/VDACs
10	Develop a graphic identify package with the assistance of graphic artists and design professionals that includes the proposed JRHT logo; a protocol should be developed for use of the brand by partners throughout the corridor to aid in trail recognition and branding. Seek legislation for communities to establish ecotourism zones, defined and established by each locality.	VTC or NGO lead
7	Develop opportunities for sponsoring amenities or signage. For example, a business or health partners may be interested in sponsoring a water fountain or trail marker that includes a health message (i.e. bike-riding or walking for 30 minutes improves cardio-vascular health and burns calories).	Local governments
5	Seek legislation for communities to establish ecotourism zones defined and established by each locality	PDCs
5	Establish a small business/outdoor recreation/ecotourism loan fund.	DHCD
5	<i>Assess opportunities for development of a “Trail Town” program that encourages business development and joint-marketing ventures. Provide entrepreneurial packages with free advertising and business development training.</i>	<i>VTC</i>
5	<i>Support and expand the existing Buy Fresh, Buy Local Chapters across the state; encourage farmers to participate while continuing to promote their products and services. New chapters may be needed to address gaps in chapter service areas.</i>	<i>Piedmont Environmental Council</i>
6	<i>Promote recreational fishing and paddling along river segments that have been identified through the Healthy Waters Program as exemplary streams.</i>	<i>DCR/DGIF</i>

7	<i>Expand health programming, such as partnerships with local hospitals or doctor's offices to initiate a "Prescription for Physical Activity" program along with promotional materials on places to walk, bike, or paddle within the watershed.</i>	VDH/DCR
	Local Policy Coordination	
6	Support local efforts to update comprehensive plans and transportation plans improve water quality through existing programs such as the Chesapeake Bay Act, Chesapeake Bay TMDL implementation plans, and voluntary buffer enhancement, stream restoration, and cluster development programs	James River Association/regional and local governments

VII. Conclusion

“Clean air, pure water and the use and enjoyment of public lands, water and natural resources is not only critical to the economic viability of our Commonwealth, but it is a basic right that Virginians have expressed in Article 11 in our state Constitution.”

-Excerpt from Governor McDonnell’s “Sustainable Virginia” pledge



Figure 35 James River Gorge downstream from Glasgow, photo by Gary Kappesser

Creating a sustainable Virginia, one that encourages and supports both environmental and economic prosperity, is everyone’s responsibility - citizens, businesses, universities, and government agencies. All of us want to live in an area with healthy water, adequate water supply and safe river access, but this quality of life requires work,

resources and individual commitment. Investing in the next generation should be an immediate priority. Teaching children to value nature’s gifts at an early age is critical, so as they grow, they will continue to care for these assets through lifestyle choices.

The first steps are relatively straight forward. The success of the James River Heritage Trail depends on strong leadership, adaptability, resource development, the capacity of local partners and the development of creative and long-lasting solutions to current challenges. There is much to gain through coordinated and focused energies. What follows from these investments depends on community ownership, trust and cooperation among partners. The value added needs to be tracked through economic studies and predetermined metrics, and shared with a broad audience to increase understanding of the JRHT’s wide-reaching beneficial impacts.

While the James River Heritage Trail does not encompass the entire state, it serves as a model for recreational development, heritage tourism, revitalized towns, and watershed stewardship that can be applied statewide. The conceptual plan offers a vision of what can be achieved when all these elements come together.