

Landscape Conservation & Public Access in the Chesapeake Bay Region

A Draft Report Fulfilling Section 202(e) of Executive Order 13508

September 9, 2009

U.S. Department of the Interior

Report Development Coordinated by the National Park Service



Disclaimer

This draft document reflects the Department of the Interior's (DOI) current draft report under Section 202e of Executive Order 13508 (EO) making recommendations to the Federal Leadership Committee (FLC) for a strategy to expand public access to waters and open spaces of the Chesapeake Bay and its tributaries from federal lands and conserve landscapes and ecosystems of the Chesapeake Bay watershed. DOI intends to release this draft document to the public concurrently with its submission to the FLC. After the FLC has considered this draft, along with the other draft reports prepared pursuant to the EO, it will prepare a draft strategy to restore the Bay and publish it in the Federal Register for public comment. The current draft report includes preliminary recommendations which may change as the draft strategy is developed. This draft document is not a final agency action subject to judicial review. Nor is this draft document a rule. Nothing in this draft document is meant to, or in fact does, affect the substantive or legal rights of third parties or bind DOI.

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Table of Contents

Acknowledgements	i
Executive Summary.....	iii
Introduction	1
I. Conserving Landscapes in the Chesapeake Bay Region.....	4
Threats to the Landscape	5
The State of Conservation in the Chesapeake Bay Region.....	7
Important Chesapeake Landscapes	8
II. Expanding Public Access in the Chesapeake Bay Region.....	13
Current and Potential Access on Federal Lands	15
Public Access Through Partnerships	18
Public Access on Non-Federal Lands	19
III. Recommendations for Expanding Landscape Conservation & Public Access ..	21
Appendix 1: Recognition Programs for Landscapes of Ecological, Cultural, and Recreational Value	34
Appendix 2: Federal Land Units Reporting Public Access to the Bay and Its Major Tributaries	39
Appendix 3: Map of Protected Lands in the Chesapeake Bay Watershed	40

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The treasured landscapes of the Chesapeake region are astonishingly diverse, from the rich marshlands of the Eastern Shore to working farmlands along the Susquehanna River, shown here. [Image: David Harp]

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Executive Summary

Introduction

In May 2009, President Barack Obama asked federal agencies to report on seven key challenges to protecting and restoring the Chesapeake Bay and to recommend strategies for addressing them. This report responds to the President's request on one of these challenges: conserving Chesapeake landscapes and improving public access to the Bay and its tributaries.

Conserving landscapes in the Chesapeake Bay region is not a matter of sealing off wild places to remain untouched. Today, land conservation efforts must balance both ecological health and community well-being. The Bay's most important landscapes are those that reflect and promote a positive and productive relationship between people and place. Although some of these landscapes are indeed wild, they are also places where people live, work, learn, and recreate. They include wooded parks, water trails, small town main streets, urban green spaces, and historic homesteads and battlefields. They also encompass farms, working forests, and waterfronts that add billions of dollars to the region's economy.

However, many of the Chesapeake's treasured landscapes are threatened both by development and climate change. With these major forces at work, the region's important places may soon be altered irreversibly or lost forever. Swift, targeted and measured conservation is essential.

Protecting these special places will provide a suite of benefits. Ecological landscapes help sustain wildlife, improve air and water quality, and reduce flood damage. Historic areas, as well as working farms and forests, maintain the character of the Bay region. Outdoor recreation restores balance to our lives by providing opportunities for exercise, relaxation, reflection, and family fun.

These combined experiences connect us to the landscape and deepen our sense of place; they shape our cultural identity and provide motivation to become personal stewards of the land. People protect the places they care about.

Conservation and public access strategies for the Bay region must honor and strengthen this integrated relationship between nature and culture. Conservation approaches that support multiple social goals are essential to restoring the Bay and to sustaining quality of life in a rapidly developing watershed.

Conserving Landscapes in the Chesapeake Bay Region

Some 18 percent—or 7.3 million acres—of the Bay region is considered permanently protected, but there are opportunities to conserve hundreds of thousands of additional valuable, high priority acres.

Local jurisdictions, state and federal agencies, and private organizations are already at work on this challenge. These groups have developed systems for recognizing special landscapes and produced some goals and strategies for conservation. These recognition programs tend to sort landscapes by their ecological or cultural values. Ecological recognition systems emphasize habitat and watershed functions. Cultural recognition systems emphasize the interplay between people and place: working landscapes, historic sites, and recreational areas. However, any large, important landscape in the Bay region will inevitably represent values from both categories due to the long and intimate relationship between land, water, and people.

The Bay states—Maryland, Pennsylvania, Virginia, Delaware, New York and West Virginia—have committed to permanently conserving an additional 695,000 acres of forested land by 2020; just 6 percent of this goal has been achieved to date. Virginia and Maryland have also committed to significant conservation goals for other landscapes. Virginia has set a goal to protect 400,000 acres; as of July 2009, just under 350,000 acres have been protected through easements and other conservation programs. Maryland has identified more than two million acres of targeted ecological areas as conservation priorities. As of 2008, approximately 636,000 of these acres were protected, representing less than one-third of the goal. Maryland's farmland preservation goal identifies 1,030,000 acres for protection through easements; more than 480,000 acres have been preserved to date.

Together, these initiatives aim to conserve some 4 million acres of land. Yet nearly two-thirds of that amount—at least 2.3 million acres—remain unprotected today. This alone represents an extremely significant conservation objective—but it also represents only one portion of the full goal. This figure does not include state conservation objectives from Pennsylvania, New York, Delaware, or West Virginia, other than those for forest protection.

Nor does it include any conservation goals for culturally important landscapes beyond the Maryland farmland preservation goals.

The scope of conservation opportunities expands still further when considering other areas. For example, the region lacks consistent goals and recognition systems for cultural landscapes. The problem is compounded by the need to know more about the ways in which the broad spectrum of Americans define and relate to their landscapes—including African Americans, Native Americans, Hispanic Americans, farm communities, and urban and suburban residents.

Expanding Public Access in the Chesapeake Bay Region

Public access sites are the places in which the public can enjoy the natural and cultural bounty of the Chesapeake region—relaxing, learning, and reflecting in direct interaction with the Bay’s treasured landscapes. Some sites provide direct access to the waters of the Bay and its rivers. Others provide land-based sites where visitors without watercraft can fish, observe wildlife, walk trails, and explore historic sites.

Hundreds of public access sites exist in the six Bay states and the District of Columbia, provided by a range of federal, state, and local government agencies, as well as some private nonprofit organizations and creative partnerships. These sites represent varying degrees of access, but support a wide variety of outdoor activities, including hiking, fishing, boating, kayaking, hunting, camping, biking, birding, and nature photography.

Forty-eight federal properties provide a portion of these sites. Most access on federal land is provided through the National Park Service, Army Corps of Engineers, and U.S. Fish and Wildlife Service. The range of access an agency can provide depends largely on its mission. For example, the Department of Defense does not offer public access at installations where such activity would interrupt its primary commitment to national security.

Currently, public access to the Bay and its rivers falls short of public demand—less than 2 percent of the 11,600 mile shoreline of the tidal region is publicly accessible. Expanded and additional access sites could address the notable increase in kayaking and canoeing throughout the watershed, and the surging interest in water trails. State and local budget constraints also affect the core operation of existing facilities.

The *Chesapeake 2000* agreement sets out certain goals for expanding public access, most of which have been nearly or fully achieved. However, these goals were set almost a decade ago without any comprehensive analysis of public need. Despite a dramatic growth in designated water trails, for example, there can be long and unmanageable distances between sites for launch-

ing and landing boats. A more definitive analysis of public demand, including a look at how the demand correlates with on-the-ground resources, should inform future public access goals.

Notable progress has been made in providing thematic visitor experiences of Chesapeake landscapes by connecting diverse sites across multiple jurisdictions; this occurs through the Chesapeake Bay Gateways and Watertrails Network, Captain John Smith Chesapeake National Historic Trail, Star-Spangled Banner National Historic Trail, and Potomac Heritage National Scenic Trail. Although federal agencies coordinate and/or support these trails, the great majority of participating sites are on state, local, and non-governmental properties managed by non-federal entities.

These partnership systems highlight the important role of federal agencies, while demonstrating that the amount of public access available on federal land is dwarfed by the amount of access available at state and local sites. Ultimately, public access goals must be achieved by expanding access on both federal and non-federal lands.

Recommendations for Expanding Landscape Conservation and Public Access

This report details the following major recommendations for expanding the conservation of landscapes and the amount of public access in the Bay region:

1. *Establish a Chesapeake Treasured Landscape Initiative to provide coordinated and targeted federal funding for landscape conservation and public access.* Several federal programs fund conservation and access, but there has been little coordination between these programs and insufficient targeting of federal, state and local funds to protect the most significant landscapes, including culturally significant lands. A major *Chesapeake Treasured Landscape Initiative* should address these issues. The initiative should:
 - Target available funding: Given the more than 2 million acres of Chesapeake landscapes currently identified as important for conservation—and a shortage of public access to Bay waters—the initiative should prioritize new investments within the Chesapeake region. This is consistent with the selection of projects as part of the \$115 million increase in funding for the Land and Water Conservation Fund in the President’s 2010 budget request over the 2009 enacted level.
 - Identify and prioritize treasured landscapes and public access sites: Survey the region for culturally significant landscapes, build on existing data identifying ecologically significant landscapes, develop a regional public access plan, and target the

- most threatened significant landscapes and priority public access sites.
- Develop public access throughout the Bay region: Implement additional public access on federal lands and develop a Bay region wide access plan.
 - Coordinate efforts: Ground future conservation actions in a coordinated strategy to identify the most significant lands and direct federal, state, and local funds toward their conservation.
2. *Consider new federal land management units and expand existing units.* Historic trails, water trails, National Wildlife Refuges, National Parks, a National Forest, and other federal units can increase funding, public awareness, and attention within smaller areas of the Bay region. Explore the creation and expansion of these units, including the acquisition of lands from willing sellers. While the possible types of designations vary widely, approaches and models appropriate for this region would most likely be non-traditional; they would involve collaborative partnerships and retain many patterns of land ownership and land use, such as that of the existing Rappahannock River Valley National Wildlife Refuge.
 3. *Provide incentives for conservation and public access.* Private citizens, non-governmental organizations and all levels of government must play roles in conserving land and providing public access if conservation goals for the Chesapeake region are to be realized. The *Great Outdoors America* report states that “private stewardship over the past 20 years has become a major entrepreneurial force in protecting land and water resources and providing outdoor recreation, as well as offering ample opportunities to advance the outdoor resources agenda.” Yet, to maximize private stewardship—or stewardship actions by other levels of government—key incentives must be maintained and enhanced, and targeted to significant landscapes threatened by land development and/or climate change. This report recommends the federal government continue to play a role in providing incentives through tax policy, funding, and market-based programs.
 4. *Provide landscape conservation assistance and capacity building.* Regardless of direct funding or regulatory requirements for land conservation, many local governments and non-governmental organizations central to on-the-ground conservation simply lack the capacity for carrying out their roles. Many federal and state agencies already provide funding and/or direct technical assistance to local governments and organizations to enable conservation to move forward in the coming decade. To build on these efforts and address the still unmet need, the following actions could be taken:
 - Support a conservation capacity-building program focused on land trusts

- Coordinate the network of technical assistance providers
 - Integrate and support local, state, regional, and landscape scale conservation planning
5. *Coordinate the use of regulatory tools.* Regulatory tools such as wetland and stormwater permits and mitigation requirements can provide important incentives or create challenges for protecting significant landscapes. The design of regulatory tools at the federal, state, and local level should be analyzed to determine if they foster protection of these landscapes in an efficient manner. These government agencies should work together to consider specific options for using regulatory tools.



Introduction

On May 12, 2009, President Barack Obama issued Executive Order 13508 protection and restoration of the Chesapeake Bay. As part of the Executive Order, President Obama asked federal agencies to report on seven key challenges and to recommend strategies for addressing them. This report responds to the president's request on one of these challenges: conserving Chesapeake landscapes and improving public access to the Bay and its tributaries from federal lands. Specifically, the president asked the U.S Department of the Interior to lead development of a report describing:

- Landscapes and ecosystems in the Bay region that merit recognition for their historical, cultural, ecological, or scientific values;
- Options for conserving these landscapes and ecosystems;
- Existing sites on federal lands and facilities offering public access to the Bay or its tributaries;
- Options for expanding public access at these federal sites;
- Federal sites where new opportunities for public access might be provided; and
- Safety and national security issues related to expanding public access at Department of Defense installations.

Fundamentally, this report is about landscapes in the Chesapeake Bay region; the ways in which people relate to, use, and value them; and the steps necessary to conserve and enjoy them.

The Outdoor Resources Review Group, co-chaired by Senator Jeff Bingaman (D-New Mexico) and Senator Lamar Alexander (R-Tennessee), discusses the relationship between land, water, and people in its 2009 *Great Outdoors America* report. The report notes that the nation's land and water resources have "shaped our self-image, they are ingrained in our culture and in our traditions; they have provided us with near boundless opportunities to enjoy the outdoors and participate in health-affirming recreation. They are

*"For America's national character—
our optimism, our dreams, our shared
stories—are rooted in our landscapes."*

— Ken Salazar
Secretary of the Interior
March 30, 2009

central to our economy, our health, our quality of life in rural settings and urban communities alike.”¹

The same is true in the Bay region. Conserving Chesapeake landscapes is not a matter of sealing off wild places to remain untouched. Today, land conservation must balance both ecological health and community well-being. The Bay’s most important landscapes are those that reflect and promote a positive and productive relationship between people and place.

Although some of the Chesapeake’s most important landscapes are wild, they are also places where people live, work, learn, and recreate. They include family farms, working forests and waterfronts, where generations have shaped their lives around harvesting the region’s bounty. They are wooded parks and water trails, quaint towns, urban green spaces, and historic homesteads and battlefields.

Protecting these special places provides a suite of related benefits. Ecological landscapes safeguard natural functions that help sustain wildlife, improve air and water quality, and reduce flood damage. Historic areas, as well as working farms and forests, maintain the cherished character of the Bay region. Outdoor recreation restores balance to our lives, providing opportunities for exercise, relaxation, reflection, and family fun. These experiences connect us to our landscape and deepen our appreciation for the environment; they shape our cultural identity and motivate us as personal stewards of the land and water; they improve our physical and mental health. Conservation builds community.

The Chesapeake’s most treasured landscapes also add billions of dollars to the region’s economy. In 2007, visitors to heritage and recreation sites pumped \$13.6 billion into Maryland’s economy and generated \$18 billion in Virginia.² Farms contribute 13 percent of the region’s gross domestic product; the combined market value of Maryland, Delaware, and Virginia agricultural products exceeds \$5 billion.³ Pennsylvania, home to more than 3,000 forest product companies, is the nation’s leading producer of hardwood lumber with annual sales of more than \$5 billion. Across the Bay watershed, the forest products industry delivers annual sales of \$22 billion and supports

The Chesapeake’s most treasured landscapes add billions of dollars to the region’s economy. In 2007, visitors to heritage and recreation sites generated \$13.6 billion in Maryland economy and \$18 billion in Virginia. Farms contribute 13 percent of the region’s gross domestic product, and Pennsylvania is the nation’s leading producer of hardwood lumber. Blue crabs bring a dockside value of approximately \$50 million per year; menhaden bring more than \$20 million.

¹ Outdoor Resources Review Group, *Great Outdoors America: The Report of the Outdoor Resources Review Group* (Washington, DC: Resources for the Future, 2009), 1.

² Maryland Office of Tourism. “Maryland Tourists Infuse State Economy with \$13.6 Billion During 2007.” Press Release. November 11, 2008.

Virginia Tourism Corporation. *Impact of Travel on Virginia, Preliminary 2007 and 2006*. <http://www.vatc.org/research/economicimpact.asp>

³ Chesapeake Executive Council. *Resolution to Enhance the Role and Voice of Agriculture in the Chesapeake Bay Partnership*. September 22, 2006.

National Agricultural Statistics Service. *2007 Census of Agriculture*. Washington, DC: U.S. Department of Agriculture. 2007.

more than 140,000 jobs.⁴ Blue crabs bring a dockside value of approximately \$50 million per year, and menhaden bring more than \$20 million.⁵

Land conservation and public access strategies for the Bay region must honor and strengthen this integrated relationship between nature and culture. Conservation approaches that support multiple social goals are the cornerstones to successfully restoring the Chesapeake Bay and sustaining quality of life in a rapidly developing watershed.

For example, visitors to Washington, D.C. can view and access much of the shoreline along the nearby Potomac and Anacostia rivers. This experience is the result of foresight and careful planning. Federal agencies listened to public desire; they collaborated with private landowners, public agencies, and preservation communities, and took action to conserve land along these rivers. This area stands in stark contrast to other urban locations along the Bay, where industry and development have constricted public access to the water and riverbanks have been walled up and stripped of vegetation in an effort to reduce erosion.

Conserving the Bay's treasured landscapes—and ensuring that everyone has the chance to enjoy them—is in our collective best interest. This report describes the state of landscape conservation in the Bay region; provides an overview of existing public access opportunities; and outlines strategies for expanding them both.

⁴ Conservation Fund. *The State of Chesapeake Forests*. 2006. Pp. 75-77.

⁵ Personal communication, National Marine Fisheries Service, Fisheries Statistics Division, Silver Spring, MD, July 2009.



The broad marshes of the Eastern Shore provide habitat for vast numbers of waterfowl, mammals, and fish. [Image: Russ Mader/Chesapeake Bay Program]

I. Conserving Landscapes in the Chesapeake Bay Region

There is little in the American cultural sphere that speaks to our past, present, and future as thoroughly as the land itself. Its rivers and forests have long nurtured America's native people and shaped the experience of our nation's first immigrants. Today, these resources remain vital for both solace and sustenance—they are the ecological base upon which we depend. Our growing population demands more of the land than ever before, with expanding needs for water and fuel, and the resurging desire to anchor ourselves with a sense of place. The ways in which we meet these needs will define our relationship to the land, impacting future generations of Americans and the global community as a whole.

The important landscapes of the Chesapeake Bay region are a rich mixture of ecological, historical, and cultural values. The Bay itself is the nation's largest estuary, a stressed but incredibly productive water body that serves as a pillar of tourism, recreation, and commerce. Its rivers, wetlands, and forests nurture a diverse collection of aquatic and terrestrial wildlife. When allowed to thrive, this interwoven system also provides a suite of ecological services that benefit human communities—by protecting the quality and quantity of our drinking water; promoting air quality; combating global warming; and reducing the pollution, erosion, and flood events related to stormwater runoff.

History resonates on the Chesapeake landscape, too. Majestic vistas and wooded nooks, farmsteads, wharves, and main streets trace the earliest stories of our nation, and the long history of Native Americans before them, in ways that are completely inseparable from the land. Important conflicts took place here, from the stirrings of the Revolution to the War of 1812 to many crucial Civil War battles. The rich soil and waterways of the Chesapeake supported plantation farming, a system that enslaved Africans and generations of their descendants and spawned stunning stories of freedom seekers like Frederick Douglass and Harriet Tubman.

Millions of modern families and individuals, including contemporary Native Americans, live amidst this backdrop. Spectacular scenery and outdoor play,

“As Americans, we possess few blessings greater than the vast and varied landscapes that stretch the breadth of our continent. Our lands have always provided great bounty—food and shelter for the first Americans, for settlers and pioneers; the raw materials that grew our industry; the energy that powers our economy. What these gifts require in return is our wise and responsible stewardship.”

— President Barack Obama
March 30, 2009



History resonates on the Chesapeake landscape, bringing forth the stories of our nation. Sacred to many are the lands where crucial turning points occurred, among them many battlefields of the Civil War. [Image: Starke

Jett/National Park Service]

along with rural economies that rely on farmland and forestry, are woven into daily life. They culminate in a unique cultural identity that grounds many people with a sense of place and strengthens community fabric.

Across this vast landscape, the mixture of ecological, historical, and cultural themes naturally varies. Some locations deserve conservation, or have already received it, because one aspect is especially compelling. But many important landscapes have multiple benefits that reflect and strengthen each other. These special places enrich the Bay region on several fronts, with the power to transform localities into communities and citizens into stewards. The health of our communities—from both personal and civic perspectives—is fundamentally linked to a combined sense of place and the ecological health of the landscape.

Secretary of the Interior Ken Salazar speaks frequently of protecting these types of "treasured landscapes" in the Bay region and throughout the nation. The *Great Outdoors America* report also cites the Bay region as a treasured landscape, defined by the authors as the confluence of scenic, wild, and historic landscapes that "hold the promise of new opportunities for recreation, public enjoyment, conservation, and geo-tourism."

Yet, despite the many and varied benefits, conserving land in the Bay region is a serious challenge.

Threats to the Landscape

Many Chesapeake landscapes with great ecological, historical, and cultural importance are vulnerable to the effects of land development and climate change.

Development trends place enormous pressure on valuable ecological and cultural landscapes, tearing at the very fabric that defines the region and supports our way of life. The population of the Bay watershed has doubled since 1950, adding approximately 1.5 million people every decade, and will likely approach 20 million by 2030.⁶ Yet the way in which we use the land is the primary threat to the Bay's landscapes. Humans are taking up more space on the landscape, converting open green spaces and places of cultural significance into paved and developed environments that will not return to their original state.

For example, the region's population grew by 8.2 percent between 1990 and 2000, but the conversion of farms and forest land to development grew at three times that rate—roughly 25 percent. The growth in new impervious cover (paved roads, driveways, sidewalks, and rooftops) increased at an even



The conversion of forested lands into new residential and commercial developments is a serious threat to the Bay's ecology. Loss of forests and increased paved surfaces send higher levels of pollution to the Bay and its tributaries. [Image: Chesapeake Bay Program]

⁶ Chesapeake Bay Program, *Bay Barometer: A Health and Restoration Assessment of the Chesapeake Bay and Watershed in 2008* (Annapolis, MD: U.S. Environmental Protection Agency for the Chesapeake Bay Program, 2009), 13.

faster rate of 42 percent.⁷ The growing presence of such hardened surfaces sends an increasing amount of polluted stormwater rushing toward the Bay and its rivers. Forests help combat the problem by filtering pollutants and slowing the pace of runoff. However, forests in the watershed continue to fall at the rate of 100 acres per each day—more than 55 square miles a year. Between 1982 and 1997, the watershed lost over 750,000 acres, equivalent to the loss of 20 cities the size of Washington, DC.⁸ If this pace continues, nitrogen loads to the Bay will increase by 1,300 pounds per day—exacerbating the pollution problems of today.⁹

Development patterns also threaten cultural landscapes. Farmlands cover about 25 percent of the watershed, with an estimated 87,000 farms. But more than 15 million acres of farmland was lost between 1950 and 2002 (larger than the total land area of West Virginia). More than 90,000 farm acres are lost each year.¹⁰

Historic landscapes are threatened as well. Fifteen years after the fight to prevent a theme park near the Manassas Civil War battlefield, the same cries now echo in 2009 over a planned Walmart on land important to the 1864 Battle of the Wilderness. This type of recurring debate highlights the need for a better understanding and management of these valuable spaces.

Climate change also threatens the Bay's landscapes. By the end of this century, the water level in the Bay region may rise between 21 and 48 inches, about double the predicted global average.¹¹ In the coming decades, water will cover many valuable low-lying areas—including islands, forests, wetlands, beaches, and farmlands—that were not submerged before. Erosion will claim others. Shoreline communities must grapple with the potential loss of important cultural resources, such as historic cemeteries and burial sites, archaeological sites, parks, and museums. Land managers must modify land protection strategies, possibly by conserving areas that will support the upward migration of tidal wetlands and habitats.

With these major forces at work, many of the Bay region's most important landscapes may soon be irreversibly altered or lost. Swift and measured conservation, based on sound analysis of landscape values, is essential.



Development trends place enormous pressure on valuable ecological and cultural landscapes, tearing at the very fabric that defines the region and supports our way of life. Agricultural landscapes are at particular risk. [Chesapeake Bay Program]

⁷ Ibid.

⁸ Marissa Capriotti, "Summary Report: 1997 Natural Resource Inventory (Revised December 2000)," Beltsville, MD: USDA National Resource Conservation Service, 2005.

⁹ Chesapeake Executive Council, *Protecting the Forests of the Chesapeake Bay Watershed*, 2007 Response to Directive 06-1.

¹⁰ Chesapeake Bay Foundation. *Vital Signs: Assessing the State of Chesapeake Agriculture in 2005*. Annapolis, MD: Chesapeake Bay Foundation, 2005, 7. [CBF cites USDA data]

¹¹ Wu, S.Y., Najjar, R., and Siewert, J., 2009, Potential impacts of sea-level rise on the Mid- and Upper-Atlantic Region of the United States: Climatic Change, v. 95, p. 121-138.

The State of Conservation in the Chesapeake Bay Region

Decades of effort have delivered a protective conservation umbrella to certain important landscapes and ecosystems in the Chesapeake Bay region: some 18 percent—7.3 million acres—is now considered permanently protected.¹² Yet, in the face of land development and projected population growth, conservation needs exist for hundreds of thousands of valuable acres.

Local jurisdictions, state and federal agencies, and private organizations, must continue to work cooperatively to protect the Bay’s landscapes. These groups have created systems for recognizing special landscapes and have developed specific conservation goals and strategies.

The *Chesapeake 2000* agreement¹³ set out a single goal for land protection, now largely met. However, the goal was not based on any systematic assessment of the conservation actions needed to achieve larger ecological or cultural viability in the Bay watershed. Since then, more detailed conservation goals have been set—including those summarized below—using ecological and other criteria.

Forests, the most crucial land cover for protecting the region’s water quality, have received special attention. In 2007, the Bay states committed to permanently conserve an additional 695,000 acres of forested land by 2020; just 6 percent of this goal has been achieved to date, leaving a sizeable gap to fill in the coming decade.¹⁴

Other significant conservation goals have been set at the state level, particularly for valuable ecological landscapes. The Virginia Office of Land Conservation, for example, has set a goal to protect 400,000 acres; as of July 2009, just under 350,000 acres have been protected through easements and other conservation programs.¹⁵

The Maryland Department of Natural Resources has identified more than two million acres of targeted ecological areas (TEAs) as conservation priorities. TEAs are lands and watersheds of high ecological value, covering roughly one-third of the state’s total acreage. As of 2008, approximately

Some 4 million acres of land have been identified as important for conservation. Yet nearly two-thirds of that amount—at least 2.3 million acres—remain unprotected today. This alone represents an extremely significant conservation need. To put the challenge in perspective, regional partners must now protect more than a third as much land as has already been conserved to date. And this only represents a portion of the full conservation need.



Bay states committed to permanently conserving an additional 695,000 acres of forest land by 2020; just 6 percent of this goal has been achieved, leaving a sizeable gap to fill in the coming decade. Protecting forests represents just one aspect of the landscape conservation goal for the region. [Image: Chesapeake Bay Program]

¹² Chesapeake Bay Program, “Watershed Land Preservation,” http://www.chesapeakebay.net/status_landspreserved.aspx?menuitem=19879 (accessed July 20, 2009). See Appendix 3 for a map of protected lands.

¹³ http://www.chesapeakebay.net/content/publications/cbp_12081.pdf

¹⁴ Chesapeake Executive Council, *Protecting the Forests of the Chesapeake Bay Watershed*, 2007 Response to Directive 06-1.

¹⁵ Virginia Office of Land Conservation, “Land Conservation,” Virginia Department of Conservation and Recreation, http://www.dcr.virginia.gov/land_conservation/index.shtml (accessed July 20, 2009).

636,000 acres within TEAs were protected, representing less than one-third of TEA acreage targeted for protection.¹⁶

Maryland's farmland preservation goal identifies 1,030,000 acres for protection through easements. The easements allow the land to remain in agricultural use, but prohibit development for other purposes. More than 480,000 acres have been preserved to date.¹⁷

Together, these initiatives aim to conserve some 4 million acres of land. Yet nearly two-thirds of that amount—at least 2.3 million acres—remain unprotected today.¹⁸ This alone represents an extremely significant conservation need. To put the challenge in perspective, regional partners must now protect more than a third as much land as has already been conserved to date.

And this only represents a portion of the full conservation goal. This figure does not include state conservation objectives from Pennsylvania, New York, Delaware, or West Virginia, other than for forest protection. Nor does it include any conservation goals for culturally important landscapes in any state beyond Maryland's farmland preservation goals.

The scope of conservation opportunities expands still further when considering other areas. For example, the region lacks consistent goals and recognition systems for cultural landscapes. The problem is compounded by the need to know more about the ways in which the broad spectrum of Americans define and relate to their landscapes, including African Americans, Native Americans, Hispanic Americans, farm communities, and urban and suburban residents.

Above all, one thing is certain. The gap between existing conservation goals and the on-the-ground actions needed to reach them is vast—at a time when development is fast outpacing our combined conservation efforts. A great deal of crucial work lies ahead.

Important Chesapeake Landscapes

A variety of state and federal programs, along with programs managed by private organizations, identify or recognize major types of landscapes that deserve priority status for conservation. They typically sort landscapes into

¹⁶ Maryland GreenPrint, "Targeted Ecological Areas," Maryland Department of Natural Resources, http://www.greenprint.maryland.gov/greenprint_map.asp (accessed July 20, 2009).

¹⁷ Maryland AgPrint, "Progress Toward Meeting Maryland's 1,030,000 Goal," Maryland Department of Natural Resources, <http://www.agprint.maryland.gov> (accessed July 20, 2009).

¹⁸ The summary totals listed here are drawn from values in preceding paragraphs using a conservative calculation; it assumes that MD Greenprint conservation goals and VA conservation goals include all acreage pledged by those states through the "Response to Directive 06-1" (Forest Directive); accordingly, only WV, NY, PA and DE commitments are counted for the regional forest conservation goal.



Today, the cultures of Native American tribes and descendent communities are vibrant and thriving in the Chesapeake region. Here, native dancers invite audience participation in a circle dance during "Patuxent Encounters." [Image: M.Sisler]

groups based on specific values such as high quality wildlife habitat, historic significance, or agricultural value.

Most conservationists, however, recognize that landscapes and their values are not so easily sorted. For example, the landscape does not end at the water's edge. We view the water, we use it, and our actions on land affect the life beneath its surface—separating land and water is difficult. Moreover, the Chesapeake region has provided the context for human life over thousands of years. Even in pre-colonial times, humans influenced and managed this landscape, although human impact is felt much more heavily now than 400 years ago.

This long and intimate relationship between people, land, and water guarantees that any large landscape within the Bay region represents multiple values. Thus, the categories and systems for recognizing landscapes, described below, are but a general road map for identifying the landscapes we treasure and rely upon. See Appendix 1 for an extensive list of systems or programs managed by federal, state, and nonprofit organizations that recognize or identify important landscapes throughout the region.

Landscapes of Ecological Importance

Many Chesapeake landscapes are valued for their significant role in maintaining the ecological health of the Bay watershed. They typically provide significant habitat value and/or significant value to the overall functions of the watershed.

Landscapes recognized for *high-value habitat* have sufficient size and ecological functions to support sustainable populations of the Bay's native species. They include:

- Forested areas of contiguous natural habitat with significant interior size, transition areas, and buffers; these are either significant, continuous areas of forest or a collection of interrelated forests that are largely not impacted by other forms of land use.
- Corridors with natural land cover that link protected, high-ranking habitats; corridors may follow prominent features such as streams, ridges, or waterfronts.
- Streams or rivers that provide habitat for native species, rare species, or migrating fish; maintain flow important for habitat quality; and connect ecological and cultural landscapes.
- Large areas of aquatic bottoms, mud flats, grass beds, oyster reefs, dunes and beaches, tidal wetlands (especially those connected to un-



Corridors surrounding streams and rivers are at the center of many ecologically important landscapes. They provide rich wildlife habitat and are vitally important to maintaining clean, healthy waters for fisheries and people. [Image: Mike Land/Chesapeake Bay Program]



Wetlands and tidal marshes provide key sanctuaries and breeding grounds for fish and a variety of aquatic birds and animals, while also serving to moderate flooding and storm surges that affect human communities. [Image: Russ Mader/Chesapeake Bay Program]

developed uplands), and sanctuaries for sustainable reproduction of aquatic life.

- Terrestrial or aquatic areas that have scientific importance because they host biological and geological features that are unique, rare, or threatened; they contain rare species, rare habitat types, or unique natural communities; they show fossil evidence of biological evolution; they include exposures and landforms that record past and current geological processes; or they contain extraordinary diversity in their habitat features, soil, geology, and/or topography.

Landscapes recognized for *watershed values* provide regionally meaningful services such as flood control, stormwater management, base flow, carbon sinks, and water quality treatment. They include:

- Contiguous forests and high-functioning wetlands located near main stem rivers, tributaries, and other water bodies.
- Areas within the floodplain, including tidally influenced areas, where native vegetation and plant communities can reduce or prevent damage from floods and storms.
- Areas close to drinking water sources and/or containing headwater streams.

Landscapes of ecological importance are sometimes referred to as “green infrastructure” by virtue of the crucial ecosystem services they provide for human communities and wildlife.

Virginia’s Conservation Lands Database and Maryland’s Greenprint are two examples of systems developed to identify ecologically significant lands. A select list of established systems for recognizing landscapes of ecological value is included in Appendix 1.

Landscapes of Cultural Importance

Many landscapes are recognized for their cultural value—the ways in which they reinforce human relationships to place over time, creating a sense of place and identity unique to the Chesapeake Bay region. Cultural landscapes reflect historic significance and day-to-day working relationships with land and water; they also include places specifically recognized for their ability to provide important and direct personal experiences with Chesapeake resources and stories. Cultural landscapes include:

- Places associated with historically significant events, people, and ideals
- Archaeological sites



Chesapeake landscapes encompass a long and diverse history reflecting the region’s central role from pre-colonial times through today. The National Register of Historic Places lists more than 9,000 properties in the Chesapeake region, including a colonial gristmill at Gunpowder Falls State Park in Maryland. [Image: Middleton Evans/National Park Service]

- Specific sites or landscapes of unique cultural or spiritual importance to indigenous peoples
- Places that characterize a significant way of life in the Bay region; they have been important in the culture and traditions of the region's many peoples from pre-colonial to modern times
- Working landscapes that reflect traditional uses of the region's lands and waters, producing marketable goods and services such as forest products, agricultural goods, and fish. These include:
 - Relatively unfragmented patches of productive, dense forest land supporting economically viable timber harvests managed to avoid detrimental effects on environmentally sensitive resources
 - Historically productive farmlands with prime soils that not only contribute to the economy and support our way of life, but create and reflect the rural character for which the region is known
 - Traditional fishing areas and communities, including docks and facilities that support the industry and habitat areas that support commercial and sport species at all life-stages (such as coastal wetlands, streams, estuaries, and spawning areas)
- Places and routes that allow people to experience Chesapeake resources, stories and the broader landscape through direct, personal interaction in the outdoors (including the visual experience of surrounding ecological and cultural resources). These places include:
 - A variety of routes, trails and corridors—on both land and water—that have been recognized as providing significant pathways through the Chesapeake's cultural and natural history.
 - Specific places designated for providing direct access to Bay and tributary waters for boating, swimming, fishing, hunting and other uses.

A number of individual programs exist for recognizing important cultural landscapes, including those referenced in Appendix 1. However, the overall assessment and recognition of cultural landscapes is far less robust than those for ecological landscapes. Consistent, broad-scale assessments and recognition of cultural landscapes—and consequently, clear, measurable conservation goals—are generally lacking.



Chesapeake waterfronts, now harboring both work boats and pleasure craft, are central to a significant way of life in the region, and thus to the broader cultural landscape. Here, a crabber and sailboats share the moorings on the Eastern Shore. [Image: Jason Vaughan]



Working landscapes reflect traditional uses of the region's lands and waters, producing marketable goods and services such as agricultural goods, forest products, and fish. [Image: Chesapeake Bay Program]

Summary

The intensification of land use and rapid rate of land conversion, combined with the impacts of climate change, leave many of the Chesapeake's most important landscapes with an uncertain fate. State, federal, and local conservation efforts have created some systems for identifying priority landscapes, and they have worked toward numeric conservation goals. As identified by Bay states, more than two million acres requiring long-term term conservation remain unprotected, including lands that are vital to clean air and water, working farms and forests, and community identity. However, these existing conservation goals represent just a portion of valuable landscapes; our knowledge base of important landscapes still has critical gaps, especially for assessing lands of cultural and historic significance.

Successful conservation efforts require decisive action, adequate funding, and a thorough analysis of the region's treasured landscapes and the multiple values they provide. Recommendations for the successful expansion of conservation efforts are described in Chapter III.



II. Expanding Public Access in the Chesapeake Bay Region

People will only protect the places they understand and care about. Freeman Tilden, a pioneer in enhancing visitor experiences in our national parks, recognized that people whose lives are enriched by personal connections to the landscape become its most strident defenders. Tilden described the process through which experience brings understanding; understanding brings appreciation, and "through appreciation, protection." Providing outdoor opportunities that nurture this continuum are critical to personal well-being, community character, and stewardship of the environment.

The Chesapeake Bay region is rapidly urbanizing. Fewer people interact daily with the forests, open lands, and waters of the Bay region. Despite this trend—or perhaps because of it—regional residents increasingly seek opportunities to reconnect with the outdoors.

State, federal, and local governments are guardians of these opportunities, providing sites of public access where everyone can enjoy the natural and cultural bounty of the Bay region—relaxing, learning, and reflecting in direct interaction with the Bay's treasured landscapes. Some sites provide direct access to the waters of the Bay and its rivers. Others provide land-based sites where visitors without watercraft can fish, observe wildlife, walk trails, and explore historic sites.

Open, green spaces and waterways with ample public access bolster public health and overall quality of life. People rely on these special places to exercise, relax, and recharge their spirits. Outdoor time strengthens family bonds and nurtures fit, creative children. At the same time, it builds personal connections with landscapes that have shaped life in the Bay region for centuries. The unique sense of place that evolves from outdoor experiences often leads to a feeling of shared responsibility for the resources. As a result, people who enjoy the outdoors are more likely to become active citizen stewards, engaged in the many conservation and stewardship efforts taking place throughout the Bay region.

I learned to swim about the same time I learned to walk. This was the primary means of locomotion for my sisters and I growing up on the shores of the Tred Avon.... Sometimes we would take a net and fill a floating crab basket as we waded over to grandma's house. Along the route, there would undoubtedly be snakes, a peeler, minnows... Maybe a cut from an oyster shell. The eelgrass was so thick in places that the crabs couldn't swim through it—they just rested on top waiting to be scooped up. When we wanted to venture further out, we "sailed" (i.e., capsized/swam) across the Tred Avon. Well-meaning yachtsmen often stopped to lend their assistance. We just laughed and demurred—wild children with brackish water in their blood!

— S.C., *Growing up along the Tred Avon River*

However, as the population grows and land is converted to roads and subdivisions, the amount and accessibility of public access sites in the Bay watershed strain to meet public need. The situation mirrors that of the nation. The Outdoor Resources Review Group, in its 2009 *Great Outdoors America* report, noted that the “demand for recreation facilities to meet the needs of a growing population remains significant.” In addition, America is home to individuals and families from many backgrounds, including recent immigrants, who have different recreational needs and interests. Resource managers are finding that a changing population requires new approaches to providing outdoor recreation. Many underserved people in urban areas—where green spaces are few—need renewed connections with nature. Even suburban and rural areas lack adequate public access sites, particularly in areas close to the Bay where much of the waterfront is privately owned.

Nationally, the No Child Left Inside movement¹⁹ is highlighting the widespread need for a systematic approach to providing environmental education and reconnecting children to nature. Research shows that young people who have consistent outdoor experiences are less likely to battle obesity and more likely to become creative, well adjusted adults.²⁰ Some schools that have integrated environmental education across the curriculum have documented higher test scores.²¹ However, many schools and communities lack adequate access to parks, nature centers, and waterways, and the benefits these resources bring.

Providing increased public access to the Bay and its rivers is a long-term goal of Chesapeake Bay Program partners. The *Chesapeake 2000* agreement commits to several access-related goals, toward which real progress has been made. However, the original numeric targets were not based on any hard analysis of user needs. For example, despite the impressive and commendable growth in water trails, some trails contain long and unmanageable distances between sites for launching and landing boats. More strategic analysis of user demands and how those demands correlate with on-the-ground resources should inform future public access goals.

Even with recent accomplishments, public access—especially to the water—remains limited; less than 2 percent of the 11,600 mile shoreline of the tidal region is publicly accessible. Sites are especially needed to address the notable increase in kayaking and canoeing throughout the watershed. In the 2006 Virginia Outdoor Survey, more than 50 percent of the participants named access to state waters as one of the most needed outdoor recreational oppor-



Outdoor time strengthens family bonds and nurtures fit, creative children. At the same time, it builds personal connections with landscapes that have shaped life in the Bay region for centuries. [Image: U.S. Fish and Wildlife Service]

¹⁹ No Child Left Inside, <http://www.cbf.org/ncli>

²⁰ Children and Nature Network research archives, <http://www.childrenandnature.org/research/>
Louv, Richard. *Last Child in the Woods: Saving Our Children from Nature-Deficit Disorder*. Chapel Hill, NC: Algonquin Books, March 2008.

²¹ State Education and Environment Roundtable research program, <http://www.seer.org/pages/research.html#reports>

tunities.²² Pennsylvania has seen a sharp upswing in paddling sports, along with a suite of related needs: increased access to rivers, rescue training, boat registrations, water trail creation, and instruction in handling canoes and kayaks.²³ The interest in water trails is also growing as local governments recognize the associated tourism and economic benefits derived from trail use.

In some areas, access is hindered by the lack of publicly owned property along the shoreline; the high cost of the property; the burdens of property maintenance and liability; and the lack of long-term planning focused on shoreline access. State and local budget restrictions also threaten the core operation of existing public facilities and make future operations uncertain.

Maintaining and expanding public access sites goes hand-in-hand with the conservation of valuable landscapes in the Bay region. The places most worthy of conservation are often those that exude the strongest draw for public use, integrating multiple benefits from a common investment. The land and water resources of the Chesapeake region are indeed the foundation of cultural heritage, community identity, and a healthy ecosystem—but public access to these landscapes is the gateway through which Americans from all walks of life come to know these resources as their own.

Current and Potential Public Access on Federal Lands

Federal lands make up but a small portion of the Chesapeake Bay region; private property, by far, dominates the landscape. Federal property comprises just 8 percent of the watershed, about 3.2 million acres.

Many federal agencies provide public access to Bay resources through a variety of individual access sites, such as boat ramps, kayak launches, hiking and biking trails, wildlife viewing areas, auto tour routes, fishing areas, beaches and campgrounds.

In a July 2009 survey, ten federal agencies provided information about public access opportunities on their lands linked to the Bay or its major tributaries. In that survey, 48 land units (parks, refuges, forests, and military installations) reported more than 660 individual public access sites. Following an initial assessment, the ten agencies reported approximately 120 opportunities to expand existing access or create new access sites. A list of agencies and units reporting public access is provided in Appendix 2.



Although the Bay's shoreline stretches over 11,000 miles, less than two percent is accessible to the public. Bay states regularly cite public demand for more recreational access to the waters of the Bay and its tributaries. [Image: Middleton Evans/National Park Service]

²² Virginia Department of Conservation and Recreation, *2006 Virginia Outdoors Survey* (Richmond, Va.: Commonwealth of Virginia, 2006), 20.

²³ Personal communication, Jackie F. Kramer, Statewide Public Access & Conservation Lands Coordinator, Pennsylvania Fish & Boat Commission, July 2009.

Public Access on Federal Lands by Agency			
Federal Agency	Land Units with Public Access	Existing Access Sites	Potential Access Sites
National Park Service	16	238	46
Fish and Wildlife Service	10	92	35
USDA Forest Service	2	180	3
Bureau of Land Management	1	3	6
Department of Defense			
Army Corps of Engineers	13	118	0
Navy	3	14	2
Marine Corps	1	7	0
Air Force*	2	10	28
Army *	0	0	0
Defense Logistics Agency *	0	0	0
Total	48	662	120

*Some DoD installations maintain access sites, but restrict use to military personnel.

Public Access on Federal Lands by Activity		
Activity	Existing Access Sites	Potential New or Expanded Access Sites
Wildlife Viewing Areas	102	26
Auto Tour Routes	30	6
Trails(Hiking/Biking)	182	37
Boat Ramps	90	6
Canoe/Kayak Launches	29	21
Fishing Areas	101	18
Beaches/Swimming Areas	29	2
Camping Areas	99	4

While federal lands provide important public access, the range and focus varies substantially, depending largely on agency missions. Federal agencies must maintain a balance between providing public access to encourage resource stewardship and discouraging public access that may detract from the priority mission of the agency.

The following paragraphs provide a more detailed look at the current and potential public access opportunities that exist with federal agencies in the Bay region.

The National Park Service has 16 land units located on the Bay or along its major tributaries. The units include battlefields, parks, national monuments, a parkway, and a performing arts venue. These units currently provide approximately 238 individual public access sites. The National Park Service identified 46 potential new or expanded access sites (with an emphasis on hiking trails, kayak/canoe launches, and fishing areas). In some cases,



Units of the National Park System protect and provide access to nationally significant resources like Jamestown, where Captain John Smith landed in 1607. Other units help the public explore the C&O Canal, Fort McHenry, the Washington Monument, and more. [Image: Starke Jett/National Park Service]

enhanced opportunities are contingent upon gaining access to non-federal lands. The National Park Service mission is to preserve unimpaired the natural and cultural resources and values of the national park system for the enjoyment, education, and inspiration of this and future generations.

The U.S. Fish and Wildlife Service has 10 land units in the region that are open for public use, with more than 90 public access sites distributed throughout those units. This includes lands that are part of the National Wildlife Refuge System, as well as the Harrison Lake National Fish Hatchery. The Refuge Improvement Act of 1997 lists six priority uses of lands within the National Wildlife Refuge System: environmental education, fishing, hunting, interpretation, photography, and wildlife observation. Before any of these uses are allowed on a refuge, the use must first be determined to be both appropriate and compatible with the purposes of that particular refuge and the mission of the refuge system. Where these six priority uses are deemed compatible, refuge managers are encouraged to provide such opportunities. The U.S. Fish and Wildlife Service identified 35 potential new or expanded access sites in the Bay region. Some sites would require acquisition of additional lands, although most already have approved “acquisition boundaries.” There is also an overall concern regarding the long-term maintenance of existing/potential access sites and facilities.

The Department of Defense (including the Army Corp of Engineers, Navy, Marine Corps, Army, Air Force, and Defense Logistics Agency) has 19 land units (13 Army Corps of Engineers, 3 Navy, and 2 Air Force, and 1 Marine Corps) that provide public access. Combined, these units offer nearly 150 public access sites in the Bay region. The majority are on U.S. Army Corps of Engineers land. The Department of Defense has over 86 installations located in the Bay watershed, but 33 are not located on the Bay or its major tributaries and many provide limited or no public access.

The Department of Defense identified 30 potential new access sites. Security concerns limit the opportunities for expanding public access on most military lands. The ability to maintain a safe and secure environment in which to carry out the individual mission at each installation is paramount. Public access is a very low priority. Each installation's mission is different, and each installation commander takes its specific situation into account when determining the degree of public access. While the Army Corps of Engineers did not identify any opportunities for expanding public access on its lands, the Corps is not restricted by the security issues associated with other military lands.

The USDA Forest Service has two national forests in the Chesapeake region, one in West Virginia and one that spans portions of Virginia and West Virginia. The Forest Service identified 180 individual public access sites at these two units and noted that public access is a major feature of the Na-



Blackwater National Wildlife Refuge on the Eastern Shore is one of 10 U.S. Fish and Wildlife Service units in the Bay region. The refuge hosts the largest remaining natural population of Delmarva fox squirrels and the largest breeding population of American bald eagles on the East Coast, north of Florida. [Image: Russ Madler/Chesapeake Bay Program]



Children get involved in learning about wildlife and conservation at one of two National Forests in the Chesapeake watershed—the Monongahela National Forest and the George Washington and Jefferson National Forests. [Image: Daniel Arling/Courtesy of the USDA Forest Service]

tional Forest System. The Forest Service mission is to achieve quality land management under the sustainable multiple-use management concept to meet the diverse needs of people. The agency's strategic plan includes a goal for sustaining and enhancing high quality outdoor recreation opportunities on the nation's forests and grasslands. The Forest Service identified three potential new or expanded access sites in the Bay region.

The Bureau of Land Management has two land units; one unit is open to the public and has three access sites. The other land unit (Maryland Point SRMA) is currently closed to the public; however, the Bureau is looking for a partner to develop/manage the site. The Bureau identified six potential new access sites in the region.

Public Access through Federal Partnerships

Notable progress has been made in providing thematic visitor experiences of Chesapeake landscapes by connecting diverse sites across multiple jurisdictions. Many of these connective systems are coordinated or supported by federal agencies; however, the great majority of participating sites are on state, local, and non-governmental properties managed by non-federal entities. The success of these systems relies on the integrated efforts of local, regional and federal partners, with interests in both ecological and cultural landscapes. Examples of these systems include the following:

- **The Chesapeake Bay Gateways and Watertrails Network** is a partnership system of more than 160 Bay-themed parks, refuges, museums, historic sites, and water trails.
- **The Captain John Smith Chesapeake National Historic Trail**, which retraces Smith's 1607-1609 voyages of exploration on the Bay, interlaces outdoor and historic resources, and holds great potential for boosting local tourism.
- **The Star-Spangled Banner National Historic Trail** traces major events and related sites from the Chesapeake Campaign of the War of 1812, including the British campaign for Washington and birth of the National Anthem.
- **The Washington-Rochambeau Revolutionary Route National Historic Trail** follows the route taken by the American army and its French allies to their definitive victory against the British at Yorktown, Virginia.
- **The Potomac Heritage National Scenic Trail** will extend from the Allegheny Highlands to the mouth of the Potomac River.



A number of thematic trails and systems are increasingly connecting public access sites, natural areas and historic sites throughout the region, providing new ways for people to experience the Chesapeake. [Image: National Park Service]

These partnership systems highlight the important role of federal agencies, while demonstrating that the amount of public access available on federal land is dwarfed by the amount of access available at state and local sites. However, federal agencies support public recreation by coordinating major trail initiatives and by providing financial assistance to states and localities. Ultimately, public access goals must be achieved by expanding access on both federal and non-federal lands.

Public Access on Non-Federal Lands

President Obama's Executive Order specifically charges this report with addressing expanded public access to the Bay and its rivers on federal land. This report accomplishes that task. However, the scope of public access on federal land is small when compared to the amount offered at state and local sites. Dozens of state parks and forests, scores of local parks, numerous individual public boat launch facilities, and many non-governmental organizations (conservancies, land trusts, maritime museums, etc.) provide a wide variety of public access in the region. These include opportunities for hiking, fishing, boating, kayaking, hunting, camping, biking, wildlife observation, and nature photography, among others. It is important to note this wide range of access providers when considering the broad context of public access in the Bay region.

Reporting the specific number of recognized, non-federal public access sites is currently difficult. While the Chesapeake Bay Program does track access sites reported by the states and others, there are inconsistencies in definitions of public access across states and the federal government making direct numerical comparisons potentially misleading. A comprehensive approach to determining both existing and potential access on state, local, and federal lands requires more consistent reporting.

Public information on access sites managed by local, state and federal agencies and non-governmental organizations in the Chesapeake region is available through several sources. One extensive source is the collection of programs, guides, and internet resources available through the Chesapeake Bay Gateways and Watertrails Network (www.baygateways.net). Most access sites are also listed in the *Chesapeake Bay, Susquehanna River & Tidal Tributaries Public Access Guide*.²⁴ State agencies also provide their own guides to state, county, and municipal recreational resources through both printed materials and government web sites.

²⁴ The *Chesapeake Bay, Susquehanna River & Tidal Tributaries Public Access Guide* is available from the Chesapeake Bay Program at: <http://www.chesapeakebay.net/publicaccess.aspx?menuitem=14805>

Summary

Public access to the Bay and its tributaries enriches our communities. Outdoor recreation encourages physical health, human connectivity, and spiritual renewal. Time spent close to the land and water creates a sense of place that motivates more people to become personal stewards of our natural and cultural resources—and citizen advocacy is critical to the ultimate success of restoration efforts underway across the region.

Federal lands provide many public access opportunities and have the potential for offering new or expanded sites. However, federal agencies manage a relatively small portion of land in the region—much of it removed from the Bay proper—and access opportunities may be limited by agency missions, budget constraints, and land availability. The Department of Defense in particular must weigh the benefits of public access against its mandate to support national security, and the security of specific military sites. Increasing public access must ultimately be addressed through a combination of federal, state, and local sites. The federal government can assist with all levels of effort through the Gateways Network, National Trails, other assistance programs, and creative partnerships.



Chesapeake landscapes bridge nature and culture, as in this one along the lower Chesapeake Bay in Virginia.

[Image: Courtesy, Middle Peninsula Planning District Commission]

III. Recommendations for Expanding Landscape Conservation and Public Access in the Chesapeake Bay Region

This report outlines several major groupings of recommendations for addressing crucial gaps in landscape conservation and public access throughout the Chesapeake region:

1) ESTABLISH A CHESAPEAKE TREASURED LANDSCAPE INITIATIVE: COORDINATED AND TARGETED FEDERAL FUNDING FOR LANDSCAPE CONSERVATION AND PUBLIC ACCESS.

Several federal programs support direct purchases of land or easements to conserve landscapes or provide public access. There has been insufficient coordination between these programs. In many cases, federal funding has not been well-targeted to protect the most significant landscapes. Moreover, while tools and data exist for identifying the most ecologically important lands, the resources available for identifying culturally significant lands are limited.

A major *Chesapeake Treasured Landscape Initiative* is needed to address these issues. The initiative should:

- *Target funding in the Chesapeake:* Given the more than 2 million acres of Chesapeake landscapes currently identified as important for conservation—and a shortage of public access to Bay waters—the initiative should prioritize new investments within the Chesapeake region. This is consistent with the selection of projects as part of the \$115 million increase in funding for the Land and Water Conservation Fund in the President’s 2010 budget request over the 2009 enacted level.

- *Identify and prioritize treasured landscapes and public access sites:* Survey the region for culturally significant landscapes, build on existing data identifying ecologically significant landscapes, develop a Bay region public access plan, and target significant landscapes most threatened, either from land development and/or climate change, and priority public access sites.
- *Develop public access throughout the Bay region:* Enhance public access on federal lands and develop opportunities in partnership with state and local governments.
- *Coordinate efforts:* Future actions for conservation in the region must also be rooted in a coordinated strategy to target the most significant lands and the expenditure of federal, state and local funds for conservation of these treasured landscapes.

- a) **Target funding to the Chesapeake from the Land and Water Conservation Fund (LWCF) and other programs:** The LWCF was created in 1965 to acquire land, water and conservation easements for outdoor recreation and conservation purposes through both direct federal purchases and for acquisitions by states. Within existing or expanded LWCF funding, increased funds should be targeted toward the Chesapeake region as part of the *Chesapeake Treasured Landscape Initiative*.

LWCF funding for state acquisitions provided \$4.4 million for Bay states in 2009. State-side LWCF conservation of significant landscapes could be strengthened by modifying the Statewide Comprehensive Outdoor Recreation Plan (SCORP) guidelines to require that states plan and identify large ecologically and culturally significant landscapes for conservation. This should be done cooperatively between states where watersheds transcend political jurisdictions.

The LWCF is also the main source of funding for federal land acquisition for national wildlife refuges, national parks, and national forests. Existing authorities, including those authorized through the Captain John Smith Chesapeake National Historic Trail, the Star-Spangled Banner National Historic Trail, and acquisitions associated with other existing units of the National Park System and the National Wildlife Refuge System, can be used to increase the pace of land protection and expand public access within the boundaries of existing units.

Other federal programs of particular importance for a larger regional share of funding, targeting and coordination through the *Chesapeake Treasured Landscape Initiative* are:

Forest Legacy Program. This U.S. Forest Service program, also funded through LWCF, provides states with funds for easements and

acquisition of forest lands. The president's 2010 budget increases Forest Legacy by 86 percent with funds targeted at multi-jurisdictional/multi-resource efforts like those in the Bay region. The program uses existing criteria to prioritize projects that complement a larger conservation plan and enhance prior conservation investments.

Wetlands Reserve Program. This Natural Resources Conservation Service program, authorized under the Farm Bill, provides funds for the purchase of conservation easements and the restoration of vital wetland resources on agricultural lands. Use of this program in the Chesapeake Bay can contribute to ecologically and culturally significant landscapes along the Bay and its tributaries.

Farm and Ranch Lands Protection Program. This Natural Resources Conservation Service program, authorized under the Farm Bill, provides matching funds to eligible state, local, and non-governmental organizations for the purchase of conservation easements that protect conversion of farm and ranch lands to non-agricultural uses. It uses existing criteria to prioritize projects that protect significant historic and cultural landscapes that contribute to the rural character of the Bay region.

Coastal and Estuarine Land Conservation Program. This NOAA land conservation program focuses on acquiring lands fitting the characteristics of "treasured landscapes," particularly priority coastal conservation areas along or adjacent to Chesapeake Bay shorelines. Build upon the rising interest in NOAA, climate change, and ecosystem-based management of marine and coastal waters to improve and expand this program, perhaps in the context of Coastal Zone Management Act reauthorization, currently under consideration in Congress. The States and NOAA could additionally work toward strategic targeting of funding for the acquisition of treasured landscapes in the Bay region.

Transportation Enhancements, Scenic Byways & Recreational Trails Programs. Encourage state departments of transportation to use federal transportation programs to support state preservation of and access to priority landscapes. Transportation Enhancement offers funding to help expand transportation choices and enhance the transportation experience through twelve eligible activities, including pedestrian and bicycle infrastructure, scenic and historic highway programs, landscaping and scenic beautification, historic preservation and environmental mitigation. Under the Recreational Trails Program, states develop and maintain recreational trails and trail-related facilities for non-motorized and motorized recreational trail uses. Certain projects on designated National Scenic Byways and All-American Roads are also eligible for federal funding.

- b) **Identify and prioritize treasured landscapes:** To fully consider the range of treasured landscapes in the region, key gaps in current information must be filled. While federal and state agencies have made efforts to highlight and identify landscapes of both ecological and cultural value, the current picture is incomplete. Gaps in this information leave only a partial image of how landscapes are valued by humans; this poses obstacles to protecting the Chesapeake's treasured landscapes. Existing planning tools, such as state land assessment surveys, provide a foundation for context studies and landscape identification to fill these gaps.

In concert with descendant communities and heritage associations, and state and local governments, **conduct a landscape survey focused on specific significant landscapes within the Bay where the existing analysis is weak**, including the following:

- Landscapes with significance to Native Americans
- Landscapes with significance to African Americans
- Landscapes with significance to Hispanic Americans
- Working landscapes with significance to family farmers and watermen, among others.
- Other significant historic and cultural landscapes, such as urban landscapes connected to the Bay and its tributaries

To facilitate universal access to landscape conservation information and to provide a sound basis for decision-making, federal, state and local governments should **develop a consistent, comprehensive, and innovative geospatial information database**. Building on innovative geospatial applications such as Maryland's Greenprint and Virginia's Conservation Lands Database develop a region wide GIS application for all land conservation data. It should also include data on relevant threats from development and climate change, facilitating sound regarding where to focus conservation investments. This database along with criteria to assist with targeting of culturally and ecologically significant and threatened landscapes can be the **blueprint—a virtual strategy—for making informed, targeted, and strategic landscape protection decisions**. It should be publicly accessible to allow for use at all levels.

- c) **Develop public access throughout the Bay region:**

Public access on existing federal lands: Ten agencies have identified some 120 opportunities to provide additional access. These agencies should strive to implement these opportunities to the extent that funds are available.

Bay-Region Access Plan: To guide funding for strategic expansion of public access sites, federal, state and local governments should develop a

Bay-Region Access Plan addressing access to the Bay and its major tributaries from federal, state, and local lands. This access plan would include:

- An assessment of current and projected public demand
- A description of existing access facilities/opportunities
- Identification of gaps in public access where opportunities exist (for example, gaps in public access according to geography, types of access, underserved communities and populations)
- Identification of opportunities for expanding existing access areas and for creating new access areas; this should take into account opportunities that capitalize on existing systems and networks for public access, such as the Chesapeake Bay Gateways and Watertrails Network and national historic and scenic trails, among others.

Along with Statewide Outdoor Recreation Plans, the access plan should be used to focus federal, state and local funding for public access expansion.

Public access through federal partnerships: Utilize existing federal partnership systems to enhance public access throughout the region, e.g. the Captain John Smith Chesapeake NHT, Potomac Heritage NST, Star-Spangled Banner NHT, and the Chesapeake Bay Gateways and Watertrails Network.

- d) **Coordinate and leverage conservation efforts:** To maximize opportunities for efficient and coordinated conservation through the Initiative, develop a public-private partnership to coordinate and leverage federal and private conservation funds. This could be modeled on Great Outdoors Colorado (GOCO) or other models. Whatever the appropriate model, it would utilize the treasured landscape database; target and coordinate federal conservation funds; leverage public funds with private funds; and utilize a full array of protection authorities, in a coordinated, strategic manner.

2) CONSIDER NEW FEDERAL MANAGEMENT UNITS AND EXPANDING EXISTING UNITS.

National Historic Trails, National Wildlife Refuges, National Parks units, and other federal designations conserve the nation's most treasured places. Their importance in marshalling interest, awareness, resources, and an identity should not be underestimated.

Engage stakeholders and the public in exploring the creation of new or expanded federally designated areas as one means of making a significant contribution to landscape conservation and public access in the Chesapeake region. While the possible types of designations vary widely, approaches and models appropriate for this region would most likely be non-traditional; they

would involve collaborative partnerships and retain many patterns of land ownership and land use. One example might be using approaches like that of the Rappahannock River Valley National Wildlife Refuge, where federal lands are a small fraction of the conserved area, but coordination with voluntary and state-based conservation has improved the integrity and functionality of the landscape. Note that for many of the options below, Congressional action would be required.

Consider a new or expanded unit of the National Park System that would help protect treasured landscapes in the Chesapeake region. In 2003-2004, the National Park Service prepared the *Chesapeake Bay Special Resource Study*, which provided an initial assessment of establishing a national park unit to represent significant themes, lands, and ecosystems of the Chesapeake region.²⁵ After considerable consultation with states, stakeholders, and the general public, the study recommended making the Chesapeake Bay Gateways and Watertrails Network a permanent program of the National Park Service.²⁶ The study also outlined a number of options and approaches for how a park unit might be designed. Public comment suggested a further water trail option that led to the designation in 2006 of a new unit of the National Trail System, the Captain John Smith Chesapeake National Historic Trail. The Secretary of the Interior, as part of his *Treasured Landscape Initiative* could convene representatives of the state governors to explore the potential for a new or expanded unit of the National Park System that meets National Park Service criteria. A new park unit would require legislation.

Consider expanding National Wildlife Refuges. The Secretary of the Interior should direct the Fish and Wildlife Service to examine major river systems of the Bay region for opportunities to expand existing National Wildlife Refuges or create new ones. New additions to the refuge system could complement the 18 existing refuges within the Bay watershed by protecting nationally significant natural and cultural resources and providing additional compatible public access.

Consider expanding National Estuarine Research Reserve Sites in the Bay region. This partnership program between NOAA and the coastal states protects representative estuarine land and water, which provides essential habitat for wildlife; offers educational opportunities for students, teachers, and the public; and serves as living laboratories for scientists.

Consider creating a new Chesapeake Bay National Forest. In consultation with Congress and various partners, the USDA Forest Service could explore options for creating a new National Forest, particularly in Maryland

²⁵ The *Chesapeake Bay Special Resource Study* is available on-line at: http://www.baygateways.net/finalreport/Chesapeake_Bay_Final_SRS.pdf

²⁶ Legislation is pending in both the U.S. House of Representatives and U.S. Senate to do just this.

or Delaware, which have no such designations. Forests could be focused on riparian corridors and do not have to be contiguous. A new National Forest would require legislation.

Consider creating U.S. Army Corps of Engineers recreation areas.

The Army Corps of Engineers, the largest federal provider of water-based recreation, has no public outdoor recreational facilities directly on the main stem of the Bay in Maryland or Virginia or on the Susquehanna River in Pennsylvania.

Consider establishing a new National Marine Sanctuary(s) in the Bay.

NOAA could work with Maryland and Virginia to designate appropriate cultural and natural resource areas as National Marine Sanctuaries in the Bay. The principal objective of a sanctuary is to protect natural and cultural features while allowing people to use and enjoy the waters in manner that is compatible with the National Marine Sanctuaries Act's principle purpose of resource protection. National Marine Sanctuaries can also be established by Congress. There are currently no National Marine Sanctuaries in the Chesapeake Bay.

Consider establishing a network of protected aquatic sanctuaries. Under NOAA leadership and support, link protected lands with open water and benthos. This may involve multiple NOAA programs and authorities (as noted above) and would involve an interactive public process and engagement with states. For example, the Coastal and Estuarine Land Conservation Program could be a mechanism for acquiring and protecting critical habitats/significant landscapes; the Coastal Zone Management program could facilitate long-term planning and coordination; the National Marine Sanctuaries program could help dedicate a Chesapeake Bay site, and the Marine Protected Areas program could foster the establishment of a network of estuarine protected areas.

Consider using national and state heritage area programs to promote land conservation. Heritage areas identify nationally or regionally important landscapes that combine natural and cultural values. At their best, heritage areas are successful community-based models for protection of landscapes, heritage tourism, and economic development. Carry out the congressionally authorized heritage area study on the Northern Neck and work with the National Park Service's National Heritage Area program to consider other possible heritage areas in the Chesapeake region. A new heritage area would require legislation.

Consider designating national wild and scenic river(s). The National Wild and Scenic Rivers system safeguards the special character of these rivers, while also recognizing the potential for their appropriate use and development. Rivers may be designated by Congress or by the Secretary of the Interior under the Wild and Scenic Rivers Act. Designated segments need

not include the entire river. Rivers are classified as wild, scenic, or recreational. No rivers in the Bay region are currently part of the system.

Consider utilizing Department of Defense (DoD) encroachment mitigation. DoD could work with federal, state, local, and non-governmental partners to direct their encroachment mitigation dollars toward fee title or easement purchase of the Bay's significant landscapes. This concept could also apply to DoD surplus lands, by working with other federal agencies to ensure lands transferred from DoD ownership are conserved in a way that prevents encroachment. DoD could also give internal priority to encroachment mitigation that has ecological and historical value.

Consider revising federal policies related to maintaining security standards while providing public access. In order to protect national interests with prompt and sustained combat operations, the Department of Defense must maintain secure military installations. Public access must be controlled and limited to accomplish this objective. However, installations require different levels of physical security. Each installation, including annexes or outlying properties, should examine their access policy with an eye toward enhancing the ability of the general public to access the Chesapeake Bay through its lands. This could include limited access on weekends or particular days of the week, and could be restricted to particular activities and areas that are mission-compatible.

Consider using the Department of Defense Readiness and Environmental Protection Initiative (REPI) for possible development or acquisition of public access on lands adjacent to military units. While the primary purpose of REPI is to relieve encroachment pressures on training, testing, and support operations at U.S. military bases, it could also be looked at as an opportunity to enhance public access to the Bay. The Department of Defense could preferentially partner with state and local governments agencies and nonprofit organizations that promote public access, and give priority to possible REPI actions that favor conservation areas with public access potential.

Consider expanding funding for environmental repair/brownfield clean-up of military facilities. The Installation Restoration Program was developed by the Department of Defense to identify, assess, characterize, and clean up or control contamination from past hazardous waste disposal operations and hazardous materials spills at military facilities. Public access can be built into these recovered areas to the extent possible; this may include expanding the restoration vision by adding public access as an objective in the clean-up program.

Consider broadening federal policies regarding the development of public access partnerships. Encourage federal agencies to develop partnerships with other federal, state, local or private entities to increase public

access on or adjacent to federal sites. Provide incentives, training, and appropriate models to encourage broad-sweeping and creative partnership efforts.

3) PROVIDE INCENTIVES FOR CONSERVATION AND PUBLIC ACCESS.

Private citizens, non-governmental organizations and all levels of government must play roles in conserving land and providing public access if conservation goals for the Chesapeake region are to be realized. The *Great Outdoors America* report states that “private stewardship over the past 20 years has become a major entrepreneurial force in protecting land and water resources and providing outdoor recreation, as well as offering ample opportunities to advance the outdoor resources agenda.” Yet, to maximize private stewardship—or stewardship actions by other levels of government—key incentives must be maintained and enhanced, and targeted to significant landscapes threatened by land development and/or climate change. This report recommends the federal government continue to play a role in providing incentives through tax policy, funding, and market-based programs.

- a) **Consider extending federal tax benefits for qualified conservation contributions.** Tax policy is a crucial incentive in stimulating and supporting private stewardship. Donations of conservation easements for qualified historic and conservation purposes are deductible up to 50 percent of a taxpayer's income (100 percent for qualified farmers and ranchers). These benefits revert to lower amounts and a shorter carry over period at the end of 2009. The president's Fiscal Year 2010 Budget proposes to extend these benefits for one year. Consider longer-term options, such as across-the-board extensions or targeted benefits where donations make sufficient contributions to a recognized multi-jurisdictional resource (like the Chesapeake). Ensure that donations consistent with Chesapeake land conservation goals are deemed by the IRS to meet qualifications. This will require coordination with the Department of the Treasury and action by Congress.
- b) **Incentives to state and local governments and others for conservation.** Some funding is already focused directly on conservation activities—and should be continued; such as the *USDA's Chesapeake Bay Watershed Initiative*. The Natural Resources Conservation Service administers this Farm Bill initiative providing financial and technical assistance to agricultural producers who improve water quality and quantity in the Chesapeake Bay Watershed. The assistance goes towards implementing activities on lands where there is significant ecological value if the lands are retained in their current use or restored to their natural condition. Special Initiative funding is delivered through existing Farm Bill programs, and is carried out in consultation to complement other federal and state programs and conservation activities in the watershed.

Other funding supports state or local activities related to, or with potential to, influence land conservation or development. The federal government could better use these funds as incentives for landscape conservation by applying criteria or conditions. As just one example, the ***Department of Transportation (DOT) could promote no net loss of significant landscapes from infrastructure projects.*** DOT could improve links between conservation planning and transportation planning, and encourage state departments of transportation to implement the principle of “no net loss” of priority conservation lands in conjunction with transportation projects. Other infrastructure agencies would also be encouraged to apply this principle. State resource agencies would identify priority conservation lands, with some federal guidance as to types.

c) Options to stimulate market-based incentives for conservation.

There is a growing interest in a variety of approaches to various ecosystem markets. Options which would help stimulate landscape conservation as part of such approaches include the following:

Landscape conservation as an option for carbon mitigation. The federal government may soon be regulating carbon and tracking carbon credits under the Clean Air Act or other legislation. The permanent conservation of lands identified for their potential to sequester carbon (to act as a “carbon sink”) could be provided as a mitigation option.

Ecosystem markets through new or existing regulations. Facilitate private investments in landscape conservation and restoration activities through emerging carbon markets (the Energy Bill), habitat regulations (Endangered Species Act), and nutrient trading (Clean Water Act section 117). Ensure that the programs reward landowners for voluntarily maintaining forests and improving habitats, and ensure that a portion of the potential carbon allocations generated by future legislation is diverted to available climate adaptation in significant Bay landscapes.

4) PROVIDE LAND CONSERVATION ASSISTANCE AND CAPACITY BUILDING.

With the exception of direct federal and state land acquisitions, all land use planning and conservation decisions happen at the local level either through county or municipal government or non-governmental organizations (primarily land trusts). Yet, many of the 1,600 units of local government and more than 170 land trusts in the Bay watershed are stretched thin by other issues, financial constraints, or an inability to focus on significant landscape conservation.

Regardless of direct funding, incentives or regulatory requirements for land conservation, many local governments and non-governmental organizations

central to on-the-ground conservation require greater capacity for carrying out their roles. Many rural localities may have only one planner handling all land use and development decisions. A large number of local jurisdictions do not have viable conservation programs. A relatively small number of county governments have farmland protection programs and fewer yet have programs for protecting natural and ecologically important lands. A majority of local land trusts are small organizations of limited resources and ability to define the lands most important to protect. Often local jurisdictions and land trusts lack the time or expertise to access resources for supporting the comprehensive conservation effort so critical to the Chesapeake Bay.

Technical assistance can help local governments and land trusts in developing strategies for land conservation. Many federal and state agencies provide funding and/or direct technical assistance to local governments and organizations. Notable efforts exist to provide collaborative, coordinated technical assistance among some agencies and other partners—such as the Land Trust Alliance, Watershed Assistance Collaborative in Maryland and the Network for Education of Municipal Officials (NEMO)—but these conservation efforts would greatly benefit from more strategic coordination. Capacity-building at the local level could enable conservation to move dramatically forward in the coming decade. To build on these efforts and address the still unmet need, the following actions could be taken:

Support a conservation capacity-building program for land trusts. Following new approaches to building organizational strength—such as the “Capacity Building Initiative” for watershed organizations established by the Chesapeake Bay Funders Network – fund and establish a program focused on improving the ability of organizations to carry out land conservation actions. The program could:

- Concentrate on organizations working in locations with identified significant landscapes;
- Support organizational development needs necessary for creating effective conservation capacity
- Assist in developing the means for prioritizing lands important for ecological or cultural values at the local or sub-regional level tied to state and watershed-wide systems.

Provide support for the initiative—including assistance to participating land trusts—through existing federal programs, along with funds from state and non-governmental sources. Partner with the Land Trust Alliance, Pennsylvania Land Trust Association and others to develop this effort.

Coordinate the network of technical assistance providers. Create a workgroup among technical assistance providing agencies and state partners to facilitate coordination, including assessing current technical assistance

capabilities and gaps; focusing efforts in priority landscapes; improving local government access to assistance providers; and ensuring adaptability of technical assistance for emerging land use trends.

Integrate and support local state, regional and landscape scale conservation planning. Responsible federal agencies can collaborate with states in providing up-to-date guidance, technical assistance, and training on the comprehensive identification and assessment of important natural and cultural landscapes within the watershed. Provide information and a forum for best practices in the new field of landscape scale planning and conservation. Support a coordinated watershed-wide survey to identify these resources, gathering data at all levels of government to form the basis of conservation priorities; consistent with recommendation 1 b.

5) COORDINATE USE OF FEDERAL REGULATORY TOOLS.

Although not often thought of as having a significant role in land conservation, regulatory tools, such as wetland and stormwater permits and mitigation requirements, provide either incentives or challenges for protecting significant landscapes, depending on their design. To better conserve significant landscapes in the Chesapeake region, regulatory tools at the federal, state, and local levels should be analyzed to see they foster protection in an efficient manner.

With a focus on federal programs, some specific options for protecting significant landscapes through adjustments to existing regulatory programs are highlighted below.

Integrate federal mitigation requirements and focus them through “ecosystem banking.” Use and strengthen the requirements of existing federal programs which require mitigation actions (e.g., wetland replacement) to integrate the mitigation, restoration, and permanent land protection of significant Chesapeake landscapes. Combine individual program requirements into a comprehensive effort for “ecosystem banking” that aggregates mitigation actions to conserve significant landscapes. Examples of how programs could be modified include:

Target mitigation using the watershed approach under §404 of the Clean Water Act.

The Clean Water Act requires compensatory mitigation for permitted losses of waters of the United States including wetlands. The 2008 Compensatory Wetland Mitigation Rule creates a preference for wetland mitigation and stream mitigation banks, and in-lieu fee conservation. It also establishes a preference principle for compensatory mitigation in the same watershed as the impact. Site new in-lieu fee conservation sites and wetland and stream banks in areas targeted for restoration; engage with the Corps of Engineers

and state permitting authorities for approval and use of these sites; and enter into undertakings with large-scale repeat users of mitigation.

Directly link water quality regulations to landscape conservation

planning. Federally mandate that landscape conservation planning be the guiding principle for both direct and delegated regulatory authority under the Clean Water Act (e.g., TMDL implementation plans, MS4 permits). Seek federal legislation or issue revised rules that require the planned conservation of E.O. 13058, Sec 202(e) defined landscapes directly adhere to the defined comprehensive standards of the watershed in which it is situated.

For TMDLs, landscape conservation should be one means to demonstrate reasonable assurance for reducing nonpoint source load allocations. Pending EPA guidance to the States for Watershed Implementation Plans should include a provision requiring watershed-based planning, establishment of accountability mechanisms, and implementation of valuable resource lands conservation. Such planning and implementation should provide for the permanent protection of valuable resource lands including forests, wetlands, riparian buffers, and environmentally beneficial agricultural land use, which is necessary to ensure that pollution loads to the Bay are kept below segment-shed load allocations.

Appendix 1

Recognition Programs for Landscapes of Ecological, Cultural, and Recreational Value

The following table provides an extensive, although not exhaustive, list of programs that recognize or designate important landscapes and/or preserve land in the Chesapeake Bay watershed. The table also indicates the primary landscape focus of the program—Ecological/Scientific or Cultural, Historic, and Recreational; some programs are cross-cutting and recognize both.

Commonly used abbreviations include the following:

DoD	U.S. Department of Defense
FWS	U.S. Fish and Wildlife Service
NOAA	National Oceanic and Atmospheric Administration
NPS	National Park Service
USDA	U.S. Department of Agriculture

Federal Recognition Programs	
Program	Landscape Focus
National Forest System USDA Forest Service. There are two national forests in the Chesapeake watershed, one in West Virginia and one that spans portions of Virginia and West Virginia. Both are located near the headwaters of Bay tributaries; there are no national forests in close proximity to the Bay itself.	Ecological/Scientific
Conservation Reserve Program (CRP) USDA. The CRP is a voluntary program through which farmers plant trees and/or grasses to improve water quality, control soil erosion, and enhance wildlife habitat. In return, participants receive rental payments and cost-share assistance for 10 to 15 years. The long-term enrollment for Bay states as of June 2009 is 113,436 acres. Lands located within a hydrologically delineated wellhead protection area are eligible for the CRP. Protecting these areas is critical to safe and clean drinking water supplies.	Ecological/Scientific
Conservation Reserve Enhancement Program (CREP) USDA. CREP is a voluntary program that helps farmers protect environmentally sensitive land, decrease erosion, restore wildlife habitat, and safeguard ground and surface water. As of June 2009, CREP enrollment for Bay states includes 320,844 acres in New York, Pennsylvania, Maryland, Delaware, Virginia, and West Virginia.	Ecological/Scientific
Grass Roots Source Water Protection Program (SWPP) USDA. The SWPP helps prevent source water pollution through voluntary practices installed by farmers. Participating Bay states include Delaware, Pennsylvania, and Maryland.	Ecological/Scientific
State Acres for Wildlife Enhancement (SAFE) USDA. SAFE, a CRP initiative, provides states and regions the opportunity to develop plans that conserve 500,000 acres for high priority wildlife areas. As of June 2009, the Bay state enrollment includes 156 acres and 407 acres of pending offers in Virginia, Pennsylvania, and New York.	Ecological/Scientific
Forest Service Heritage Program USDA. The Forest Service Heritage Program protects significant heritage resources, shares their values with the American people, and contributes relevant information and perspectives to natural resource management.	Cultural, Historic, and Recreational
Chesapeake Bay Watershed Initiative (CBWI) USDA Natural Resources Conservation Service (NRCS). The CBWI, authorized under the 2008 Farm Bill, provides technical and financial assistance to agricultural producers who implement conservation practices that reduce sediment and nutrient levels. CBWI gives special consideration to producers in the following river basins: the Susquehanna River, the Shenandoah River, the Potomac River (including North and South Potomac), and the Patuxent River.	Ecological/Scientific

Federal Recognition Programs	
Program	Landscape Focus
Various Conservation Programs USDA Natural Resources Conservation Service (NRCS). The NRCS administers three conservation easement programs that directly protect priority lands (the Grasslands Reserve Program, the Healthy Forests Reserve Program, and the Wetlands Reserve Program). NRCS also administers the Farm and Ranch Lands Protection Program, which provides matching funds to states, local governments, and non-governmental agencies for the purchase of conservation easements on agricultural lands.	Ecological/Scientific Cultural/Historical
Recreation Areas U.S. Army Corps of Engineers. Corps recreation areas are part of a stated mission to manage and conserve natural resources in ways that are consistent with ecosystem management principles, “while providing quality public outdoor recreation experiences to serve the needs of present and future generations.” There are no Corps public outdoor recreation areas on the mainstem of the Bay in Maryland or Virginia, or on the Susquehanna River in Pennsylvania. Creating such areas would require legislation.	Cultural, Historic, and Recreational
National Marine Sanctuary System U.S. Department of Commerce. National Marine Sanctuaries protect the natural and cultural features of aquatic areas while allowing sustainable public use of the waters. They are favorite recreational spots for sport fishing and diving, and they support tourism and commercial fishing. They serve as outdoor classrooms for schoolchildren and laboratories for researchers. There are currently no National Marine Sanctuaries in the Bay.	Ecological/Scientific
Bureau of Land Management (BLM). The BLM and Maryland Department of Natural Resources jointly manage the 1250-acre Douglas Point Special Recreation Management Area, part of the Nanjemoy Natural Resource Management Area. The property includes the first BLM designated Heritage National Scenic Trail segment in the east. BLM has also acquired Meadowood Farm, an 800-acre special recreation management area in Virginia.	Cultural, Historic, and Recreational
National Wildlife Refuge System Fish & Wildlife Service. Refuge units are established and managed primarily for fish and wildlife conservation and contain nationally significant landscapes. There are 18 National Wildlife Refuges with all or part of their ownership located within the Bay watershed. These units encompass 79,596 acres, protecting diverse habitats that support migratory birds, anadromous fish, and endangered species.	Ecological/Scientific
National Fish Hatchery System Fish & Wildlife Service. Harrison Lake Fish National Fish Hatchery in Charles City, Virginia, was established primarily to culture fish and aquatic wildlife for population restoration and recovery efforts. The 444-acre facility lies within the Bay watershed and contains mature forest, wetlands, a 90-acre lake, and riparian habitats that support migratory birds and anadromous fish. Public uses that are compatible with hatchery operations are encouraged, including hiking, wildlife viewing, boating, and fishing.	Ecological/Scientific Cultural, Historic, and Recreational
National Wild and Scenic Rivers System Fish & Wildlife Service and National Park Service. The National Wild and Scenic Rivers System preserves rivers with outstanding natural, cultural, and recreational values for the enjoyment of present and future generations. There are no Chesapeake rivers within the system, but its partnership model could provide a framework for river conservation and stewardship.	Ecological/Scientific
National Park System National Park Service. The National Park Service manages 83 units of the National Park System within the Bay watershed, including Civil War battlefields, parks, historic sites, and trails; most are distantly removed from the Bay itself. National Park Service units protect and provide for the public enjoyment of nationally significant cultural, natural, or recreational resources.	Cultural, Historic, and Recreational
National Natural Landmark (NNL) Program National Park Service. The NNL Program is the only program of national scope that identifies and recognizes the best examples of biological and geological features in both public and private ownership. Participation involves the landowner’s voluntary commitment to retain the integrity of their property. Pennsylvania has 27 NNLs; Virginia has 10, and Maryland has 6.	Ecological/Scientific
National Historic Landmarks Program National Park Service. The National Historic Landmarks Program recognizes and protects exceptional places that are associated with historic events, people, and ideals. While normally associated with architecture, landscapes—such as battlefields, historic trails, and	Cultural, Historic, and Recreational

Federal Recognition Programs	
Program	Landscape Focus
archeological sites—can be recognized if they meet the criteria. Delaware, the District of Columbia, Maryland, Pennsylvania, and Virginia are home to 639 National Historic Landmarks.	
National Register of Historic Places National Park Service. This is the official list of the nation's historic places worthy of preservation. More than 9,700 registered properties are located in Delaware, the District of Columbia, Maryland, Pennsylvania, and Virginia, including 1,335 registered historic districts.	Cultural, Historic, and Recreational
National Heritage Areas (NHAs) National Park Service. NHAs are geographic regions with a distinctive landscape, formed by both human activity and geography, which tell a nationally important story. NHAs are partnerships of private and public natural, cultural, historic, and scenic resources that promote economic development (including heritage tourism and recreation); historic preservation; resource protection; and heritage interpretation. There are four NHAs in Pennsylvania, two in Virginia, and one in Maryland.	Cultural, Historic, and Recreational
National Historic Trails National Park Service. National historic trails commemorate historic (and pre-historic) routes of travel that are of significance to the entire nation. Two national historic trails have been established within the Bay region: the Captain John Smith Chesapeake National Historic Trail, which follows Smith's 1609 explorations of the Bay; and the Star-Spangled Banner National Historic Trail, which follows the water and land routes of the British invasion during the War of 1812.	Cultural, Historic, and Recreational
National Scenic Trails National Park Service. National scenic trails are continuous, primarily non-motorized routes of outstanding recreation opportunity running 100 miles or longer. The Appalachian National Scenic Trail runs through western areas of the Bay watershed, and the Potomac Heritage National Scenic Trail follows the river from the Allegheny Highlands of Pennsylvania to the Bay.	Cultural, Historic, and Recreational
National Recreation Trails National Park Service. National Recreation Trails recognize exemplary trails of local and regional significance. More than 45 trails have been designated in the Bay states and the District of Columbia.	Cultural, Historic, and Recreational
National Battlefield Protection Program National Park Service. This program assists citizens, private and public institutions, and governments in planning, interpreting, and protecting sites where historic battles were fought on U.S. soil. In addition to updating a 1993 survey on Civil War battlefields, the program reported to Congress on the historic preservation of Revolutionary War and War of 1812 sites (September 2007). These surveys identify and assess principle battle sites based on condition, integrity, and land use issues, and put forward options for permanent protection.	Cultural, Historic, and Recreational
Chesapeake Bay Gateways and Watertrails Network National Park Service. This network features 160 parks, wildlife refuges, museums, sailing ships, historic communities, and trails throughout the Bay watershed. The diverse sites share the common goals of a better understanding of the Bay by enhancing interpretation and education; promoting access through information, maps, guides and improvements; and conserving and restoring the natural, cultural, historical and recreational resources of the Bay.	Cultural, Historic, and Recreational Ecological/Scientific
Preserve America. Preserve America is a matching-grants program that supports community efforts to preserve and enjoy our cultural and natural heritage. Goals include a greater shared knowledge about the nation's past, strengthened regional identities and local pride, increased local participation in preserving the country's cultural and natural heritage assets, and support for the local economic vitality.	Cultural, Historic, and Recreational
American Heritage Rivers Initiative Environmental Protection Agency. This decade-old initiative offers special recognition to outstanding stretches of America's rivers. The 14 designated rivers received federal assistance in the form of refocused programs, grants, and technical assistance from existing federal resources for a period of five years. Within the Bay watershed, the Upper Susquehanna and Potomac rivers received this designation.	Cultural, Historic, and Recreational
National Scenic Byways U.S. Department of Transportation. The National Scenic Byways Program is a grass-roots collaborative effort to help recognize, preserve, and enhance selected roads. The U.S. Secretary of Transportation designates roads as National Scenic Byways or All-American Roads based on their archeological, cultural, historic, natural, recreational, or scenic qualities under Federal Highway Administration policies and criteria for the National Scenic Byways Program. Several National Scenic Byways are designated within the Chesapeake Bay watershed, including Maryland's Chesapeake County Scenic Byway.	Cultural, Historic, and Recreational

State Recognition Programs	
Program	Landscape Focus
Agricultural Lands Preservation Program Delaware. Landowners voluntarily create an Agricultural Preservation District of at least 200 acres for a minimum commitment of ten years. These landowners receive tax benefits, right-to-farm protection, and an opportunity to sell a preservation easement to the state. High quality soils, significant agricultural infrastructure, historical and environmental significance are factors considered in the selection of farms for permanent preservation.	Cultural, Historic, and Recreational
Scenic and Historic Highway Program Delaware. Designation depends on a corridor's scenic, historic, natural, and cultural resources. Four corridors are currently designated, including the Harriet Tubman Underground Rail Road Corridor; others are in study, including a scenic byway based on the Nanticoke River.	Cultural, Historic, and Recreational
State Resource Area Analysis Delaware. This is a geographically-based assessment tool that analyzes natural resources, historic sites, geological sites, and landscape changes for defining the state's most environmentally and culturally significant lands. The state's Open Space Program funds are specifically targeted to State Resource Areas—lands with the highest resource conservation value.	Ecological/Scientific Cultural, Historic, and Recreational
Maryland Heritage Areas. Maryland's Heritage Areas are locally designated and state-certified regions where public and private partners make commitments to preserving historical, cultural, and natural resources for sustainable economic development through heritage tourism. Eleven state heritage areas have been designated within Maryland's portion of the Bay watershed.	Cultural, Historic, and Recreational
Maryland Register of Historic Properties. The Maryland Register lists properties considered worthy of preservation for significance in American history and culture. It includes districts, buildings, sites, and objects. Certain state regulatory protections and grant and loan programs are available for listed properties.	Cultural, Historic, and Recreational
Maryland Inventory of Historic Properties. This is a catalog of districts, sites, buildings, structures, and objects of known or potential value to the prehistory, history, terrestrial and underwater archaeology, architecture, engineering, and culture of Maryland. The Maryland Inventory is often used as the basis for determining the significance of a resource and for establishing eligibility and context for nominations. Inclusion in the inventory carries no regulatory protections or financial benefits.	Cultural, Historic, and Recreational
GreenPrint Maryland. GreenPrint Maryland uses color-coded maps, natural resource assessment data, and aerial photography to show the relative ecological importance of every parcel of land in the state and to identify ecological conservation tracts. The web-enabled tool applies the best environmental science and geographic information systems to the work of preserving and protecting environmentally critical lands. GreenPrint also tracks the achievements of the state's land conservation programs.	Ecological/Scientific
AgPrint Maryland. AgPrint assesses the vulnerability of a rural resource area to development. The analysis shows whether local zoning will allow for further development on the site, whether development pressure exists, and the extent to which the site is already fragmented by development. The results can be used for both natural resource and agricultural conservation to ensure that the value of land conservation in a particular area is not compromised due to the likelihood of nearby development. AgPrint is also used to track the state's farmland preservation goal.	Cultural, Historic, and Recreational
Pennsylvania Heritage Areas. Pennsylvania Heritage Areas cultivate community and economic development, encourage tourism, and develop recreational and cultural activities. The program is a key component of the state's tourism industry, and is administered by the Pennsylvania Department of Conservation and Natural Resources in conjunction with an interagency task force. Six state-designated heritage areas fall within the boundaries of the Bay watershed.	Cultural, Historic, and Recreational
Pennsylvania Conservation Landscape Initiative. Lead by the state conservation and natural resource agency, related state agencies, local governments, nonprofits, and other groups have collaborated to drive strategic investment and actions around sustainability, conservation, community revitalization, and recreational projects. Four of the conservation landscapes are within the Bay watershed and two are focused around key stretches of the Susquehanna River.	Ecological/Scientific Cultural, Historic, and Recreational

Virginia Conservation Lands Database. This state-wide database includes state, federal, private, and local lands and conservation easements. Utilizing GIS and other systems, the database is also used to track Virginia's progress towards the land conservation goal in the Chesapeake 2000 agreement of protecting 20 percent of the Chesapeake Bay Watershed by 2010.	Ecological/Scientific
Virginia Landmarks Register. The Virginia Landmarks Register recognizes buildings, sites, structures, objects, and districts having historic and cultural significance, including battlefields, archaeological sites, and rural historic districts. Virginia Historic Landmark status is used by public and private decision-makers for resource protection and for economic development, tourism, and educational purposes. The Register formally includes over 2,600 listings that encompass more than 85,000 properties.	Cultural, Historic, and Recreational
Virginia Historic Resources Inventory Data-Sharing System. This web-enabled information system combines the mapping attributes of a GIS with detailed data fields for more than 190,000 locations. This tool can be used to create maps with historic buildings, districts, battlefields, archaeological sites, and other historic features for planning and decision-making by locality or project area. It indicates whether or not properties have been listed on state or national historic registers and identifies reference materials available at other public agencies.	Cultural, Historic, and Recreational

Private/Non-Governmental Recognition Programs	
Organization	Landscape Focus
Trust for Public Land (TPL). TPL works across the region on a wide variety of conservation and park projects. TPL recently launched a program in Maryland (with consideration to expand into Virginia) called "Parks for People: Maryland Community Rivers," which has identified remaining undeveloped, unprotected properties along major rivers in central Maryland and the western shore of the Bay. In these areas, currently only about 20 percent of the land is unprotected and TPL estimates that there are over 230,000 acres of lands that are currently undeveloped and potentially available for protection. TPL's goal is to see one-third (about 75,000 acres) of the unprotected lands protected over the next 20 years.	Ecological/Scientific Cultural, Historic, and Recreational
Eastern Shore Land Conservancy (ESLC). ESLC is a Maryland-based nonprofit organization that helps to save land and promote sound land use planning from the C&D Canal in Cecil County to the Nanticoke River in Dorchester County. ESLC has identified six priority conservation areas in accordance to their strategic plan, which calls for emphasizing the quality of land protected more than the amount of acreage.	Ecological/Scientific
Susquehanna Greenway Partnership. The Susquehanna Greenway Partnership is a non-profit organization with a holistic approach to conserving, restoring, and interpreting the natural and cultural heritage of the Susquehanna Valley. Focused around the 5,000 miles of river in Pennsylvania, the greenway itself is a planned corridor of interconnected water- and land-based trails, parks, river access points, riparian buffers, and pathways linking the Susquehanna River and West Branch with cities, towns, rural areas, conserved natural lands, and forests.	Ecological/Scientific Cultural, Historic, and Recreational
The Nature Conservancy. The Nature Conservancy has facilitated ecological assessments in the Bay region that identify priorities in terrestrial environments (approximately 70 large, contiguous forests plus hundreds of examples of rare/threatened species and natural community occurrences), freshwater systems (over 120 examples of small and medium watersheds and large rivers), and 15 significant estuarine areas.	Ecological/Scientific

Appendix 2

Federal Land Units Reporting Public Access to the Bay and Its Major Tributaries

The following is a list of federal land units—by agency—that reported information on public access to the Bay and its major tributaries, as summarized in Section II of this report. The list includes both units open to the public and those that are currently closed but have been identified as having potential new access opportunities (the latter are identified by an asterisk).

U.S. Fish and Wildlife Service

Blackwater National Wildlife Refuge, MD
Eastern Neck National Wildlife Refuge, MD
Eastern Shore of Virginia National Wildlife Refuge, VA
Elisabeth Hartwell Mason Neck National Wildlife Refuge, VA
Featherstone National Wildlife Refuge, VA*
Harrison Lake National Fish Hatchery, VA
James River National Wildlife Refuge, VA
Occoquan Bay National Wildlife Refuge, VA
Patuxent Research Refuge, MD
Plum Tree Island National Wildlife Refuge, VA*
Presquile National Wildlife Refuge, VA
Rappahannock River Valley National Wildlife Refuge, VA

Bureau of Land Management

Douglas Point SRMA, MD
Maryland Point SRMA, MD*

U.S. Forest Service

George Washington and Jefferson National Forests, VA & WV
Monongahela National Forest, WV

National Park Service

Antietam National Battlefield, MD
C & O Canal National Historical Park, MD
Catoctin Mountain Park, MD
Fort McHenry National Monument and Historic Shrine, MD
George Washington Birthplace National Monument, VA
George Washington Memorial Parkway, VA
Harpers Ferry National Historical Park, WV
Manassas National Battlefield Park, VA

Monocacy National Battlefield, MD
National Capital Park – East, DC
National Mall & Memorial Parks, DC
Petersburg National Battlefield, VA
Potomac Heritage National Scenic Trail, VA
Prince William Forest Park, VA
Richmond National Battlefield Park, VA
Wolf Trap National Park for the Performing Arts, VA

Department of Defense

U.S. Navy
Greenbury Point, MD
NIOC Sugar Grove, WV
Norfolk Naval Station, VA

U.S. Army Corp of Engineers
Almond Lake, NY
Alvin R. Bush Dam, PA
Aylesworth Creek Lake, PA
Cowanesque Lake, PA
Curwensville Lake, PA
East Sidney, NY
Foster J. Sayers, PA
Jennings Randolph Lake, VA/MD
Lake Moomaw (Gathright Dam), VA
Raystown Lake, PA
Stillwater Dam, PA
Tioga-Hammond Lakes, PA
Whitney Point Dam, NY

U. S. Air Force
Big Bethel Reservoir & FAMCAMP, VA
Bolling Air Force Base, DC
Langley Air Force Base, VA*

U.S. Marine Corp
MCB Quantico, VA

Appendix 3

Map of Protected Lands in the Chesapeake Bay Watershed

