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Chapter 5

Alternatives



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5. Alternatives

5.1 Introduction

This chapter of the joint comprehensive management plan and corridor management plan (CMP) describes alternatives for future management of the Star-Spangled Banner National Historic Trail and Scenic Byway. Two alternatives are described and compared and a preferred alternative is identified. When the plan is approved the NPS and its partners would implement the preferred alternative as the framework for future planning, development, and management of the trail. Data used to compare the alternatives are summarized from the environmental impact analysis presented in chapter 6 below, prepared pursuant to the National Environmental Policy Act.

During the CMP planning process the NPS planning team, in collaboration with its partners and the public, developed and evaluated two trail management alternatives:

- Continuation of Current Management (alternative 1)
- War of 1812 in the Chesapeake (1812 – 1815) (Alternative 3)

An additional alternative – Chesapeake Campaign of Summer 1814 (alternative 2) – was developed and presented to the public for review and comment but was dismissed from further consideration (section 5.3 below).

Common to the two alternatives retained for further consideration is the trail management framework described in chapter 3.0 above. The framework provides the overarching management principles that the NPS and its partners would implement in each region of the trail. The framework summarizes broad guidance for management decision-making related to visitor experience, resource protection, land route enhancements, high potential route segments and historic sites, tourism and marketing, connecting or side trails, and carrying capacity.

Regional focus area studies (section 5.6 below) completed as part of the CMP planning process identify a range of additional projects that are consistent with the CMP that could be implemented, if and when funding is available. Future programming and implementation plans, describing

specific actions – such as design and construction of facilities along a water trail – that the NPS and/or its partners intend to undertake and accomplish along the trail, would also build on the desired conditions and long-term goals set forth in the CMP. More detailed environmental documentation and consultations would be completed, as appropriate, before such specific actions identified in the selected alternative could be carried out. All construction and staffing proposals under the alternatives would be subject to funding limitations and priorities of the NPS and its partners and are anticipated to be staged over the 20-year life of the CMP.

5.2 Development of Alternatives

Development of the CMP alternatives occurred through a progression of planning steps used by the NPS to prepare long-range management plans for national trails and for units of the National Park System (NPS 2005 and 2008b) and for units of the National Scenic Byways System (FHWA May 18, 1995). The planning process also addressed requirements for preparation of comprehensive management plans for national historic trails as stated in section 5(f) of the National Trails System Act, as amended. The CMP planning team led the process, conducting many internal planning workshops, and hosting frequent collaborative work sessions with other interested parties, including the Star-Spangled Banner National Historic Trail Advisory Council, the Star-Spangled Banner Scenic Byway Advisory Committee, staff of the NPS Chesapeake Bay Office (CHBA), the trail partners, the general public, local governments, civic organizations, trail user groups, and various federal, state, and local agencies (see chronology of public involvement and agency coordination activities in section 8.1 below).

The process initially focused on the legislative mandates and policy requirements for trail planning, development, and management (sections 1.3.4 and 1.3.5 above). This included developing an understanding of the purpose and significance of the trail, associated resources (intrinsic qualities) and values, legislative and other special mandates, interpretive themes, and related plans and programs. The planning process then concentrated on identifying management issues and concerns and developing a long-term vision for the trail.

The NPS invited the public to assist with these tasks at a set of seven workshops with stakeholders and the public, held in communities along the trail in October 2010 (appendix F). Five categories of issues emerged related to trail administration, trail land and water routes, resources and stewardship, interpretation and visitor experience, and trail coordination and management (section 1.5.2 above).

The CMP planning team subsequently considered strategies to address the planning issues and to accomplish the long-term vision for the trail. From this emerged the management concepts for the alternatives considered in the CMP. In the

spring of 2011 the CMP planning team circulated a newsletter that summarized the alternatives and hosted a second set of workshops with stakeholders and the public held in communities along the trail to obtain public comment on the alternatives. Public comments received at the meetings (appendix F) provided guidance for further refinement of the alternatives that are described and compared in the CMP. Later in the process, the planning team developed and applied criteria for designation of high potential historic sites and high potential route segments (section 2.3 above).

Table 5.1 Summary of Management Alternatives Considered¹

	Continuation of Current Management (Alternative 1)	War of 1812 in the Chesapeake (Alternative 3)
Visitor Experience Focus	<p>Visitors would follow the land route from Solomons to North Point.</p> <p>Existing water trails and access on the Patuxent and Potomac Rivers would provide views of some War of 1812 sites.</p> <p>Trail partners would be encouraged to provide 1812 interpretation independently or in collaboration with nearby partner sites.</p> <p>The visitor center at Fort McHenry National Monument and Historic Shrine would be the primary visitor hub on the trail.</p>	<p>Visitors would learn about the people, places, events, and untold stories of the War of 1812 to 1815 time period, the commercial and social context of the war, the war's legacy, and the bay's natural ecology, as they explore and recreate along a shared trail land route.</p> <p>Water trails would provide new and enhanced interpretive media and public access beyond the extent of the Patuxent, Patapsco, and Potomac Rivers to the Upper Bay, Eastern Shore, Southern Maryland, and neighboring Virginia War of 1812 Heritage Trail.</p> <p>Guided and self-guided itineraries and other interpretive media would provide new opportunities to explore the cultural and natural history of the Chesapeake Bay while recreating along intersecting hiking, biking, or water trails, including the Captain John Smith Chesapeake National Historic Trail and Potomac Heritage National Scenic Trail.</p> <p>The visitor center at Fort McHenry National Monument and Historic Shrine would be the primary visitor hub on the trail. Visitor contact would also occur at contact facilities in each region of the trail, and at facilities shared with other national trails.</p>
Resource Protection Focus	<p>Protection would focus on significant trail resources, landscapes, and viewsheds through existing protection programs.</p>	<p>Protection would focus on significant resources, viewsheds, and landscapes evocative of the early 19th century along land and water routes, including the Potomac River, Chesapeake Bay, and existing and proposed water trails that link sites and stories from the 1812 – 1815 time period.</p> <p>Potential would be limited for NPS financial and technical assistance through cultural and natural resources, recreation, and collaborative conservation programs.</p>
Partnerships	<p>Partnerships would focus on developing products and programs that support trail interpretive themes and link sites.</p>	<p>Partnerships would emphasize integration of regional trail planning efforts that would provide recreational experiences and enhance visitor understanding and appreciation of the Chesapeake Bay.</p> <p>A non-profit friends organization would facilitate expansion of recreation opportunities and public access, land protection, and integration of related history and recreation initiatives, including national trails.</p> <p>Limited NPS technical and financial assistance would be available to coordinate regional efforts relative to recreation, landscape protection, interpretation, and heritage tourism.</p>

¹ Alternative 2 – Chesapeake Campaign of Summer 1814 – was considered and dismissed from further consideration (section 5.9 below).

5.3 Alternative 1 – Continuation of Current Management

5.3.1 VISITOR EXPERIENCE – ALTERNATIVE 1

■ Focus of the Experience

In alternative 1 the visitor experience would be focused at existing partner sites and trails where visitors would learn about the military events, stories of individuals, and cultural context of the War of 1812 (figure 5.1). Visitors would travel the trail by following a marked land route on state and local roads from Solomons to North Point. Visitors would be encouraged to use existing access sites along the Patuxent and Potomac Rivers to view some War of 1812 sites and landscapes from the water.

■ Interpretation and Education

The interpretive plan for the trail (NPS 20011e) would provide the framework for public appreciation of trail resources and for a wide range of partnership activities that would facilitate public use and understanding of trail history. Trail partners along the land route from Solomons to North Point would be encouraged to work collaboratively to develop new products and programs that support trail interpretive themes and that link sites, consistent with the objectives of the interpretive plan.

Interpretive media and programming along the trail would not be expanded. The NPS would continue to provide grants and technical assistance, as funding allows, to partners for projects that interpret the trail resources and promote and interpret conservation stewardship of bay-related natural and cultural resources. While the interpretive plan would guide the partners and the NPS in making decisions about what projects to propose and fund, there would continue to be no management framework in place to focus interpretive programming on how visitors would experience the trail, what stories would be emphasized, and where those experiences would be provided.

■ Visitor Orientation and Visitor Contact Facilities

The trail website would continue to provide the public with information about the trail, how to visit the trail, and things

to do. Visitor orientation would occur primarily at Fort McHenry National Monument and Historic Shrine where visitors would learn about interpretive programs and events in the Baltimore area, as well as opportunities for complementary learning and recreation experiences in downtown Baltimore and in other regions of the trail. The trail map, periodic updates to the *Maryland Byways (Map and Guide)* (MD SHA 2007), and the trail travel guide would provide additional orientation information.

■ Wayfinding

Two types of signs will guide visitors and provide orientation to the trail route and partner sites:

- route marking along highways and public roads
- site identifier and directional signs (for use at trail partner sites)

Route marking along highways and public roads will work within the existing roadway signage system used by each state. Along the Patuxent and Potomac River water trails, site identifier and directional signage will be placed at access sites, as funding allows.

■ Interpretive Signage

In advance of the bicentennial commemoration interpretive signs will be placed at many historic sites and scenic areas through the existing grant from the FHWA Scenic Byways Program. These will provide specific information relative to the trail's four interpretive themes, to help visitors understand the relevance and significance of the historic and evocative features within their view. After the bicentennial commemoration period, the NPS would support replacement of existing interpretive signs through grants and technical assistance, as funding allows.






■ Visitor Facilities and Services

Facilities and Services at Partner Sites. Visitors would learn about the War of 1812 and enjoy a variety of existing recreation activities at partner sites along the trail from Solomons to North Point and along the Patuxent and Potomac River water trails. Partners would be encouraged to provide appropriate visitor facilities and services. These would vary from partner site to partner site, potentially



Figure 5.1

Alternative 1 – Continuation of Current Management

Focal Areas for Star-Spangled Experiences

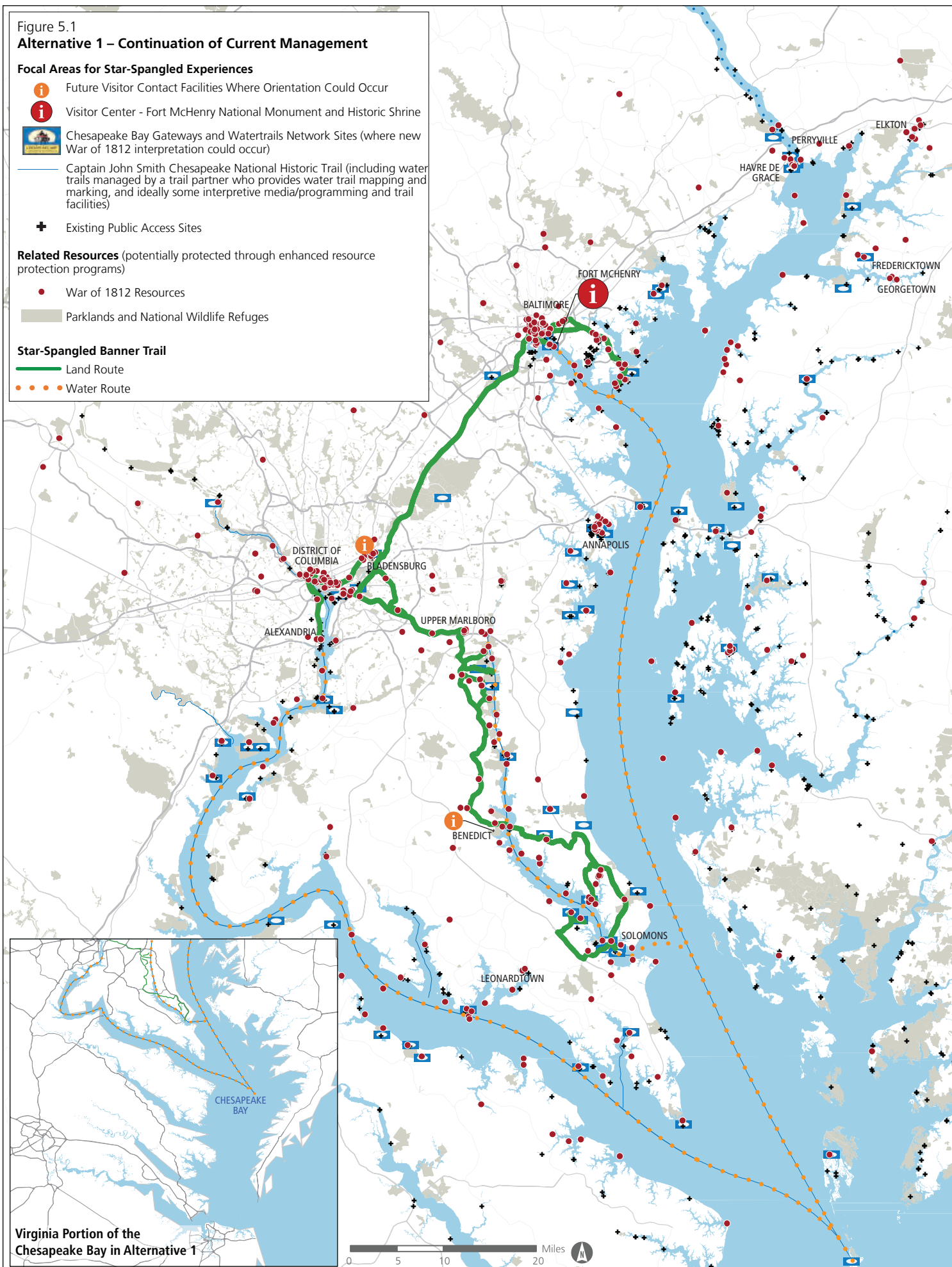
-  Future Visitor Contact Facilities Where Orientation Could Occur
-  Visitor Center - Fort Mchenry National Monument and Historic Shrine
-  Chesapeake Bay Gateways and Watertrails Network Sites (where new War of 1812 interpretation could occur)
-  Captain John Smith Chesapeake National Historic Trail (including water trails managed by a trail partner who provides water trail mapping and marking, and ideally some interpretive media/programming and trail facilities)
-  Existing Public Access Sites

Related Resources (potentially protected through enhanced resource protection programs)

-  War of 1812 Resources
-  Parklands and National Wildlife Refuges

Star-Spangled Banner Trail

-  Land Route
-  Water Route



Virginia Portion of the Chesapeake Bay in Alternative 1

including parking, interpretive media, restrooms, land trails, picnicking facilities, docks, piers, observation points, access facilities, etc. The MOU between the NPS and each partner would outline how partners would collaborate with respect to providing visitor facilities and services.

Land Trails. Existing land trails from Solomons to North Point – including auto routes, scenic byways, greenways, bike routes, and hiking trails – would provide recreation opportunities and access to sites where visitors could learn about the War of 1812. In the future, the NPS and its partners would continue to expand the network of land trails if and when partners identify new projects and secure funding for implementation.

Water Trails. Existing water trails on the Patuxent and Potomac Rivers would provide visitors with opportunities to view some War of 1812 sites and landscapes from the water.

Access Facilities. Public access sites throughout the Bay currently offer opportunities to get onto the trail's water routes on the Patuxent, Potomac, and Patapsco Rivers and in the Chesapeake Bay or to view these routes from the shore (figure 1.8). Visitors would continue to have access to the trail through these existing sites, located at local, state, and federal parks and existing water trail routes. In the future, the NPS and its partners would continue to expand the network of trail access facilities if and when partners identify new projects and secure funding for implementation.

Camping Facilities. Opportunities for multi-day trips along water segments of the trail would continue to be very limited. Few opportunities for camping would be available along the trail. These would primarily be located at a small number of partner sites that have small primitive camping facilities and at state parks along the trail. In the future, the NPS and its partners would continue to expand the network of camping facilities if and when partners identify new projects and secure funding for implementation.

Trail Access via Alternative Transportation. Outside of the Washington, D.C, Alexandria, and Baltimore areas, very limited access to the trail via alternative modes of

transportation would continue to be available through a small number of facilities and services. The NPS and its partners would continue to explore means of enhancing access to the trail via alternative modes of transportation.

Connecting or Side Trails. The NTSA provides for designation of connecting or side trails that provide additional benefits to a national historic trail and that connect the trail to other resources and visitor experience (section 4.4 above and appendix Q below). In alternative 1 the NPS would not pursue designation of any connecting or side trails.

5.3.2 RESOURCE PROTECTION – ALTERNATIVE 1

■ Identification of Trail Resources

The NPS and its partners would continue to develop a better understanding of trail resources – where they occur along the trail, their significance to the trail, the actions needed to protect them, and the opportunities they offer for visitors to experience the trail and to tell its stories. Information would be obtained through studies by the trail partners if and when there is partner interest and funding is available through matching grants and/or other sources.

The NPS would not actively pursue identification of additional high potential route segments or high potential historic sites beyond those initially designated

■ Resource Protection at Partner Sites

Partner sites would agree to protect trail resources and to promote and interpret conservation stewardship of related resources through site management, programming, marketing, and citizen involvement (appendix O).

■ Land Protection

NPS would continue to support local and state agencies with protecting trail resources. Resource protection would continue to be at the discretion of local and state agencies, as appropriate for the individual or agency's or organization's mission. NPS would support federal, state, local, and non-for-profit organizations in their efforts to protect trail resources and to conserve open space along the trail, particularly where it would protect the setting of high

potential historic sites and landscapes evocative of the early 19th century.

Conservation and land protection along the trail would continue to be at the discretion of public agencies or private organizations, consistent with their mission and as funding permits. There would be no potential for federal land acquisition.

■ **Historic Preservation**

NPS would continue to take actions as appropriate to enforce Section 106 of the National Historic Preservation Act to protect trail-related resources from potential adverse impacts of development actions.

■ **High Potential Route Segments and High Potential Historic Sites**

NPS technical assistance and funding for projects would place higher priority on actions that protect trail resources designated as high potential historic sites and/or that would enhance the trail experience at sites that are designated high potential historic sites.

5.3.3 MANAGEMENT FRAMEWORK – ALTERNATIVE 1

■ **Overall Trail Coordination**

In alternative 1, the NPS Chesapeake Bay Office (CHBA) would continue to have responsibility for overall trail coordination in cooperation with the Maryland State Highway Administration (MD SHA) and the Maryland Office of Tourism Development (MD OTD). NPS would also act as a clearinghouse for War of 1812 information through its website and would assist with special events that promote the trail, particularly during the bicentennial commemoration period (2012 to 2015). NPS staff would continue to be based in the NPS CHBA Office in Annapolis, MD.

■ **Partnerships**

Partnerships would continue to focus on existing partner sites, existing land and water trails, and existing recreation opportunities. Trail development would occur

opportunisticly as partnerships are forged or enhanced with traditional and non-traditional partners and as partners propose and implement projects at individual sites.

Trail partners along the land route from Solomons to North Point would continue to be encouraged to work collaboratively to implement proposed land trails and infrastructure and to develop new products and programs that support trail interpretive themes and that link sites. Table 5.2 summarizes the ongoing general types of partnerships that would continue.

5.3.4 COSTS – ALTERNATIVE 1

Estimates of annual operating costs and one-time costs associated with alternative 1 have been prepared using NPS and industry cost estimating guidelines (section 5.7 and table 5.5 below). These costs are presented for comparison purposes only and would be refined at a later date based upon final design of facilities and other considerations. Actual costs would vary depending on if and when specific actions are implemented and on contributions by the trail partners and volunteers.

■ **Operating Costs**

In alternative 1 the NPS would maintain the existing level of funding in its Chesapeake Bay Office (CHBA). CHBA would continue to coordinate the Chesapeake Bay Gateways and Watertrails Network, the Star-Spangled Banner Trail, and the Captain John Smith Chesapeake National Historic Trail. Approximately two full-time equivalent staff (FTEs) would be assigned to the Star-Spangled Banner Trail.

NPS annual operating costs associated with alternative 1 are estimated to be \$249,000 (2011 dollars). This includes the anticipated cost for staff salaries and benefits, utilities, supplies, leasing, and other materials needed for trail planning, development, and management. Funding for the annual operating costs would be provided by the base operating budget of the NPS. No increases in base funding to meet the needs outlined in alternative 1 would be anticipated.

Table 5.2 Alternative 1 – General Types of Partnership Actions

Partner Category	Partner Action
Bicentennial Commemoration Partners	<ul style="list-style-type: none"> ▪ Bicentennial commemoration partners would plan and oversee implementation of actions to enhance trail access and to provide new interpretive opportunities at War of 1812 sites. ▪ Events would be planned and coordinated by bicentennial commemoration partners. ▪ Some bicentennial commemoration partners would fundraise to support trail projects and events.
Maryland Heritage Area Partners	<ul style="list-style-type: none"> ▪ Heritage areas would assist with implementing proposed water trails, bike trails, and infrastructure and with developing new products and programs that support trail interpretive themes and link sites.
State and Local Tourism Offices	<ul style="list-style-type: none"> ▪ State and local tourism offices would generally assist with developing new products and programs that support trail interpretive themes and link sites. ▪ During the bicentennial period Maryland OTD would facilitate discussion and planning among regional marketing interests in Maryland, Virginia, and the District of Columbia. ▪ After the bicentennial period, trail marketing would continue to be a general function of state and local tourism offices done without the benefit of trail-wide coordinated planning among regional marketing interests.
State Resource Management and Resource Protection Agencies	<ul style="list-style-type: none"> ▪ State resource management agencies would be encouraged to protect trail resources, landscapes, and viewsheds through existing protection programs.
State Parks	<ul style="list-style-type: none"> ▪ State parks would be encouraged to implement proposed land and water trails, bike trails, and infrastructure and to develop new products and programs that support trail interpretive themes.
State Historic Preservation Offices	<ul style="list-style-type: none"> ▪ State historic preservation entities would continue to assist with identifying and understanding War of 1812 resources.
State and Local Transportation Agencies, Public Works Departments, and State Scenic Byways Programs	<ul style="list-style-type: none"> ▪ Trail marking would be designed, installed, and maintained in coordination with state and local transportation agencies. ▪ State transportation agencies would work with local public works departments to address roadway safety along the travel route.
National Park Service Partners	<ul style="list-style-type: none"> ▪ The visitor center at Fort McHenry National Monument and Historic Shrine would be the primary visitor hub on the trail; trail-related interpretive programs, educational programs, and special events would occur at the fort. ▪ Other national trails would be encouraged to develop new products and programs that support trail interpretive themes and link partner sites. ▪ NPS units would be encouraged to provide interpretive products and programs.
Site Managers	<ul style="list-style-type: none"> ▪ CBGN partners would be encouraged to develop new products and programs that support trail interpretive themes and link partner sites. ▪ Site managers might provide visitor services in existing facilities to orient visitors and provide War of 1812 interpretation. ▪ Site managers would be encouraged to work collaboratively to strengthen physical and interpretive connections among trail resources and to protect trail resources, landscapes, and viewsheds through existing resource protection programs.
Land and Water Trail Partners	<ul style="list-style-type: none"> ▪ CBGN partners would be encouraged to develop new products and programs that support trail interpretive themes and link partner sites. ▪ Existing land and water trail partners would manage component land and water trails and where possible provide views of some War of 1812 sites.
Businesses	<ul style="list-style-type: none"> ▪ Local businesses would support the trail by providing visitor services, such as lodging, food, recreational equipment sales and rentals, guided tours, and shuttle services.

■ One-Time Costs

Total one-time costs associated with alternative 1 over the 20-year life of the plan are estimated to be \$7,111,000 (2011 dollars), including one-time facilities costs and non-facilities costs. Facilities costs are those required for development of public access and recreation facilities along the trail. Non-facilities costs are those required for interpretive media, signage, and special studies. The NPS share of these one-time costs is estimated at approximately 10 percent or \$745,000. Total one-time partner costs are estimated at approximately 90 percent or \$6,366,000. Trail access would also serve national trails, other byways, and other land and water trails.

■ Land Protection Costs

In alternative 1 there would be no potential for federal land acquisition and no land acquisition by partners. As a result there would be no land protection costs associated with alternative 1.

5.4 Alternative 3 – War of 1812 in the Chesapeake (1812 – 1815) (Preferred Alternative)

5.4.1 VISITOR EXPERIENCE – ALTERNATIVE 3

■ Focus of the Experience

In alternative 3 the visitor experience would be focused at existing partner sites and along an enhanced network of recreational trails on the land and on the water (figure 5.2). Visitors would learn about the people, places, events, and stories of the War of 1812 time period, the commercial and social context of the war, as well as the war's legacy and the natural history of the Chesapeake Bay. Visitors would experience the trail by following a marked land route on local and state roads from Solomons to North Point or by following nearby recreational trails on land – such as the proposed North Point Heritage Greenway Trail. Visitors would also enjoy enhanced access and interpretation of War of 1812 sites on the Patuxent, Anacostia, and Potomac Rivers, as well as on the Patapsco, Sassafras, and Chester Rivers and in the upper Chesapeake Bay. Thematically-related lands – such as the Virginia War of 1812 Heritage Trail and Southern

Alternative 3 – War of 1812 in the Chesapeake (1812 – 1815) (Preferred Alternative)

Illustrative Concepts for Trail Segments

The following figures 5.2 through 5.10 illustrate alternative 3. Figure 5.2 shows alternative 3 trailwide. Figures 5.3 through 5.10 provide more detailed illustrative concepts for segments of the trail, including:

Figure 5.3	Lower Patuxent
Figure 5.4	Upper Patuxent
Figure 5.5	Bladensburg
Figure 5.6	District of Columbia and Alexandria
Figure 5.7	Baltimore City
Figure 5.8	North Point
Figure 5.9	Upper Bay
Figure 5.10	Middle Potomac

Maryland 1812 Trail – would guide people by land to locations along the trail's water route, such as Alexandria, Tangier, Caulk's Field, and Leonardtown. Full integration with the Captain John Smith Chesapeake National Historic Trail would enhance outdoor recreation opportunities. The Potomac Heritage National Scenic Trail and state heritage areas and greenways would provide physical connections among resources from different historical time periods.











■ Interpretation and Education

In alternative 3 there would be a major increase in interpretive media and programming along the trail. Media and programs would be developed by partners, with limited NPS technical and financial assistance. The interpretive plan (NPS 2011e) would continue to provide the framework for public appreciation of resources and for a wide range of partnership activities to facilitate public use and understanding of trail history. The CMP management framework would guide the partners and the NPS in making decisions about what types of interpretation projects to produce and fund. Interpretive experiences would be focused in the vicinity of War of 1812 sites and evocative landscapes, especially where an interpretive experience could be associated with recreation opportunities along the trail. Guided and self-guided itineraries and other





Figure 5.2

Alternative 3 - War of 1812 in the Chesapeake (1812 - 1815)

Focal Areas for Star-Spangled Experiences

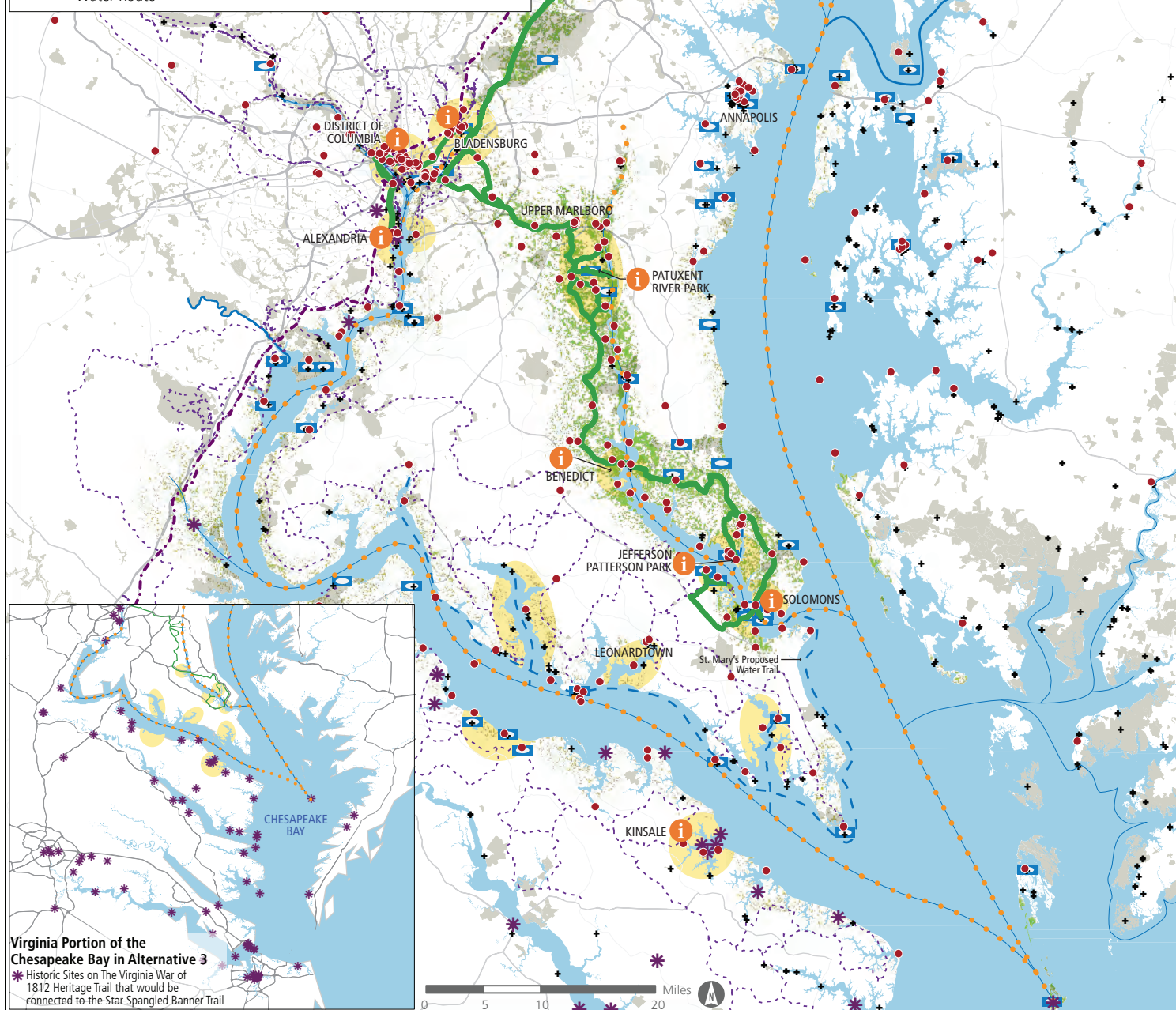
-  Areas with Clusters of Opportunities for Enhanced Water Trails, Hike/Bike Trails, and Interpretation
-  Visitor Center - Fort McHenry National Monument and Historic Shrine
-  Future Visitor Contact Facilities Where Orientation Could Occur
-  Chesapeake Bay Gateways and Watertrails Network Sites (where new War of 1812 interpretation could occur)
-  Existing Public Access Sites
-  Captain John Smith Chesapeake National Historic Trail (including water trails managed by a trail partner who provides water trail mapping and marking, and ideally some interpretive media/programming and trail facilities)
-  Other Water Trails
-  Water Trails (Planned)
-  Potomac Heritage National Scenic Trail
-  Washington-Rochambeau Revolutionary Route National Historic Trail

Related Resources (potentially protected through enhanced resource protection programs)

-  War of 1812 Resources
-  Historic Sites on The Virginia War of 1812 Heritage Trail
-  Landscapes Evocative of the Early 19th Century
-  Parklands and National Wildlife Refuges

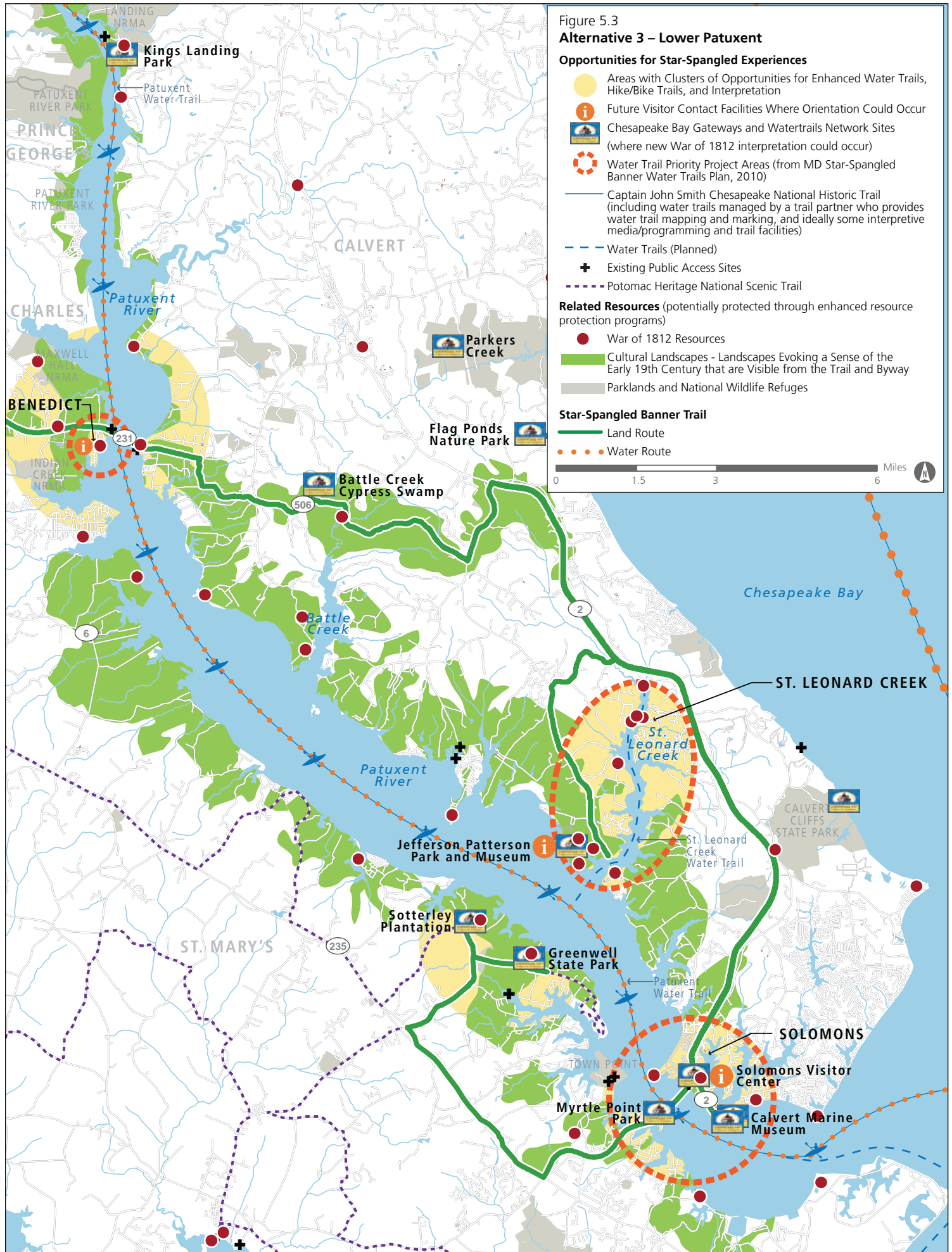
Star-Spangled Banner Trail

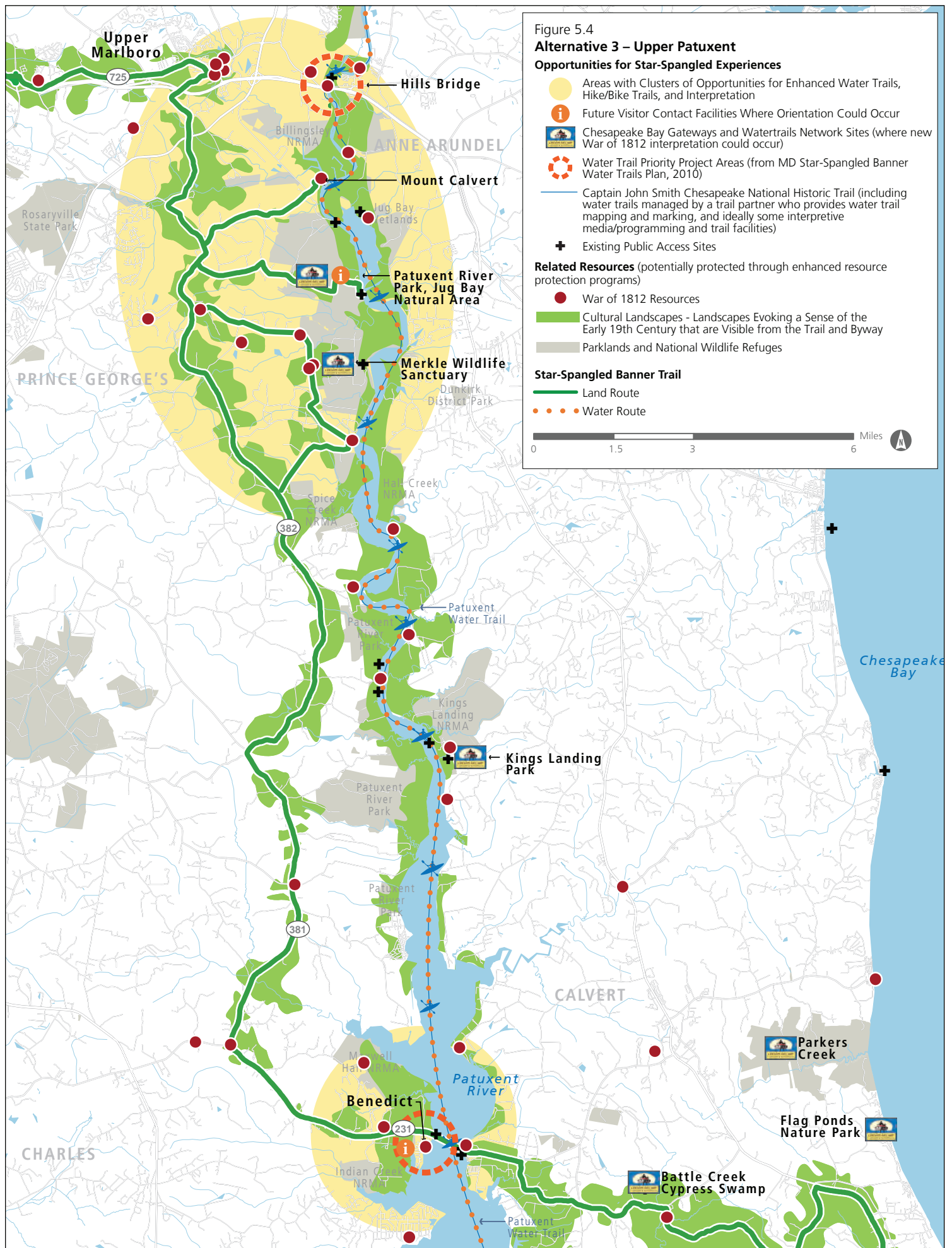
-  Land Route
-  Water Route

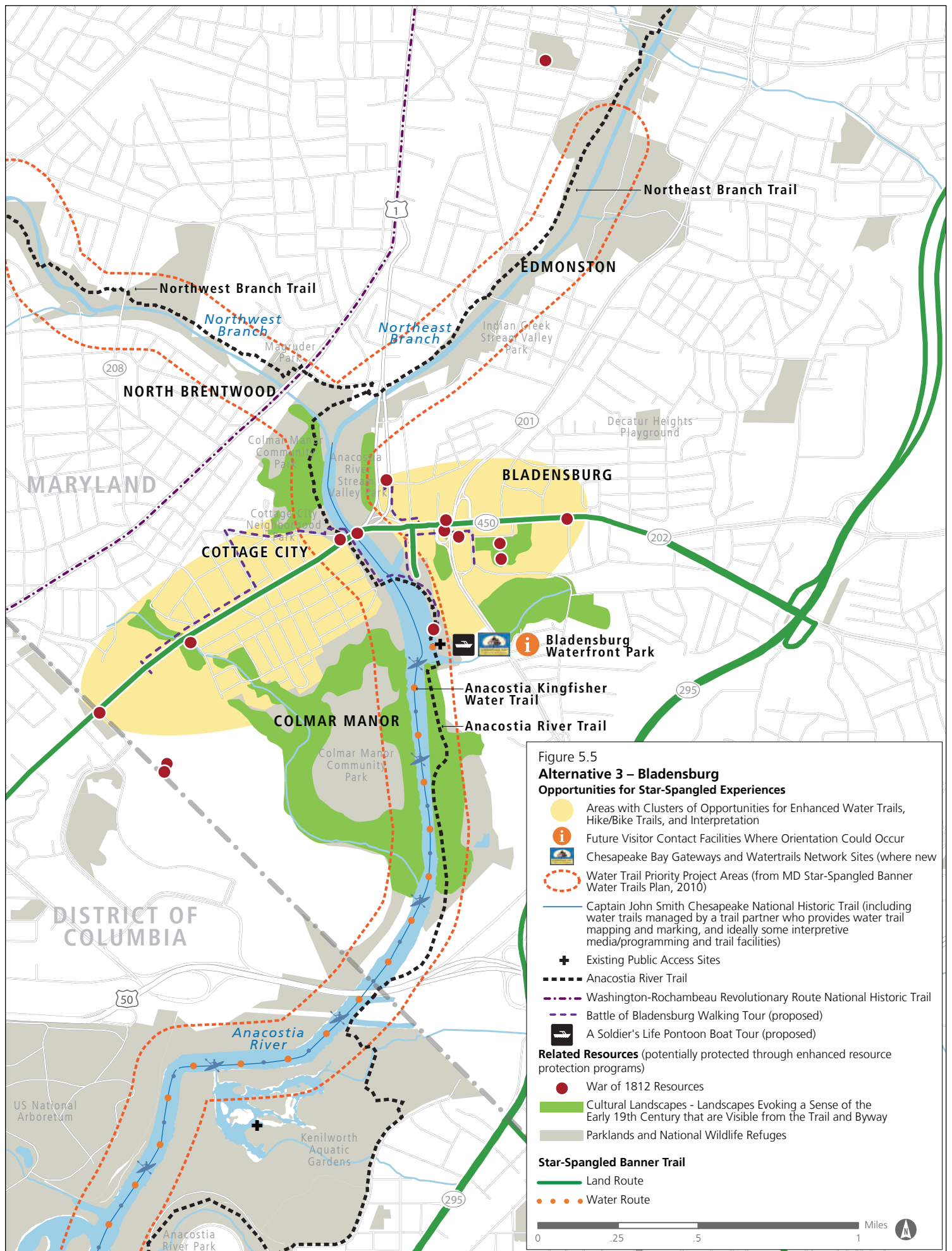


Virginia Portion of the Chesapeake Bay in Alternative 3

-  Historic Sites on The Virginia War of 1812 Heritage Trail that would be connected to the Star-Spangled Banner Trail







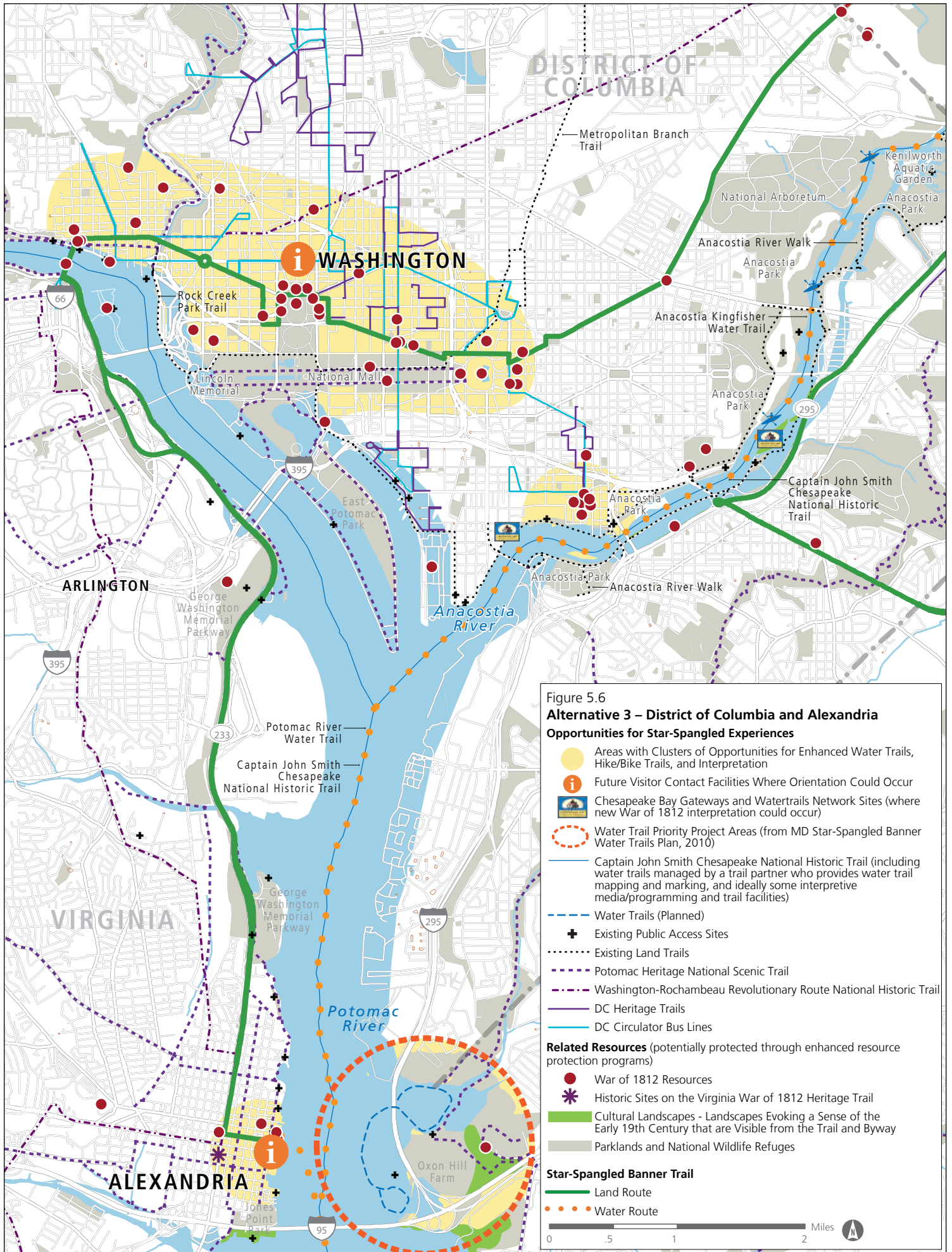


Figure 5.7

Alternative 3 – Baltimore City

Opportunities for Star-Spangled Experiences

- Areas with Clusters of Opportunities for Enhanced Water Trails, Hike/Bike Trails, and Interpretation
- Visitor Center - Fort McHenry National Monument and Historic Shrine
- Future Visitor Contact Facilities Where Orientation Could Occur
- Chesapeake Bay Gateways and Watertrails Network Sites (where new War of 1812 interpretation could occur)
- Captain John Smith Chesapeake National Historic Trail (including water trails managed by a trail partner who provides water trail mapping and marking, and ideally some interpretive media/programming and trail facilities)
- Existing Public Access Sites
- Existing Marinas

- Water Taxi Stops
- Baltimore Waterfront Promenade
- Fort McHenry Greenway Trail
- Washington-Rochambeau Revolutionary Route National Historic Trail

Related Resources (potentially protected through enhanced resource protection programs)

- War of 1812 Resources
- Parklands and National Wildlife Refuges

Star-Spangled Banner Trail

- Land Route
- Water Route

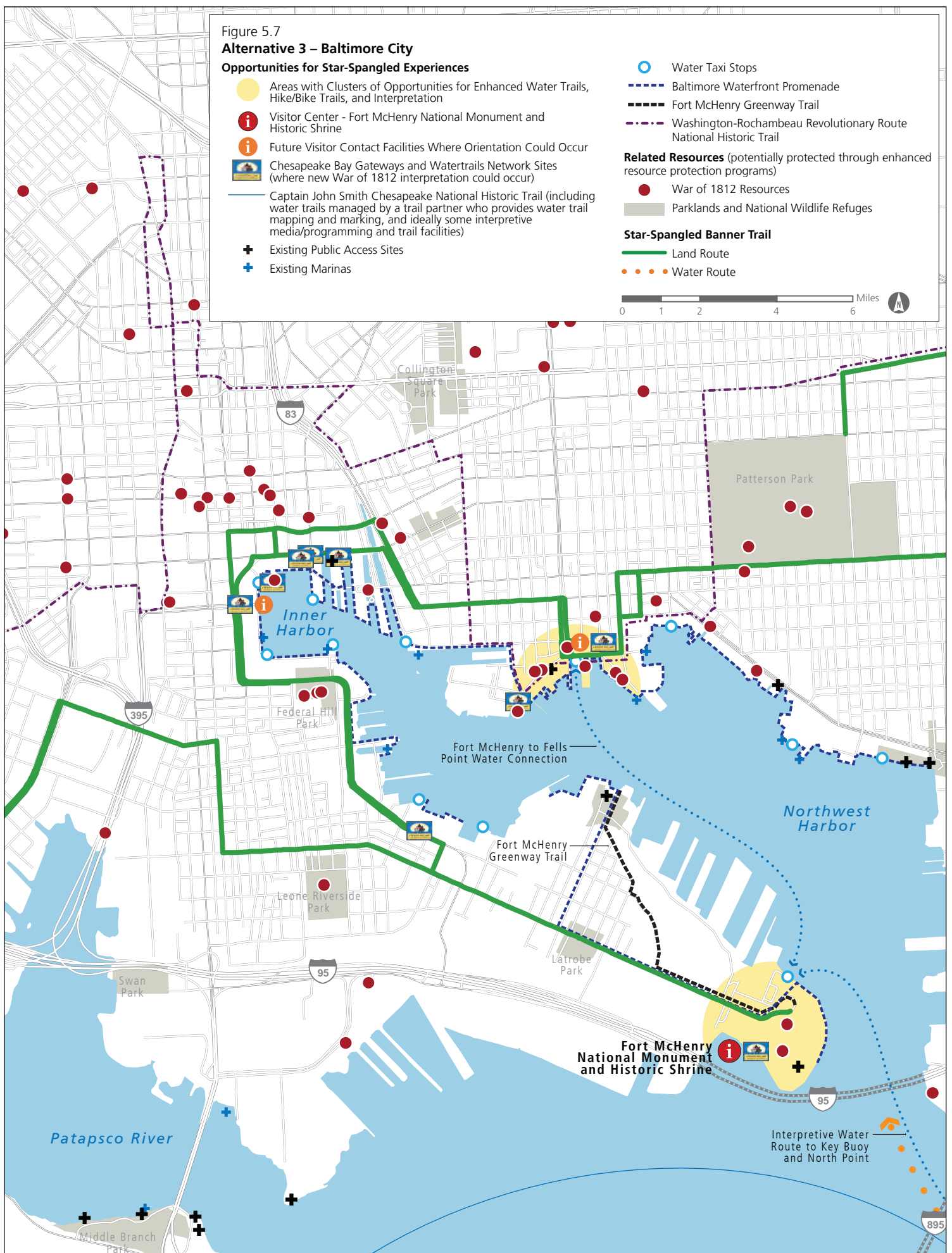









Figure 5.8
Alternative 3 – North Point

Opportunities for Star-Spangled Experiences

-  Areas with Clusters of Opportunities for Enhanced Water Trails, Hike/Bike Trails, and Interpretation
-  Future Visitor Contact Facilities Where Orientation Could Occur
-  Chesapeake Bay Gateways and Watertrails Network Sites (where new War of 1812 interpretation could occur)
-  Captain John Smith Chesapeake National Historic Trail (including water trails managed by a trail partner who provides water trail mapping and marking, and ideally some interpretive media/programming and trail facilities)

-  Water Trails (Planned)
-  Existing Public Access Sites
-  Proposed Land Trails

Related Resources (potentially protected through enhanced resource protection programs)

-  War of 1812 Resources
-  Cultural Landscapes - Landscapes Evoking a Sense of the Early 19th Century that are Visible from the Trail and Byway
-  Parklands and National Wildlife Refuges

Star-Spangled Banner Trail

-  Land Route
-  Water Route

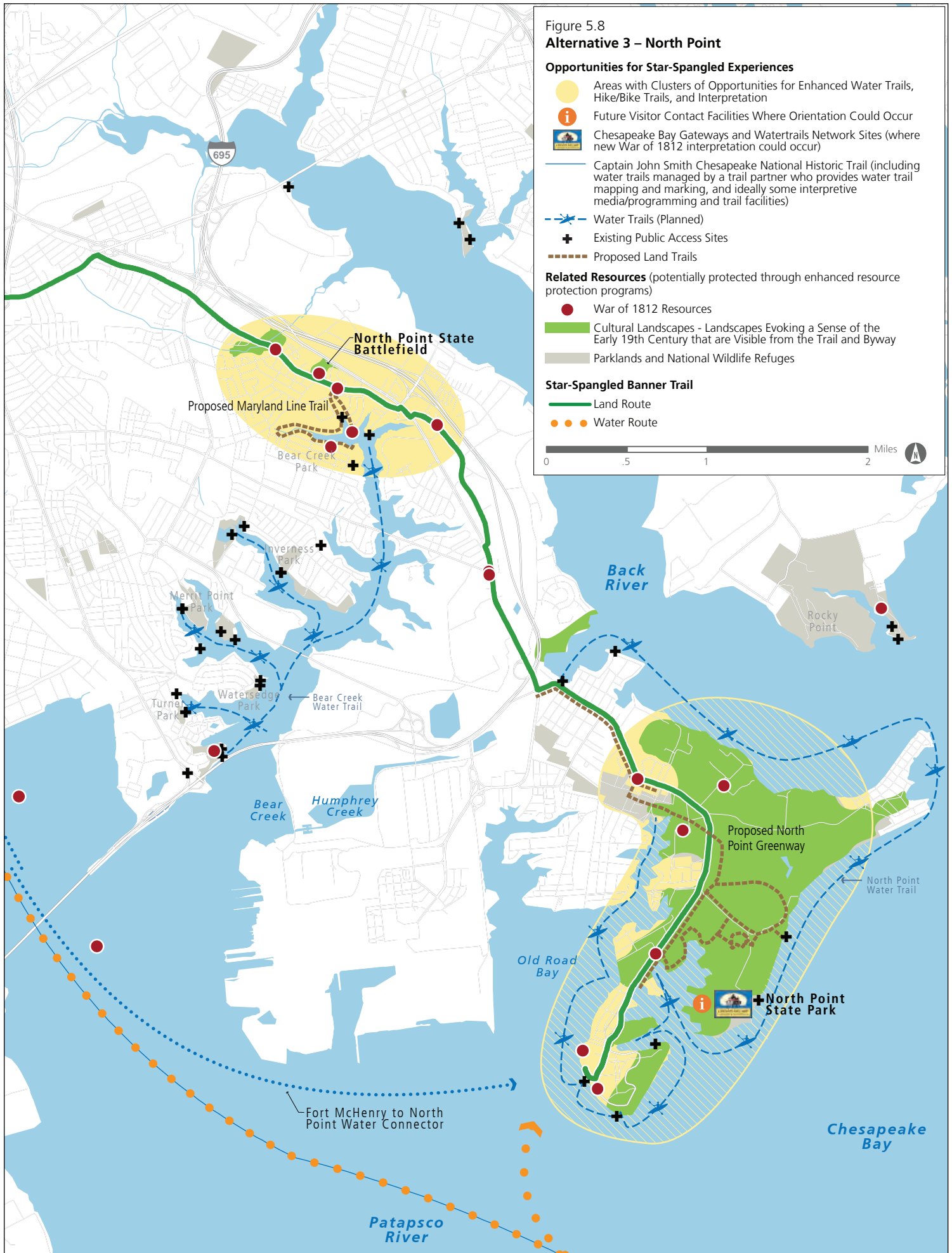











Figure 5.9

Alternative 3 – Upper Bay


Opportunities for Star-Spangled Experiences

-  Areas with Clusters of Opportunities for Enhanced Water Trails, Hike/Bike Trails, and Interpretation
-  Future Visitor Contact Facilities Where Orientation Could Occur
-  Chesapeake Bay Gateways and Watertrails Network Sites (where new War of 1812 interpretation could occur)
-  Water Trail Priority Project Areas (from MD Star-Spangled Banner Water Trails Plan, 2010)
-  Captain John Smith Chesapeake National Historic Trail (including water trails managed by a trail partner who provides water trail mapping and marking, and ideally some interpretive media/programming and trail facilities)
-  Other Water Trails
-  Water Trails (Planned)
-  Existing Public Access Sites
-  Washington-Rochambeau Revolutionary Route National Historic Trail

Related Resources (potentially protected through enhanced resource protection programs)

-  War of 1812 Resources
-  Cultural Landscapes - Landscapes Evoking a Sense of the Early 19th Century that are Visible from the Trail and Byway
-  Parklands and National Wildlife Refuges

Star-Spangled Banner Trail

-  Water Route

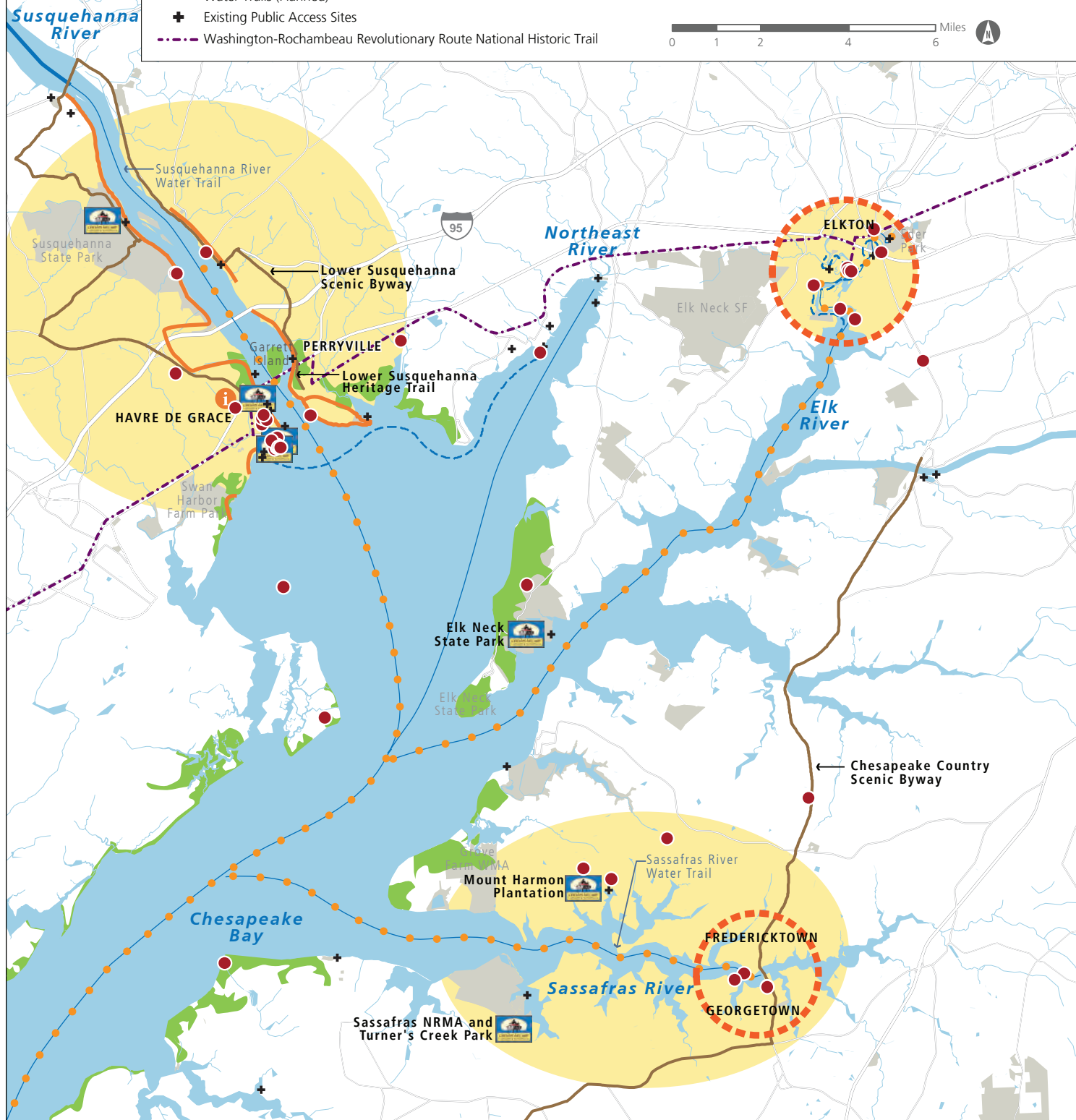







Figure 5.10

Alternative 3 – Middle Potomac

Opportunities for Star-Spangled Experiences

-  Areas with Clusters of Opportunities for Enhanced Water Trails, Hike/Bike Trails, and Interpretation
-  Future Visitor Contact Facilities Where Orientation Could Occur
-  Chesapeake Bay Gateways and Watertrails Network Sites (where new War of 1812 interpretation could occur)
-  Water Trail Priority Project Areas (from MD Star-Spangled Banner Water Trails Plan, 2010)
-  Captain John Smith Chesapeake National Historic Trail (including water trails managed by a trail partner who provides water trail mapping and marking, and ideally some interpretive media/programming and trail facilities)





— Water Trails (Planned)

+ Existing Public Access Sites

--- Potomac Heritage National Scenic Trail

--- Proposed Land Trails

Related Resources (potentially protected through enhanced resource protection programs)

-  War of 1812 Resources
-  Historic Sites on the Virginia War of 1812 Heritage Trail
-  Cultural Landscapes - Landscapes Evoking a Sense of the Early 19th Century that are Visible from the Trail and Byway
-  Parklands and National Wildlife Refuges

Star-Spangled Banner Trail

— Land Route

--- Water Route



interpretive media would provide new opportunities to explore the cultural and natural history of the Chesapeake Bay while recreating along intersecting hiking, biking, or water trails including the Captain John Smith Chesapeake National Historic Trail and the Potomac Heritage National Scenic Trail. Expanded and new educational programs at their sites along the trail would tell the stories of the War of 1812 as well as the natural history of the Chesapeake Bay. Existing programs would be expanded for teacher training and outreach to youth. Geocache tours would provide additional interpretive and educational experiences. Virtual media would provide orientation and interpretation to visitors traveling the trail's land and water routes.

■ Visitor Orientation and Visitor Contact Facilities

As in alternative 1, the trail website would continue to provide the public with information about the trail, how to visit the trail, and things to do. The website focus would be expanded to highlight recreation opportunities along the trail. The trail map, periodic updates to the *Maryland Byways (Map and Guide)* (MD SHA 2007), and the trail travel guide would provide additional orientation information.

Visitor orientation on the trail would occur primarily at Fort McHenry National Monument and Historic Shrine – the primary visitor hub on the trail – where visitors would learn about interpretive programs and events in the Baltimore area and about opportunities for complementary learning and recreation experiences in downtown Baltimore. Visitors would be encouraged to visit other regions of the trail, including a stop at one of many regional visitor contact facilities for orientation and information regarding site specific learning and education opportunities.

Regional visitor contact facilities would be located at one existing partner site within each of the other regions of the trail. The existing facility would be enhanced to provide exhibits that orient visitors to the overall trail, with a focus on the opportunities for trail experiences within the region.

Trail orientation kiosks would be placed at visitor contact facilities and at other trail gateways. New signage, itineraries, maps and virtual media would orient and strengthen

connections within the trail's regions. Visitors would be directed from each region to thematically-related trails, such as the Virginia War of 1812 Heritage trail and other national historic and scenic trails, byways, and greenways that provide additional opportunities to experience the Chesapeake Bay.

■ Wayfinding

In alternative 3, route marking along highways and public roads would be expanded to provide connections with other national trails, thematically-related trails (such as the Virginia War of 1812 Heritage Trail and the Southern Maryland 1812 Trail), state heritage areas, and greenways. Wayfinding would also provide connections by land to thematically-related lands along the trail's water routes, such as Caulk's Field, Leonardtown, Tangier, and Alexandria.

As in alternative 1, as part of the sign program funded through the FHWA Scenic Byways Program – and in anticipation of the bicentennial commemoration – site identifier signs and directional markers will be placed to identify some trail partner sites and to provide directions within sites. In alternative 3, after the commemoration period, as funding allows, site identifier and directional markers would be placed at additional partner sites, with priorities as noted below for placement of interpretive signage.

As in alternative 1, along the Patuxent and Potomac Rivers water trails site identifier and directional signage will be placed at access sites, as funding allows. In alternative 3, additional signage would be placed as funding allows at access sites along existing water trails on the Anacostia, Susquehanna, Sassafras, and Chester Rivers, as well as along new water trails in eleven areas as recommended in the *Access, Stewardship and Interpretive Opportunity Plan* (MD DBED 2010a).

■ Interpretive Signage

As in alternative 1, as part of the sign program funded through the FHWA Scenic Byways Program – during the bicentennial commemoration – interpretive signs will be placed at many historic sites and scenic areas. These will

provide specific information relative to the trail's four interpretive themes, to help visitors understand the relevance and significance of the historic and evocative features within their view.

After the bicentennial commemoration period, the NPS would support placement of additional interpretive signs by providing grants and technical assistance, as funding allows. Priority would be placed on:

- sites where interpretive signage is recommended in focus area studies completed in conjunction with the CMP and in future focus area studies (section 5.5 below)
- sites where interpretive media are recommended in the *Access, Stewardship and Interpretive Opportunity Plan* (MD DBED 2010a)
- sites in the District of Columbia and Virginia

Outside of these areas, trail marking would emphasize War of 1812 resources, evocative landscapes, and recreation sites by placing markers at:

- sites that provide visual access to War of 1812 resources and evocative landscapes
- day-use facilities, boat launches, and other recreation sites in the vicinity of War of 1812 resources and evocative landscapes
- trailheads from which trails provide access to War of 1812 resources, evocative landscapes, or to the waterfront of the Bay or its tributary rivers along the trail water routes
- waterways

■ Visitor Facilities and Services

Facilities and Services at Partner Sites. Visitors would learn about the War of 1812 and enjoy a variety of recreation activities at partner sites along the trail from Solomons to North Point, along thematically-related trails, along existing water trails on the Patuxent, Potomac, Anacostia, Susquehanna, Sassafras, and Chester Rivers, and along new water trails in eleven areas as recommended in the *Access, Stewardship and Interpretive Opportunity Plan* (MD DBED 2010a) (section 3.5.2 above). Partners would be encouraged to provide appropriate visitor facilities and services. These

would vary from partner site to partner site, potentially including parking, interpretive media, restrooms, land trails, picnicking facilities, docks, piers, observation points, access facilities, etc. The MOU between the NPS and each partner would outline how partners would collaborate with respect to providing visitor facilities and services.

Land Trails. Existing land trails from Solomons to North Point, and thematically-related land trails that guide visitors by land to historic sites and evocative landscapes along the trail's water routes, would provide recreation opportunities and access to sites where visitors could learn about the War of 1812 and the natural environment of the Chesapeake Bay in the early 19th century. New land trails would be implemented as recommended in the *Access, Stewardship and Interpretive Opportunity Plan* (MD DBED 2010a). Full integration with the Captain John Smith Chesapeake National Historic Trail, Potomac Heritage National Scenic Trail, state heritage areas, and greenways would provide physical connections among resources from different historical time periods and enhance outdoor recreation opportunities.

Water Trails. An expanded network of water trails would provide new and enhanced interpretive media and public access to the Chesapeake Bay and its tributaries along the trail. As in alternative 1, existing water trails on the Anacostia, Susquehanna, Sassafras, and Chester Rivers would provide visitors with opportunities to view some War of 1812 sites and landscapes from the water. In alternative 3, additional opportunities would become available over time as partners develop new water trails and enhancements to existing water trails in eleven areas as recommended in the *Access, Stewardship and Interpretive Opportunity Plan* (MD DBED 2010a) (section 3.5.2 above).

Access Facilities. In alternative 3, there would be an emphasis on providing new access facilities along the trail, including a mix of pull-offs, trails to the water, day-use facilities near the water, and "frontcountry" soft put-ins/take-outs. Some sites would also offer recreation opportunities, such as day-use facilities for picnicking, fishing, hiking and, at some sites, primitive camping. In addition, a

few “backcountry” soft landings (paddlers waysides) would be developed which would not have vehicular access.

In general, future investment in new access sites would include actions recommended in the *Access, Stewardship and Interpretive Opportunity Plan* (MD DBED 2010a) (section 3.5.2 above). To the maximum extent possible, new facilities would be developed to jointly access the Star-Spangled Banner Trail and the Captain John Smith Chesapeake National Historic trail.

Camping Facilities. Opportunities for multi-day trips along water segments of the trail would be expanded in coordination with development of camping facilities along the Captain John Smith Chesapeake National Historic Trail. A small network of primitive campsites would enable visitors traveling by canoes or kayaks along existing and new water trails. Primitive campsites would be developed in conjunction with “frontcountry” soft put-in/take-out facilities as well as at “backcountry” soft landings which do not have vehicular access. Frontcountry campsites would have tables, fire rings, and a vault toilet; backcountry campsites would have no facilities.

Trail Access via Alternative Transportation. In alternative 3 alternative transportation system (ATS) enhancements would focus on making alternative modes of transportation – such as bus service, outfitters transit service, and bike routes – available to high potential historic sites and recreation sites, as well as to public access points on the trail’s water routes. It would also focus on making available shuttle services for visitors traveling the trail by canoe and kayaks, making one-way day trips or multi-day trips. In coordination with planning for the Captain John Smith Chesapeake National Historic Trail, the NPS would seek to complete a detailed corridor study for one or more of the seven areas identified as potential ATS sub-regions in the *Alternative Transportation Study – Captain John Smith Chesapeake NBT* (US DOT 2010). Recommendations would be implemented, if suitable partners and funding are available.

Connecting or Side Trails. The NTSA provides for designation of connecting or side trails that provide additional benefits to

a national historic trail and that connect the trail to other resources and visitor experience. Section 4.4 above and appendix Q below summarize criteria and a process for designating connecting and side trails along the trail. If and when an existing or prospective partner proposes consideration of a connecting or side trail the NPS would collaborate with its partners to actively pursue identification and designation of the proposed connecting or side trails.

5.4.2 RESOURCE PROTECTION – ALTERNATIVE 3

■ Identification of Trail Resources

As in alternative 1, the NPS and its partners would continue to develop a better understanding of trail resources – where they occur along the trail, their significance to the trail, the actions needed to protect them, and the opportunities they offer for visitors to experience the trail and to tell its stories. Information would be obtained through studies by the trail partners and the NPS if and when there is partner interest and funding is available through matching grants and/or other sources.

In alternative 3 the NPS would also actively pursue identification of additional high potential historic sites and high potential route segments beyond those initially designated. Investigations would focus on identifying evocative landscapes along the trail that would support further designation of high potential route segments and high potential historic sites.

■ Resource Protection at Partner Sites

As in alternative 1, partner sites would agree to protect trail resources and to promote and interpret conservation stewardship of related resources through site management, programming, marketing, and citizen involvement (appendix O).

■ Land Protection

As in alternative 1, the NPS and its partners would continue to support local and state agencies with protecting trail resources. In alternative 3 the protection emphasis would be on actions that protect all trail-related resources, but particularly those that are along high potential route

segments and that are designated as high potential historic sites.

Long-term protection of trail resources would occur through cooperative efforts by the NPS and its partners using a variety of land protection strategies (appendix N). Priority for land protection would be placed on protecting War of 1812 historic resources that are designated high potential historic sites (section 2.3 above). Priority would also be placed on protecting evocative landscapes that adjoin high potential historic sites along the land routes of the trail. NPS would also provide technical assistance to partners with education of landowners regarding stewardship, planning, partner acquisition, and identification of funding sources.

There would be potential for federal land acquisition. Lands of primary protection interest that would be potentially acquired if they cannot be otherwise protected. Where acquisition occurs it would only be where there is a willing seller and a site is important to the implementation of the trail CMP.

■ **Historic Preservation**

As in alternative 1, NPS would continue to take actions as appropriate to enforce Section 106 of the National Historic Preservation Act to protect trail-related resources from potential adverse impacts of development actions. In alternative 3 the NPS would also provide technical assistance to owners of trail-related resources that would encourage private preservation actions (section 2.4.3 above). NPS would also work with local governments to promote awareness of trail resources and to implement procedures and/or local ordinances that would protect trail-related resources from loss and impact during the land development process (section 2.4.3 above).

■ **High Potential Route Segments and High Potential Historic Sites**

As in alternative 1, NPS technical assistance and funding for projects would place higher priority on actions that protect trail resources designated as high potential historic sites and/or that would enhance the trail experience at sites that are designated high potential historic sites.

5.4.3 MANAGEMENT FRAMEWORK – ALTERNATIVE 3

■ **Overall Trail Administration**

As in alternative 1, the NPS Chesapeake Bay Office (CHBA) would continue to have overall responsibility for administration of the trail in cooperation with the Maryland State Highway Administration (MD SHA) and the Maryland Office of Tourism Development (MD OTD). Trail administration would emphasize increasing opportunities for visitors to learn about the events and times of the War of 1812 and the natural history of the Chesapeake Bay while traveling the trail visiting historic sites and enjoying recreational experiences that are linked and integrated through cooperative trail planning and development. NPS staff would continue to be based in the NPS CHBA Office in Annapolis, MD.

■ **Partnerships**

Partnerships with traditional partners and business partners would continue to develop and operate in support of the trail. Table 5.3 summarizes some of the partnership actions that would occur in alternative 3. CMP management actions would initially provide a common agenda to guide the collective group of partners. The NPS would continue to encourage groups of partners within regions of the trail to work together. Grants from the NPS would require projects to be consistent with the CMP and focus area studies, or other plans consistent with the CMP. Grants would favor public access and trail planning, development, and management consistent with the CMP, findings of the focus area studies (section 5.5 below), and any other tiered planning efforts.

Partnerships would emphasize integration of regional trail planning efforts. Trail partners, a non-profit trail-wide friends group, CBGN partners, the Captain John Smith Chesapeake National Historic Trail (CAJO), the Potomac Heritage National Scenic Trail (POHE), and the Washington-Rochambeau Revolutionary Route National Historic Trail (W3R) would fully collaborate on projects, programs, and infrastructure, including shared facilities that provide recreational experiences and enhance visitor understanding of the Chesapeake Bay. The NPS would sign MOUs with

Table 5.3 Alternative 3 – General Types of Partnership Actions

Partner Category	Partner Action
Bicentennial Commemoration Partners <i>(also see section 1.6.5 above)</i>	<ul style="list-style-type: none"> ▪ bicentennial commemoration partners would plan and oversee implementation of actions to enhance trail access and to provide new interpretive opportunities at War of 1812 sites. ▪ Events would also be planned and coordinated by bicentennial commemoration partners. ▪ Some bicentennial commemoration partners would fundraise to support trail projects and events.
Regional Coordinators <i>(also see section 4.3.4 above)</i>	<ul style="list-style-type: none"> ▪ One partner in each trail region would become a regional coordinator who would assist the NPS with overall trail coordination. ▪ The regional coordinator would be the lead coordinator in each region for trail marking, programming, marketing, and establishing resource priorities. ▪ The regional coordinators would facilitate matching of proposed projects with funding opportunities.
Friends of the Trail <i>(also see section 4.3.3 above)</i>	<ul style="list-style-type: none"> ▪ A non-profit trail-wide friends group would work closely with the NPS, states, and regional coordinators with trail development through advocacy, fundraising, marketing, and staff support. ▪ The friends group would support public access, recreation, interpretation, and connections with related history and recreation initiatives including national trails.
Maryland Heritage Area Partners <i>(also see section 4.3.3 above)</i>	<ul style="list-style-type: none"> ▪ Heritage areas would assist other partners with implementing proposed land and water trails, bike trails, and infrastructure, and developing new products and programs that support trail interpretive themes and that enhance visitor appreciation of the Chesapeake Bay. ▪ Some heritage areas would become regional coordinators.
State and Local Tourism Offices <i>(also see section 4.3.6 above)</i>	<ul style="list-style-type: none"> ▪ State and local tourism offices would generally assist with developing new products and programs that support trail interpretive themes and link sites. ▪ During the bicentennial period Maryland OTD would facilitate discussion and planning among regional marketing interests in Maryland, Virginia, and the District of Columbia. ▪ State and local tourism offices would participate in a trail-wide marketing team initially focused on the bicentennial period and later on transitioning bicentennial period resources to long-term promotion and marketing of the trail.
State Resource Management and Resource Protection Agencies <i>(also see section 4.3.7 above)</i>	<ul style="list-style-type: none"> ▪ State resource management agencies would be encouraged to protect trail-related resources, landscapes, and viewsheds through existing protection programs. ▪ State resource management agencies would assist with documentation and protection of trail resources, cooperative conservation, and recreation development with assistance from NPS, if available.
State Parks <i>(also see section 4.3.7 above)</i>	<ul style="list-style-type: none"> ▪ State parks would be encouraged to implement proposed land and water trails, bike trails, and infrastructure, and to develop new products and programs that support trail interpretive themes and that enhance visitor appreciation of the Chesapeake Bay. ▪ State parks would assist with documentation and protection of trail resources, cooperative conservation, and recreation development with assistance from NPS, as available.
State Historic Preservation Offices <i>(also see section 4.3.7 above)</i>	<ul style="list-style-type: none"> ▪ State historic preservation entities would continue to assist with identifying and understanding War of 1812 resources, supporting research and archeological investigations, and providing technical reviews.
State and Local Transportation Agencies, Public Works Departments, and State Scenic Byways Programs <i>(also see</i>	<ul style="list-style-type: none"> ▪ Trail marking would be designed, installed, and maintained in coordination with state and local transportation agencies. ▪ State transportation agencies would work with local public works departments to address roadway safety along the travel route.

Table 5.3 Alternative 3 – General Types of Partnership Actions (continued)

Partner Category	Partner Action
<i>section 4.3.7 above)</i>	<ul style="list-style-type: none"> State transportation agencies would work with local public works departments to manage trail roadways to achieve and maintain a high quality travel experience.
National Park Service Partners <i>(also see section 4.3.8 above)</i>	<ul style="list-style-type: none"> The visitor center at Fort McHenry National Monument and Historic Shrine would be the primary visitor hub on the trail; trail-related interpretive programs, educational programs, and special events could occur at the fort. Partnering would occur with the Captain John Smith Chesapeake National Historic Trail, the Potomac Heritage National Scenic Trail, and the Washington-Rochambeau Revolutionary Route National Historic Trail for cost containment and development of joint facilities and visitor programming. NPS units in Maryland, the District of Columbia, and Virginia would support and provide trail programming and trail orientation. NPS cultural resource programs and recreation and conservation assistance programs could assist with documentation and protection of trail resources, cooperative conservation, and recreation development, as funding is available.
Local Governments <i>(also see section 4.3.9 above)</i>	<ul style="list-style-type: none"> Local governments would be encouraged to implement proposed land and water trails, bike trails, and infrastructure, and to support local development of new products and programs that support trail interpretive themes and that enhance visitor appreciation of the Chesapeake Bay. Where the trail route follows local roads, local road managers would assist with trail marking, with addressing roadway safety issues, and managing trail roadways to achieve and maintain a high quality travel experience. Local governments would assist with documentation and protection of trail resources, cooperative conservation, and recreation development with assistance from NPS, if available. Work with residents, businesses, and others on projects and initiatives that support the trail purpose.
Trail Sites <i>(also see section 4.3.10 above)</i>	<ul style="list-style-type: none"> Site managers would continue to collaborate to provide War of 1812 interpretive and educational programming, visitor facilities and services, resource protection, trail marking, and other functions. Trail sites would assist with documentation and protection of trail resources, cooperative conservation, and recreation development with assistance from NPS, if available. CBGN partners would be encouraged to develop new products and programs that link sites and that support trail interpretive themes and visitor understanding of the Chesapeake Bay, with the possibility of NPS grants and/or technical assistance, as funding allows.
Water and Land Trail Coordinators <i>(also see section 4.3.11 above)</i>	<ul style="list-style-type: none"> Land and water trail partners would manage component land and water trails including land and water trail maps and trail markers, as funding allows. CBGN partners would be encouraged to develop new products and programs that link sites and that support trail interpretive themes and visitor understanding of the Chesapeake Bay, with the possibility of NPS grants and/or technical assistance, as funding allows. Main Street Managers in communities along the trail would assist with trail development and management, as appropriate.
Businesses <i>(also see section 4.3.12 above)</i>	<ul style="list-style-type: none"> Local businesses would support the trail by providing visitor services, such as lodging, food, recreational equipment sales and rentals, guided tours, and shuttle services. Business owners would receive assistance from heritage areas regarding opportunities for providing and marketing services for trail visitors. Business owners would receive assistance from state and local tourism offices regarding opportunities for providing and marketing services for trail visitors.

appropriate agencies and local partners in Virginia and co-brand and market the Virginia War of 1812 Heritage Trail in association with the Star-Spangled Banner Trail. The NPS and state and local trail partners would co-develop infrastructure and programming, including water trails, bicycle routes, and interpretive media and programs that enhance the visitor experience and appreciation of the Chesapeake Bay. Limited NPS technical and financial assistance would be available to coordinate regional efforts relative to recreation, landscape protection, interpretation, and heritage tourism.

Trail partners along the land route from Solomons to North Point would be encouraged to work collaboratively to implement proposed land trails and infrastructure and to develop new products and programs that support trail interpretive themes and link sites. CBGN partners and other national trails would be encouraged to develop new products and programs that support trail interpretive themes and that link partner sites, with possible NPS technical and financial assistance. Grants from the NPS would tend to favor projects that involve multiple partners over those that do not.

5.4.4 COSTS – ALTERNATIVE 3

Estimates of annual operating costs and one-time costs associated with alternative 3 have been prepared using NPS and industry cost estimating guidelines (section 5.7 and table 5.5 below). These costs are presented for comparison purposes only and will be refined at a later date based upon final design of facilities and other considerations. Actual costs would vary depending on if and when specific actions are implemented and on contributions by the trail partners and volunteers.

■ Operating Costs

In alternative 3, the NPS Chesapeake Bay Office (CHBA) would continue to coordinate the Chesapeake Bay Gateways and Watertrails Network, the Star-Spangled Banner Trail, and the Captain John Smith Chesapeake National Historic Trail. Approximately 5 FTEs would be assigned to the Star-Spangled Banner Trail.

NPS annual operating costs associated with alternative 3 are estimated to be \$568,000 (2011 dollars). This includes the anticipated cost for staff salaries and benefits, utilities, supplies, leasing, and other materials needed for trail planning, development, and management. Funding for the annual operating costs would be provided by the base operating budget of the NPS. It is anticipated that the trail friends group would support trail operations by providing volunteer help.

■ One-Time Costs (including land protection costs)

Total one-time costs associated with alternative 3 over the 20-year life of the plan are estimated to be \$22,656,000 (2011 dollars), including one-time facilities costs and non-facilities costs. Facilities costs are those required for development of public access and recreation facilities along the trail. Non-facilities costs are those required for interpretive media, signage, and special studies. The NPS share of these one-time costs is estimated at approximately 16 percent or \$3,534,000. Total one-time partner costs are estimated at approximately 84 percent or \$19,043,000. Trail access would also serve national trails, other byways, and other land and water trails.

■ Land Protection Costs

Land protection costs associated with alternative 3 are estimated to be \$1,447,000, including costs for fee simple land acquisition and purchase of conservation easements. The NPS and federal, state, non-profit, and private partners would work together to acquire land and conservation easements (section 2.4.2 above and appendix N below). The NPS share of land protection costs is estimated at approximately 45 percent or \$647,000. Land protection cost estimates are preliminary and intended solely for general planning purposes. Actual land acquisition costs would be determined by detailed appraisals when specific lands are considered for acquisition.

5.5 Focus Area Studies – Alternative 3

As part of the CMP planning process, the NPS has established a baseline for identifying trail development and management priorities in six focus areas, including:

- Bladensburg
- North Point peninsula
- Alexandria
- District of Columbia
- Baltimore
- Upper Bay

A review of state and local plans, projects and programs, provided an inventory of trail-related actions ongoing or under development by local communities and trail partners, such as bicentennial commemoration plans. Trail partners and other stakeholders including local government agencies, non-profit organizations, for-profit organizations, historians, and interested members of the public helped identify relevant plans, projects, and programs. They also helped to identify the full range of recreation and learning opportunities under consideration and the short-, medium- and long-term priorities to achieve a regional trail identity. Many of the partners and stakeholders are already planning War of 1812-themed commemorative events and programs independently of NPS involvement, and are interested in coordinating with the trail.

Study findings for each focus area include an illustrative concept, a trail development approach, and a list of priority projects (appendix S). Implementing these in each focus area could accomplish the following four principal objectives:

- make the trail immediately visible and visitor-ready for the bicentennial period (2012 to 2015)
- protect resources important to the trail for the enjoyment of the local community and visitors
- provide a variety of learning and recreation experiences
- leverage bicentennial period investments and successes to sustain the trail as a legacy of bicentennial efforts

Priority projects include new and enhanced infrastructure, water access and water-based tours, interpretative media, and programming to support guided and self-guided tours

and recreation opportunities. In general, local entities through partnerships with state and local governments, bicentennial organizations, heritage areas, tourism entities and individual sites, and potentially the NPS, would lead the efforts to implement projects. NPS could provide assistance as available to leverage partner-led projects.

Appendix S contains the completed studies. The following sections 5.5.1 through 5.5.6 of the CMP/EA summarize the vision and priorities for each focus area. The Bladensburg and North Point concepts include cost estimates for the highest priority, short-term projects under consideration; for the other focal areas, additional planning could further clarify the scope and costs associated with individual projects.

5.5.1 BLADENSBURG

■ The Concept

At Bladensburg visitors would learn about the stories, places and people and untold stories of the War of 1812 with emphasis on the events of the summer of 1814 when the British marched into Bladensburg, defeated the American troops at the Battle of Bladensburg, and continued on to the nation's capital.

Orientation. Bladensburg Waterfront Park would be a major attraction where the existing visitor center would become the primary visitor contact facility for the trail in the Bladensburg area. The trail website and new directional signage in the area would direct visitors to the waterfront park for orientation to the trail. There, visitors would obtain information about the opportunities for learning and recreation in the Bladensburg area. New exhibits at the visitor contact facility would tell stories of the War of 1812, the Battle of Bladensburg, civilian life, as well as stories about nature and wildlife, Native Americans and Captain John Smith, and the Chesapeake Bay.

Interpretation. Visitors would participate in interpretive programs focused on trail themes. These would be offered at Bladensburg Waterfront Park, and at historic and archeological resource sites that are open for visitors and are staffed in some fashion, such as George Washington House.

Other partners would offer periodic special interpretive programs for visitors. M-NCPPC would continue to host most events at Bladensburg Waterfront Park. Additional events could be developed and promoted to engage visitors with the trail.

Places to Visit along the Trail. Visitors would follow the trail from the visitor contact facility to the various attractions along the trail where the events of the War of 1812 occurred or are commemorated. Interpretive media and programming would be focused at the sites of the American First Line, Dueling Grounds, American Second Line (Fort Lincoln Cemetery), Barney’s Battery, Bostwick House, Magruder House, Market Square and Market Master’s Store, and George Washington House. Visitors would be encouraged to follow the Battle of Bladensburg Walking/Driving Tour following the land routes used by the British and American military during the battle. Visitors would also follow the Dueling Creek Heritage Walk along Dueling Creek from Colmar Manor Park to Fort Lincoln Cemetery and the Bladensburg American Second Line site overlooking surrounding communities. Mobile applications and brochures developed for self-guided tours would describe sites along the walking and driving tours.

Recreation. Trail visitors would have access to the extensive network of existing recreational trails in the Anacostia Tributary Trail System. Accessing the Anacostia River Trail at Bladensburg Waterfront Park, visitors would be able to walk or bike upstream several miles to Wheaton or Greenbelt Park. Along the way they would have access to numerous local parks offering diverse opportunities for active recreation. In years to come, visitors to the trail would be able to walk downstream on the Anacostia River Walk to Anacostia Park and the Potomac River.

From Bladensburg Waterfront Park visitors would also access the Anacostia River for paddling. Following the tidal section of the river below the park, they would paddle the Anacostia Kingfisher Water Trail downstream to explore Kenilworth Marsh, stop for a rest and visit to Kenilworth Aquatic Gardens, and then continue downstream past Kingman Island to a take-out facility at Anacostia Park near the

Potomac River. Visitors without boats would explore the river on a free pontoon trip with a guide who would share stories about the natural history of the Anacostia River – a tributary to the Chesapeake Bay – and about the Battle of Bladensburg.

Resource Protection. Resource protection at Bladensburg would focus on resources from the 1812 to 1815 period and restoration of the Anacostia River. Partners would assume primary responsibility for protection and the NPS would provide technical assistance with education of landowners regarding stewardship, planning, land acquisition, and identification of potential funding sources.

Partnerships. The trail would develop as partnerships are forged or enhanced with traditional partners and business partners who would collaborate to generally emphasize programs, media, and facilities to tell the stories of the War of 1812 at Bladensburg. Collaboration with the Captain John Smith Chesapeake NHT would support joint development of projects, programs, and facilities that provide recreational experiences and that would enhance visitor appreciation of the Anacostia River as a tributary to the Chesapeake Bay.

■ Priority Actions in Bladensburg

To make the trail a success in the Bladensburg area during the bicentennial period highest priority would be placed on implementing the following six projects:

- Trail Visitor Contact Facility at Bladensburg Waterfront Park
- Battle of Bladensburg Walking and Driving Tours
- sidewalk improvements along Battle of Bladensburg Walking/Driving Tour
- mobile application supporting trail routes
- parking and safe pull-offs for cars and buses
- Joshua Barney Monument (“Undaunted”) and enhancements at the Balloon Park

5.5.2 NORTH POINT PENINSULA

■ The Concept

On the North Point peninsula, from Fort Howard to Dundalk, visitors would learn about the stories, places and people and untold stories of the War of 1812 with emphasis on the events of the summer of 1814 when the British landed near Fort Howard and were delayed in their march to Baltimore at the ensuing Battle of North Point.

Orientation. In the short-term, North Point State Park would be a major attraction where the existing visitor center would become the primary visitor contact facility for the trail in the North Point area. The trail website and new directional signage in the area would direct visitors to the state park for orientation to the trail. There visitors would obtain information about the opportunities for learning and recreation in the North Point area. New exhibits at the visitor center would tell stories of the War of 1812, the Battle of North Point, and civilian life, as well as stories about nature and wildlife, Native Americans and Captain John Smith, and the Chesapeake Bay shore.

Secondary visitor contact facilities would be available at Todd's Inheritance and at the North Point State Battlefield.

Places to Visit along the Trail. Visitors would follow the trail from the visitor center to the various attractions where the events of the War of 1812 occurred or are commemorated. Interpretive media and programming would highlight Fort Howard, Todd's Inheritance, the Shaw House Foundation and Cemetery, Gorsuch Farm and the Ross Death Site, the Aquila Randall Monument, North Point State Battlefield, Battle Acre Park, and the Methodist Meeting House. New signage, itineraries, maps, and virtual media would strengthen connections among these sites. At Fort Howard, future access and interpretation would be coordinated with the site developers.

Recreation. Visitors would enjoy enhanced opportunities for recreation at state and local parks – on both land and water. New water trails would enable boaters to explore the waters around the North Point Peninsula and in the Bear Creek area.

Water trail guides would be produced for the North Point Water Trail and the Bear Creek Water Trail. Several new canoe and kayak soft launches would be developed, along with paddlers waysides along the water trail routes where paddlers can stop, get out of their boats for a rest and where interpretive media would be available.

Enhanced opportunities for day-use, walking, biking, and site-seeing would be available at local parks along the trail, such as Fort Howard Park, Fort Howard Veterans Park, and parks along the shoreline of Bear Creek (such as Charlesmont, Bear Creek, and Stansbury Parks). Connecting land trails would also link many parks and attractions. North Point Heritage Greenway would provide a safe connection for hikers and bikers from Edgemere to Fort Howard Veterans Park (with a possible future extension to the Patapsco River at North Point Landing). The new Maryland Line Trail would connect visitors to recreational and interpretive opportunities along Bear Creek, with a connection to Battle Acre Park and North Point State Battlefield. In the future a Star-Spangled Banner Hiker/Biker Trail could be developed that connects Edgemere (the north endpoint of the North Point Heritage Greenway) to Patterson Park in Baltimore City, making it possible to safely hike or bike from Fort Howard to Baltimore.

Resource Protection. Resource protection at North Point would focus on resources from the 1812 to 1815 period and landscapes evocative of the early 19th century that are on, or in close proximity to the land and water routes of the trail. Partners would assume primary responsibility for protection and the NPS would provide technical assistance with education of landowners regarding stewardship, planning, partner acquisition, and identification of potential funding sources.

Partnerships. The trail would develop as partnerships are forged or enhanced with traditional and business partners who would collaborate to generally emphasize programs, media, and facilities to tell the stories of the War of 1812 time period at North Point. Collaboration with the Captain John Smith Chesapeake NHT would support joint development of projects, programs, and facilities that

provide recreational experiences and that would enhance visitor appreciation of the Chesapeake Bay.

■ **Priority Actions in North Point**

To make the trail a success in the North Point area during the bicentennial period highest priority would be placed on implementing the following six projects:

- North Point State Battlefield and Battle Acre Park (with enhanced connection between the two)
- North Point Heritage Greenway Trail
- War of 1812 Exhibit at North Point State Park Visitor Center
- North Point Water Trail
- British Troop Landing Site at Fort Howard
- Proposed Bear Creek Water Trail and Maryland Line Trail (*subject to further study and planning*)

5.5.3 ALEXANDRIA

■ **The Concept**

The concept for the trail in Alexandria is “orient and disperse.” The existing visitor orientation center and proposed facility for the city’s historical attractions are both at the waterfront. They are a significant draw for visitors to Alexandria, easily accessible on public transportation via trolley and water taxi, and a base for orientation, interpretive media, tour departures, and information on outfitters and related trail programs.

Over the long-term, Alexandria could utilize the “trail town” model originally piloted along the Great Allegheny Trail in Pennsylvania (trailtowns.org) to capitalize on its location at the confluence of four national historic and scenic trails. Projects supporting marking, interpretation, stewardship, and local economic development at the intersection of these four national trails might include a national trails visitor contact facility, joint marking and marketing, annual celebrations on National Trails Day, and coordination of visitor services for long-distance trail users, including bicycle services and bicycle-friendly accommodations.

Orientation. The Historic Alexandria History Center & Museum Shop (or alternatively the City Archaeology Visitor

Center) would become the primary visitor contact facility for the trail in the city of Alexandria. The trail website and new directional signage in the area would direct visitors between the waterfront and sites along the trail.

The existing Alexandria Visitor Center at Ramsay House [221 King Street] would become the primary visitor contact facility for trail information and orientation. The Archaeology Museum and History Center and Museum Store on North Union Street could direct visitors who begin their visit at the Alexandria waterfront to the Ramsey House. As waterfront revitalization efforts progress, the proposed Waterfront History Center could be explored as the primary location for trail information and orientation.

Places to Visit along the Trail. Visitors would follow the trail from the visitor center to the various attractions along the trail where the events of the War of 1812 occurred or are commemorated. Interpretive media and programming would be focused at the Alexandria Waterfront, the Lyceum, Carlyle House, the Apothecary, and Shuter’s Hill. New signage, itineraries, maps, and virtual media would strengthen connections among these sites.

Land and Water Travel. Armed with information, visitors could experience a taste of the Star-Spangled Banner and early 19th century history while taking part in related land and water-based excursions and activities through:

- Potomac Heritage National Scenic Trail
- Captain John Smith Chesapeake National Historic Trail
- Washington-Rochambeau Revolutionary Route National Historic Trail
- Water taxi service to National Harbor
- Bicycle and boat rental outfitters
- Commercial tour boat operators

Resource Protection. While resource protection would likely be the focus of other historic preservation efforts, continued preservation of trail-related historic resources would support a quality visitor experience.

Partnerships. The trail would develop as partnerships are forged or enhanced with traditional and business partners

who would collaborate to generally emphasize programs, media, and facilities to tell the stories of the War of 1812 in Alexandria. Collaboration with the Captain John Smith Chesapeake NHT would support joint development of projects, programs, and facilities that provide recreational experiences and that would enhance visitor appreciation of the Chesapeake Bay.

■ **Priority Actions - Alexandria**

To make the trail a success in Alexandria during the bicentennial period, highest priority would be placed on implementing the following five projects):

- orientation and War of 1812 at the Alexandria waterfront
- interpretive signs (at the foot of the King Street trolley stop and the King Street waterfront)
- interpretive signs and programs at place-based trail learning experiences (King Street Waterfront, Carlyle House, Lyceum, Apothecary, and Shuter's Hill)
- guided and self-guided walking tours (beginning at the waterfront and connecting place-based trail learning experiences)
- identification and marketing of land- and water-based recreation opportunities

5.5.4 DISTRICT OF COLUMBIA

■ **The Concept**

This concept establishes a framework for developing a range of trail experiences and aims to organize partners and the NPS around the highest and short-term priorities for developing and connecting the trail route in the District of Columbia.

Orientation. Visitor orientation would occur at existing visitor centers at the U.S. Capitol, the White House, and the Smithsonian Institution (the Castle). An additional visitor contact facility could be located at the National Society United States Daughters of 1812 Museum or Dumbarton House. The trail website would direct visitors to the three visitor centers for orientation to the trail. Websites for the National Mall

and Memorial Parks and Cultural Tourism DC would also provide trail orientation information. The trail would be included as a feature on NPS mobile apps for the National Mall and Memorial Parks and the Chesapeake Bay.

Places to Visit along the Trail. Visitors would follow the trail from a visitor center to various attractions where the events of the War of 1812 occurred or are commemorated. Interpretive media and programming would be focused at the Smithsonian (American History), White House, Dumbarton House, Navy Yard Museum, Octagon House, Congressional Cemetery, and Francis Scott Key Memorial. New signage, itineraries, maps, and virtual media would strengthen connections among these sites.

Land and Water Travel. Armed with information, visitors could experience a taste of the Star-Spangled Banner and early 19th century history while taking part in related land and water-based excursions and activities through:

- Potomac Heritage National Scenic Trail
- Captain John Smith Chesapeake National Historic Trail
- Washington-Rochambeau Revolutionary Route National Historic Trail
- water taxi service to National Harbor
- bicycle and boat rental outfitters in Georgetown and along the Anacostia
- commercial tour boat operators

Resource Protection. While resource protection would likely be the focus of other historic preservation efforts, continued preservation of trail-related historic resources would support a quality visitor experience.

Partnerships. The trail would develop as partnerships are forged or enhanced with traditional and non-traditional partners who would collaborate to generally emphasize programs, media, and facilities to tell the stories of the War of 1812 in the District of Columbia. Collaboration with Captain John Smith Chesapeake National Historic Trail would support joint development of projects, programs, and facilities that provide recreational experiences and that would enhance visitor appreciation of the Chesapeake Bay.

■ Priority Actions – District of Columbia

To make the trail a success in the District of Columbia during the bicentennial period, highest priority would be placed on implementing the following eight projects:

- 1812-themed guided and self-guided interpretive walking tours (connecting the US Capitol, White House, Octagon House, Georgetown, Congressional Cemetery, and Washington Navy Yard)
- new interpretation on existing mobile apps (for National Mall and Memorial Parks and the Chesapeake Bay)
- enhanced ranger-led tours and talks (by rangers from the National Mall and Memorial Parks, National Capital Parks – East, and George Washington Memorial Parkway)
- coordinated marketing of 1812 themes (areawide)
- enhanced water trail access and interpretation (for the Anacostia Kingfisher Water Trail)
- enhanced water-based connections (from DC to Alexandria)
- interpretive signage at War of 1812 sites
- wayfinding (along land route within DC)

5.5.5 BALTIMORE CITY

■ The Concept

In Baltimore, trail visitors would learn about the places, people, and events of the War of 1812 with emphasis on the events of the summer of 1814 when the citizens of Baltimore successfully defended the city from invasion by British forces on the land and from the water. The trail experience would be concentrated along the roads and waterways that comprise the trail route, with a strong visual and interpretive identity connecting sites by land between Patterson Park and Fort McHenry National Monument and Historic Shrine (NMHS). On-water interpretation would link Fort McHenry NMHS, Fell's Point, Tide Point, the Inner Harbor, and the Patapsco River. Interpretive and physical connections would encourage visitors to explore the greater Baltimore area, including Hampton National Historic Site and the North Point peninsula. Trail improvements, marking, and interpretive

development would focus on enhancing and strengthening a network of land and water routes and excursions.

Orientation. Visitor orientation would occur primarily at Fort McHenry NMHS – the trail's primary visitor hub. Visitors would also be oriented to the trail at visitor contact facilities at the Inner Harbor Visitor Center, the Fell's Point Visitor Center, and at the Fell's Point orientation kiosk/hub (at Thames and Broadway). Additional signage along the Baltimore Waterfront Promenade and throughout Fell's Point would provide visual orientation to other parts of Baltimore and historical events, as well as directional signage to points off the promenade.

The trail website (starspangledtrail.net) would outline the trail route, historic sites, and visitor contact facilities, and direct visitors to Fort McHenry NMHS and nearby places for further orientation and up-to-date information. Websites for Fort McHenry NMHS, Baltimore National Heritage Area, and Visit Baltimore would also provide trail orientation and information on events and programs. The trail would be featured on NPS mobile apps for Fort McHenry NMHS and the Chesapeake Bay. Information could also be distributed at marinas and public boat launches.

Places to Visit along the Trail. Interpretive media and programming, exhibits, and guided and self-guided tours would encourage visitation to familiar and off-the-beaten path destinations where the events of the War of 1812 occurred or are commemorated:

- Baltimore *Federal Republican* Newspaper Office
- Battle Monument
- Canton
- Clifton Mansion
- Federal Hill
- Fell's Point
- Ferry Point Redoubt Site
- Fort McHenry NMHS
- Hampstead Hill
- Indian Queen Tavern Site
- McElderry's Wharf Site
- Pickersgill Grave and Monument
- Price Shipyard Site

- Pride of Baltimore II
- Star-Spangled Banner Flag House and Museum
- Wells and McComas Monument

Interpretive Media and Programming. Meaningful experiences on the trail would be supported by programs, exhibits and events interpreting key stories and engaging visitors in the trail and its themes. Interpretive media and programming would be focused at Fort McHenry NMHS, the Maryland Historical Society, the Flag House, and the Fell's Point Visitor Center where there would be permanent 1812 exhibits. Temporary exhibits would rotate among the Inner Harbor Visitor Center, Patterson Park, city libraries, and other public spaces. Programming would occur at sites along the trail, with a calendar coordinated through Visit Baltimore (www.starspangledbaltimore.com). The Maryland Historical Society, Fort McHenry NMHS, University of Baltimore and others could expand their existing lecture series to include other venues and topics of interest solicited by trail partners. Expanded NPS ranger-led tours would occur at Fell's Point.

Tall ships in Fell's Point could provide a visual reminder of the community's roots in shipbuilding and privateering, and a visitor attraction. *Pride of Baltimore, II*, or a duplicate of this replica schooner and Maryland ambassador, could establish a regular presence at popular events such as Privateer Day and Fun Fest.

Fort McHenry NMHS would expand interpretation and school programming to include Star-Spangled Banner Trail stories and places through existing programs including:

- "Fighting for Freedom," a series of plays currently through Baltimore School for the Arts
- "Hold the Fort!" interactive online game sponsored by the Friends of Fort McHenry
- Coordination with the NPS tall ship *Friendship* and *Pride of Baltimore II* to dock ships at the Fort
- Interactive kiosk about the Star-Spangled Banner Trail at the Fort McHenry NMHS visitor center
- Musical programs through the Fort McHenry NMHS Fife and Drum Corps, which engages youth 8 years and older in performances at the fort, throughout the Chesapeake region, and as far away as Canada
- New exhibit dedicated to Battle of North Point and events leading up to Battle of Baltimore
- New waysides at Fort McHenry NMHS highlighting trail themes
- Youth mentoring programming for ages 16 years and older to teach basic interpretive ranger skills and prepare youth to be urban rangers

Water Tours. Living Classrooms/Friends of Fort McHenry and Watermark would provide water-based tours from the fort to the approximate location where Francis Scott Key was inspired to pen the lyrics that became the national anthem. They would also provide opportunities for additional education-focused exploratory excursions around the Baltimore Harbor and up the Patapsco River.

Pride of Baltimore II travels the routes of the Star-Spangled Banner Trail frequently; it could become a trail ambassador, providing interpretive information and materials when in port in the Chesapeake and around the world. When in Baltimore, the *Pride* could act as a launching point for trail activities providing short War of 1812 excursions around the Baltimore region and hosting special events from docks in the Inner Harbor or at Fell's Point.

Baltimore Water Taxi would also provide tours and interpretive information connecting sites and stories along its routes throughout the Inner Harbor and Middle Patapsco River.

Guided Walking and Bike Tours. Baltimore National Heritage Area would – through its "Star-Spangled Trails" program – expand its existing walking tours to include War of 1812 interpretation in neighborhoods of interest to visitors and residents. Certified guides and rangers would lead tours and orient visitors to sites of interest.

Baltimore City would improve marking and promotion of a bicycle-friendly route connecting downtown Baltimore, Patterson Park, and North Point. In the future bike tour operators could lead visitors on excursions between Patterson Park, Fell's Point, Fort McHenry NMHS, and destinations further afield.

Education and Training. Activities already underway with Fort McHenry NMHS, Baltimore City Schools, and Baltimore County schools would continue to educate teachers, students, and the general public on the stories and legacy of 1812, including:

- Baltimore National Heritage Area Teacher Resource Guide “Defense of Nation: Maryland in the War of 1812,” an online and print publication with curricula and lesson plans for grades 4, 5 and 8
- Virtual Resource Center (with Maryland Public Television), an online searchable meta-database of primary source materials, illustrations and photographs, and multimedia
- Fort McHenry NMHS Teacher Training offered annually to teachers throughout Maryland
- Tour Guide Training and Certification offered through Baltimore National Heritage Area, including an 1812 component

Traveling Land and Water Routes. Travelers could follow the land and water routes of the Star-Spangled Banner Trail using self-guided tour materials, or experience Baltimore’s rich history while taking part in land- and water-based excursions on intersecting trails. Armed with information, any of the following land and water trails could provide visitors with a taste of the Star-Spangled Banner and early 19th century history.

Some visitors would choose to explore Baltimore’s Inner Harbor and neighborhoods along existing walking and biking routes. Interpretation along the following routes would be expanded to enable visitors to learn about the roles and experiences of Baltimoreans in the War of 1812 as they explore the city’s neighborhoods, parks and commercial areas:

- Baltimore Waterfront Promenade
- Fort McHenry Greenway Trail (proposed)
- Gwynns Falls Trail
- Heritage Walk
- Historic Fell’s Point Trail
- Jones Falls Trail
- Washington-Rochambeau Revolutionary Route National Historic Trail (a 650-mile trail that passes

through Baltimore; it commemorates the travels of George Washington and General Rochambeau from Newport, RI to the last major military action of the Revolutionary War in Yorktown, Virginia)

Alternative Transportation. Visitors using the Baltimore Water Taxi would travel the waters of the Patapsco River learning about the War of 1812 in Baltimore. Visitors would stop at Fort McHenry NMHS where they could visit the fort, tour the visitor center, and participate in NPS ranger-led interpretive programs. By riding the water taxi, visitors would also connect to Fell’s Point and various stops along the waterfront from which they could pick up the free Charm City Circulator to other War of 1812 sites around the city.

Beginning in 2012, the blue “Banner Route” will carry passengers between the Inner Harbor and Fort McHenry NMHS. The route could be branded utilizing a 15-star, 15-stripe Star-Spangled graphics, thematic messaging and interpretive materials, following the approach used to brand Charles Street as “Not Your Ordinary Scenic Byway.”

Recreation Opportunities. Visitors could utilize any number of existing and proposed recreation options to learn about the War of 1812 as they explore Baltimore:

- Inner Harbor Paddle Boats
- Fort McHenry Greenway Trail
- Segway tours from the Inner Harbor
- Self-guided and guided kayaking and bicycle tours to Fort McHenry NMHS from Fell’s Point
- Strengthened bicycle linkages between Fell’s Point, Patterson Park and North Point
- Water tours to the Francis Scott Key Buoy and Bridge
- New guided water taxi excursions with interpretation

Resource Protection. Baltimore abounds with historic resources dating back to the late 18th century. Resource protection through other initiatives would support the purposes and goals of the Star-Spangled Banner Trail. Because of the water’s prominence and importance to providing a rewarding visitor experience, existing watershed

cleanup efforts underway, including the Healthy Harbor initiative for a fishable swimmable Patapsco by 2020, would also strongly support trail purposes and goals as well as optimize the visitor's experience and positive impressions of the city.

■ **Priority Actions – Baltimore**

To make the trail a success in Baltimore during the bicentennial period, highest priority would be placed on implementing the following seven projects:

- orientation at visitor contact facilities and key trail sites
- Baltimore tour guide certification training program (with 1812 components)
- guide to the trail's land and water routes and related 1812 sites in Baltimore
- Fell's Point 1812-themed tours, exhibits and visitor experiences
- enhanced public access at Fort McHenry NMHS
- private and public water tours from Fort McHenry NMHS to Key Bridge and North Point
- improved land and water connections (via the Charm City Circulator, the Baltimore Water Taxi, and bicycle routes)

5.5.6 UPPER BAY

■ **The Concept**

The trail concept in the Upper Bay focuses activities around three regional hubs that operate somewhat separately in the short-term (figure 2) and over time develop collaborative programming and projects that more strongly weave together the region's recreation and historic features.

Currently, the trail connects the three hubs via water routes. As partnerships among trail sites develop, these three regional hubs would be encouraged to work together on cross-promotion and joint programming. Partners would collaboratively encourage travel along existing land-based linkages, such existing byways (Chesapeake Country and Lower Susquehanna Scenic Byways) that connect sites by land between the Upper Bay and Eastern Shore. Enhanced recreation opportunities and alternative transportation

options would also enable stronger connectivity among regional hubs over time.

Orientation. To travel between 1812 sites by land, visitors could follow the Lower Susquehanna Scenic Byway in Harford County or the Chesapeake County National Scenic Byway in Cecil County. Regional hubs at the Havre de Grace Visitor Center, Elkton Visitor Center, and Kitty Knight Park in Georgetown would support a primary contact station from which visitors would disperse to learning and recreation activities nearby. These hubs would provide information on nearby sites and towns including Perryville and Port Deposit in Harford County and Fredericktown and points south on the Eastern Shore.

Chesapeake and Maryland Houses (state-operated travel information centers) on I-95 would direct visitors to contact stations in regional hubs for the latest information on learning and recreation activities.

Places to Visit along the Trail. Visitors would follow the trail by car, bus, bike or boat from a regional hub to attractions along the trail where the events of the War of 1812 occurred or are commemorated. Interpretive media and programming would be focused at the primary visitor-ready sites and in downtown areas along the water. Sites that provide the best opportunities for learning and recreation activities include:

- Caulk's Field
- Concord Point Lighthouse
- Havre de Grace Promenade
- Historic downtown Port Deposit
- Historic Elk Landing*
- Kitty Knight House
- Maritime and Decoy Museums
- Mount Harmon Plantation
- Principio Furnace*
- Rodgers Tavern*
- Susquehanna Lock House Museum
- Susquehanna State Park
- Swan Harbor Farm

*At sites with limited hours, programs and activities would be promoted through online and print media and at visitor contact stations.

New signage, itineraries, maps, and virtual media would strengthen connections among these sites, facilitating self-guided travel.

Traveling the Trail by Land and Water. Armed with information, visitors could experience a taste of the Star-Spangled Banner and early 19th century history as they participate in related land and water-based excursions and activities:

- Captain John Smith Chesapeake National Historic Trail
- Chesapeake Country National Scenic Byway
- East Coast Greenway (bicycle route)
- Lower Susquehanna River Corridor:
 - Heritage Greenway (multi-use trail)
 - Scenic Byway (auto route)
 - Water Trail (in development)
- Mason-Dixon Trail
- Sassafras River Water Trail
- Washington-Rochambeau Revolutionary Route National Historic Trail

Visitors could choose among self-guided options, hop on commercial tour boats, or rent equipment from private bicycle and boat rental outfitters.

Greenways and multi-use trails – as they are developed in Perryville, Port Deposit, and other communities – could be linked into the trail network through signage and virtual and paper-based media.

Resource Protection. While investment in historic preservation is beyond the operational scope of the trail, it supports the trail's visitor experience and resource protection goals. Trail efforts would strongly support preservation activities through other programs.

Land Protection. Land protection efforts by state and local governments and non-profit conservation organizations would continue to focus on protecting environmentally sensitive in the Upper Bay region. Many of these lands are located along the shores of the bay and its tributary rivers, including landscapes evocative of the early nineteenth century. Mechanisms for land protection would include fee simple acquisition, conveyance of conservation easements, and growth management tools implemented by local governments.

Partnerships. The trail would develop as partnerships are forged or enhanced with traditional and business partners who would collaborate to generally emphasize programs, media, and facilities that connect the places that tell War of 1812 stories in the Upper Bay. Collaboration with the Captain John Smith Chesapeake NHT would support joint development of projects, programs, and facilities that provide recreational experiences and enhance visitor appreciation of the Chesapeake Bay.

■ **Priority Actions – Upper Bay**

To make the trail a success in the Upper Bay during the bicentennial period, highest priority would be placed on implementing the following seven projects:

- Upper Bay interpretive media and sign placement planning and development
- outfitter training and materials for guided and self-guided 1812 tours
- land and water map guide to the Upper Bay region
- expanded water tours on the Lantern Queen, Skipjack Martha Lewis, and other charters and water taxis
- creation of regional visitor hubs in Havre de Grace, Elkton and Georgetown that provide information, interpretive media and guided programs
- completion of Lower Susquehanna Water Trail
- construction of trail gaps as identified in the lower Susquehanna Greenway trail gap analysis

5.6 Comparison of the Alternatives

Table 5.4 Comparison of the Alternatives

	Continuation of Current Management (Alternative 1)	War of 1812 in the Chesapeake (Alternative 2)
Trail Management Framework	<p>Management Focus. Management would continue to focus the visitor experience, resource protection, and partnerships on existing partner sites and existing water trails.</p> <p>Administration. The NPS Chesapeake Bay Office (CHBA) would continue to have overall responsibility for administration of the trail in cooperation with the Maryland State Highway Administration (MD SHA) and the Maryland Office of Tourism Development (MD OTD).</p> <p>Regional Management. Trail development would occur opportunistically as partners propose and implement projects at individual sites.</p>	<p>Management Focus. Management would continue to focus the visitor experience, resource protection, and partnerships on existing partner sites and along an enhanced network of recreational trails on the land and on the water.</p> <p>Management would also emphasize increasing opportunities for visitors to learn about the events and times of the War of 1812 and the natural history of the Chesapeake Bay while traveling the trail visiting historic sites and enjoying new recreational experiences made possible by partners.</p> <p>Administration. Same as in alternative 1.</p> <p>Regional Management. Focus area studies for regions of the trail would tier off the CMP, emphasizing protecting significant trail resources, viewsheds, and landscapes evocative of the early 19th century along land and water routes of the trail. Focus area studies would also emphasize similar resource protection along trail water routes on the Potomac River, the Chesapeake Bay, and tributary rivers with existing and proposed water trails that link sites and stories from the 1812 to 1815 time period.</p> <p>Regional Coordinators. One partner in each trail region would become a regional coordinator who would assist the NPS with overall trail coordination.</p>
Visitor Experience	<p>Focus of the Experience. The visitor experience would be focused at existing partner sites and along existing land and water trails.</p> <p>Traveling the Trail. Visitors would experience the trail by following a marked land route on state and local roads from Solomons to North</p>	<p>Focus of the Experience. The visitor experience would be focused at existing partner sites and along an enhanced network of recreational trails on the land and on the water.</p> <p>Traveling the Trail. Visitors would experience the trail by following a marked land route on local and state roads from Solomons to North Point or by following nearby recreational</p>

Table 5.4 Comparison of the Alternatives (continued)

	Continuation of Current Management (Alternative 1)	War of 1812 in the Chesapeake (Alternative 2)
	<p>Point. Visitors would be encouraged to use existing access sites along the Patuxent and Potomac Rivers to view some War of 1812 sites and landscapes from the water.</p> <p>Interpretive Focus. Visitors would learn about the military events, stories of individuals, and cultural context of the War of 1812.</p> <p>Interpretive and Educational Programs. Emphasis would be on providing podcasts and self-guided itineraries with limited interpretive and educational programs at partner sites.</p> <p>Orientation. The visitor center at Fort McHenry National Monument and Historic Shrine would be the primary visitor hub on the trail.</p> <p>Wayfinding. Route marking along highways and public roads would work within the existing roadway signage system used by each state.</p> <p>Interpretive Signage. In advance of the bicentennial commemoration, interpretive signs would be placed at many historic sites and scenic areas.</p>	<p>trails – such as the proposed North Point Heritage Greenway Trail. Visitors would also enjoy enhanced access and interpretation of War of 1812 sites on the Patuxent and Potomac Rivers, as well as on the Patapsco, Sassafra, and Chester Rivers and in the Upper Bay.</p> <p>Interpretive Focus. Visitors would learn about the people, places, events, and untold stories of the War of 1812 time period, the commercial and social context of the war, the war’s legacy and the bay’s natural ecology would be located at partner sites, recreation sites, and visitor contact facilities.</p> <p>Interpretive and Educational Programs. A major increase in interpretive media and programming would occur along the trail. Programming would occur at partner sites, recreation sites, and visitor contact facilities. Guided tours would be offered by partner sites, certified tour guides, and outfitters.</p> <p>Orientation. Same as alternative 1. Additional orientation would occur at an existing partner site within each of the regions of the trail where there would be a contact facility with exhibits that orient visitors to the overall trail.</p> <p>Wayfinding. Same as alternative 1. Route marking would be expanded to provide connections with other national trails, thematically-related trails, state heritage areas, and greenways. Wayfinding would also provide connections by land to thematically-related lands along the trail’s water routes.</p> <p>Interpretive Signage. Same as alternative 1. After the bicentennial period, the NPS would support placement of additional interpretive signs by providing grants and technical assistance, as funding allows.</p>
Resource Protection	<p>Resource Identification. Resource identification would occur through NPS and partner collaboration; partners would undertake studies consistent with their mission, with NPS support and technical assistance, as funding permits.</p>	<p>Resource Identification. Same as alternative 1. Resource identification would also emphasize evocative landscapes along the trail’s land routes and further research on historic water routes.</p>

Table 5.4 Comparison of the Alternatives (continued)

	Continuation of Current Management (Alternative 1)	War of 1812 in the Chesapeake (Alternative 2)
	<p>High Potential Historic Sites and High Potential Route Segments. No further investigations for purposes of identifying high potential sites and segments.</p> <p>Protection. Protection would continue to be at the discretion of local and state agencies and other partners consistent with their mission and as funding permits.</p>	<p>High Potential Historic Sites and High Potential Route Segments. Identification of additional high potential historic sites and high potential route segments would be actively pursued; investigations would focus on identifying evocative landscapes that would further support designation of high potential route segments and high potential historic sites.</p> <p>Protection. Protection would be accomplished by NPS technical assistance to partners regarding significant resources and potential strategies for protection.</p> <p>Land protection would focus on protecting War of 1812 historic resources that are designated high potential historic sites and on protecting evocative landscapes that adjoin high potential historic sites along the land routes of the trail. Potential for federal acquisition would exist; acquisition could occur if there is a willing seller and the site is important to implementation of the CMP.</p>
Partnerships	<p>General. Trail development would occur opportunistically as partnerships are forged or enhanced with traditional and business partners and as partners propose and implement projects at individual sites. Partnerships would focus on developing products and programs that support trail interpretive themes and link sites.</p> <p>Trail Friends Group. There would not be a non-profit trail friends organization.</p> <p>Assistance to Partners. Limited NPS technical and financial assistance would be available to coordinate regional efforts relative to recreation, landscape protection, interpretation, and heritage tourism.</p>	<p>General. CMP management actions would provide a common agenda to guide the collective group of partners. Groups of partners within regions of the trails would be encouraged to work together. Partnerships would emphasize integration of regional trail planning efforts that would provide recreational experiences and enhance visitor understanding and appreciation of the Chesapeake Bay.</p> <p>Trail Friends Group. A non-profit trail friends organization would facilitate expansion of recreation opportunities and public access, land protection, and integration of related history and recreation initiatives, including national trails.</p> <p>Assistance to Partners. Limited NPS technical and financial assistance would be available to coordinate regional efforts relative to recreation, landscape protection, interpretation, and heritage tourism.</p>

Table 5.4 Comparison of the Alternatives (continued)

	Continuation of Current Management (Alternative 1)	War of 1812 in the Chesapeake (Alternative 2)
Cultural Heritage Tourism and Marketing	Marketing Strategy. During the bicentennial period Maryland OTD would facilitate discussion and planning among regional marketing interests in Maryland, Virginia, and the District of Columbia. After the bicentennial trail marketing would occur without the benefit of trail-wide coordinated planning.	Marketing Strategy. Same as in Alternative 1 for the bicentennial period. After the bicentennial trail-wide marketing by state and local tourism agencies would transition to coordinated long-term promotion and marketing of the trail.
NPS Staffing (see table 5.5)	2 full-time equivalent staff	5 full-time equivalent staff
NPS Annual Operating Cost (2011 dollars) (see table 5.5)	\$249,000	\$568,000
One-Time Costs (including land protection) (2011 dollars) (see table 5.5)	\$ 7,111,000 total \$ 745,000 federal share \$ 6,366,000 partner share	\$ 22,577,000 total \$ 3,534,000 federal share \$ 19,043,000 partner share
Land Protection Costs (2011 dollars) (see table 5.5)	\$ 0 total \$ 0 federal share \$ 0 partner share	\$ 1,447,000 total \$ 647,000 federal share \$ 800,000 partner share

5.7 Comparison of Costs of the Alternatives

5.7.1 ESTIMATED COSTS FOR IMPLEMENTING THE PLAN

Table 5.5 presents a summary of the annual operating and one-time costs for the two CMP alternatives. The cost figures are provided here and throughout the CMP only to provide an estimate of the relative costs of the alternatives. The following statements apply to the cost estimates:

- Costs are presented as estimates and are not appropriate for budgeting purposes.
- Costs presented have been developed using NPS and industry standards to the extent available.
- Specific costs will be determined at a later date, considering the design of facilities, identification of detailed resource protection needs, and changing visitor expectations.
- Approval of the CMP does not guarantee that funding or staffing for proposed actions will be available.
- Implementation of the approved plan, no matter which alternative, will depend on future NPS funding levels and servicewide priorities, and on partnership funds, time, and effort.

5.7.2 FUNDING FOR ACTIONS IDENTIFIED IN THE PLAN

The NPS prepares five-year deferred maintenance and capital improvement plans. These plans are developed by a systematic process of evaluating proposals from the field to determine which projects are of greatest need in priority order focusing on critical health and safety issues and critical resource protection requirements. Actions that add specific projects to the five-year plans inevitably result in other projects being displaced when budgets are limited. Capital development, maintenance, and staffing proposals in this CMP would be evaluated in light of competing priorities for the Star-Spangled Banner National Historic Trail and other national historic trails and units of the national park system. Because emphasis in the budget process is currently placed on addressing needs to maintain existing infrastructure, funding for new development is not likely within the next five years. However, the potential for implementing

development and operational proposals in this plan may be improved if funding is available from partnerships that do not rely on the NPS's budget.

Estimated operations and development costs for the two alternatives for the 20-year plan are provided. One-time costs are included for visitor services facilities (visitor contact facilities and interpretation/education facilities), water trail access facilities (kayak/canoe launches, day use facilities, etc.), land protection costs (in-fee and less than fee), interpretive media, plans, and special studies. Costs would be shared with trail partners. Interpretation/education facilities as outlined in alternative 3 would be at partner sites to provide orientation and services to all national trails, national park units, scenic byways, and CBTN partner sites in the Chesapeake region.

A significant portion of the one-time costs would be for access facilities. These access facilities would also serve other national trails, scenic byways, and water trails that cross or are partially coterminous with the trail. In addition to serving trail users, access to water portions of the trail would advance the federal commitment to increasing public access to the Chesapeake Bay and its tributary rivers in accordance with Executive Order 13508. The costs would be subject to NPS budget priorities and available funding. Costs were developed using the NPS facilities models.

5.7.3 FUNDING FOR EARLY IMPLEMENTATION

The NPS and trail partners have invested over \$5.5 million to plan and develop the trail in the lead-up to the War of 1812 Bicentennial. In addition to trail planning, funding has supported a range of projects benefiting partners and the public, including resource documentation and protection; visitor orientation; public access; and interpretative media and educational programming. Appendix J provides a listing of existing and early implementation projects. NPS investment of \$2.7 million, a National Scenic Byways Program award of \$1.8 million, and state and local partner sources totaling \$1 million have contributed to making the trail ready for visitors.

Table 5.5 Cost Comparison (2011 dollars)

Subject	Continuation of Current Management (Alternative 1)			War of 1812 in the Chesapeake (Alternative 3)		
	Commemorative Period (2012 to 2015)	Long-Term (2016 to 2032)	Total	Commemorative Period (2012 to 2015)	Long-Term (2016 to 2032)	Total
NPS Operating Costs						
NPS Staffing – FTE ¹	na	na	2	na	na	5
NPS Deferred Maintenance ²	none	none	none	none	none	none
NPS Annual Operating Costs (ONPS)³	na	na	\$249,000	na	na	\$568,000
NPS One-Time Costs⁴						
Visitor Contact Facilities	\$0	\$0	\$0	\$0	\$0	\$0
Water Route Improvements	\$0	\$0	\$0	\$0	\$0	\$0
Land Route Improvements	\$0	\$0	\$0	\$0	\$0	\$0
Site Development ⁵	\$0	\$0	\$0	\$0	\$0	\$0
Total NPS Facilities Costs	\$0	\$0	\$0	\$0	\$0	\$0
Interpretation and Wayfinding	\$147,000	\$598,000	\$745,000	\$803,000	\$1,284,000	\$2,087,000
Special Studies ⁶	none	none	none	\$0	\$800,000	\$800,000
Total NPS Non-Facilities Costs	\$147,000	\$598,000	\$745,000	\$803,000	\$2,084,000	\$2,887,000
Land Protection ⁷	none	none	none	\$0	\$647,000	\$647,000
NPS Total One-Time Costs⁸	\$147,000	\$598,000	\$745,000	\$803,000	\$2,732,000	\$3,534,000

Partner One-Time Costs⁴

Visitor Contact Facilities	\$0	\$0	\$0	\$721,000	\$0	\$721,000
Water Route Improvements	\$2,664,000	\$0	\$2,664,000	\$3,369,000	\$0	\$3,369,000
Land Route Improvements	\$0	\$507,000	\$507,000	\$2,434,000	\$1,014,000	\$3,448,000
Site Development ⁵	\$225,000	\$0	\$225,000	\$3,400,000	\$0	\$3,400,000
Total Partner Facilities Costs	\$2889,000	\$507,000	\$3,396,000	\$9,924,000	\$1,014,000	\$10,938,000
Interpretation and Wayfinding	\$2,350,000	\$620,000	\$2,970,000	\$3,386,000	\$3,919,000	\$7,305,000
Special Studies	none	none	none	none	none	none
Total Partner Non-Facilities Costs	\$2,350,000	\$620,000	\$2,970,000	\$3,386,000	\$3,919,000	\$7,305,000
Land Protection ⁷	none	none	none	\$0	\$800,000	\$800,000
Total One-Time Partner Costs	\$5,239,000	\$1,127,000	\$6,366,000	\$13,310,000	\$5,733,000	\$19,043,000
TOTAL ONE-TIME COSTS	\$5,386,000	\$1,725,000	\$7,111,000	\$14,191,000	\$8,465,000	\$22,577,000

1. Total full-time equivalents (FTE) are the number of NPS person/year of staff required to oversee trail planning, development, and management. These positions would be phased in over the 20-year life of the plan. The number of FTE indicates ONPS-funded NPS staff only, not volunteer positions. FTE salaries and benefits are included in the annual operating costs. FTEs in Alternative 1 consist of one full-time trail project manager with portions of time for the trail superintendent, administrative officer, partnership coordinator, and interpretive specialist together comprising the other FTE. Alternative 3 adds one interpretive specialist with expertise in education, one interpretive specialist with expertise in communications and social media, and one community or outdoor recreation planner.
2. There are no deferred maintenance costs. Beyond NPS units already in existence where trail experiences would occur, NPS currently does not own land or facilities specifically acquired or developed for trail purposes.
3. NPS annual operating costs are the total NPS costs per year for maintenance and operations associated with each alternative, including utilities, supplies, staff salaries and benefits, leasing, and other materials. Cost and staffing estimates assume the alternative is fully implemented as described in sections 5.4 and 5.5 above.
4. One-time costs include costs for rehabilitation, modification or adaptive reuse of visitor contact facilities, land and water route improvements, interpretation and education, other trail planning and studies, partner site development, and land protection along trail routes.
5. Site development costs include short-term, high-priority capital infrastructure projects identified in Bladensburg and North Point focus areas, including battlefield site rehabilitation, landscaping and facility improvements. Costs for other focus areas were not estimated since the projects in these areas were less developed. Costs for these projects are anticipated to be funded by trail partners and not by the NPS.
6. NPS would complete one each of the following over the 20-year life of the plan through competitive funding sources: a historic resources study, ethnographic overview and assessment, archeological overview and assessment, and cultural landscapes study.
7. Land protection costs include NPS and partner costs for acquiring land and interests in land. The NPS would work collaboratively with partners to acquire these lands and utilize agreements to transfer oversight and easement-holding to state or local entities. Land protection cost estimates assume a percentage of high potential historic sites would be protected and are for general planning purposes only. Actual costs would be determined by detailed appraisals when lands were considered for protection.
8. NPS one-time costs would be funded through eligible competitive funding sources including but not limited to Connecting Trails to Parks, Challenge Cost-Share, Transportation, Chesapeake Bay Gateways and Watertrails Network, and National Park Foundation sources, among others.

5.8 Comparison of the Environmental Consequences of the Alternatives

Table 5.6 Comparison of Environmental Consequences of the Alternatives

Impact Topic	Continuation of Current Management (Alternative 1)	War of 1812 in the Chesapeake (Alternative 2)
Aquatic Resources	- minor beneficial long-term impact	- moderate beneficial long-term impact - minor adverse long-term impact
Terrestrial Resources	- minor long-term beneficial impact - minor long-term adverse impact	- moderate beneficial long-term impact - minor adverse long-term impact
Threatened and Endangered Species	- negligible to minor long-term beneficial impact	- moderate beneficial long-term impact
Archeological Resources	- minor beneficial long-term impact	- moderate beneficial long-term impact
Historic Structures	- minor beneficial long-term impact	- moderated beneficial long-term impact
Cultural Landscapes	- minor beneficial long-term impact	- moderate beneficial long-term impact
Museum Objects and Collections	- minor beneficial long-term impact	- moderate beneficial long-term impact
Visitor Experience	- minor beneficial long-term impact	- moderate beneficial long-term impact
Trail Planning Development and Management	- negligible long-term impact	- moderate beneficial long-term impact
Socio-Economic Conditions	- short-term minor beneficial impact - negligible long-term beneficial impact	- short-term moderate beneficial impact - long-term minor beneficial impact

5.9 Alternative Considered but Dismissed

5.9.1 CHESAPEAKE CAMPAIGN OF SUMMER 1814 (ALTERNATIVE 2)

An additional alternative considered but dismissed by the CMP Planning Team would have focused future trail management on retracing the major 1814 military movements on land and water. In alternative 2 visitors would have learned primarily about the military encounters of the British and Americans during the Chesapeake Campaign in the summer of 1814 along a shared trail land route. Visitors would have experienced new interpretive media and enhanced public access as they travel along the Patuxent and Patapsco Rivers; interpretation along the Potomac River and the Chesapeake Bay would have been limited to media utilized from boats. Guided and self-guided interpretive media would have depicted the military events, people, and places that led to the writing of the Star-Spangled Banner.

Alternative 2 was developed conceptually and presented to the public through the alternatives newsletter and at the alternatives workshops held with stakeholders and the public in April 2011. Public comments related to alternative 2 indicated that the public did not support alternative 2 and questioned that it would satisfy the trail purpose.

Comments generally stated that:

- alternative 2 would not cover the entire geographic width and breadth of the War of 1812 and the related histories that should be told.
- alternative 2 would not connect visitors to the Chesapeake Bay or to other national trails.
- alternative 2 would not provide a comprehensive framework for working collaboratively with a variety of organizations on a wide range of initiatives, sites, and programs.

Subsequent to the alternatives workshops the CMP Planning Team proceeded with refining the three conceptual alternatives. Further analysis revealed that:

- alternative 2 would not adequately comply with the purpose of the National Trails System Act to provide opportunities along historic travel routes for outdoor recreation.

- alternative 2 would not adequately satisfy the purpose of the Star-Spangled Banner National Historic Trail to foster improved opportunities for land- and water-based recreation.
- alternative 2 would not adequately comply with requirements of the Chesapeake Bay Protection and Restoration Executive Order (E.O. 13508) to enhance public access to the Chesapeake Bay and its tributary rivers and to offer options for conserving landscapes and ecosystems in the Bay region.
- alternative 3 generally includes all elements of alternative 2.

As a result of these findings, the CMP Planning Team dismissed alternative 2 from further consideration.

5.10 Identification of the Preferred Alternative

The NPS has identified alternative 3 – War of 1812 in the Chesapeake as the preferred alternative to guide long-term management of the trail. This decision is based on the comparison of alternatives summarized in this CMP/EA, public comments received during the planning process, and findings of the “Choosing By Advantages” process.

Full implementation of the approved plan could be many years in the future. Implementation will depend on future NPS funding levels and service-wide priorities and the efforts of partners. Approval of the CMP/EA does not guarantee that funding or staffing for proposed actions will be available. Implementation of specific projects associated with the selected long-term management alternative will require detailed implementation planning and further analysis of impacts pursuant to the National Environmental Policy Act.

5.10.1 COMPARISON OF THE ENVIRONMENTAL CONSEQUENCES OF THE ALTERNATIVES

Analysis of the environmental consequences of the alternatives supports selection of alternative 3 – War of 1812 in the Chesapeake as the preferred alternative. Following is a summary of the comparison of environmental consequences of the alternatives based on findings presented in detail in chapter 7 and in table 5.6 above) of this CMP/EA:

Beneficial Impacts of the Alternatives

- Both alternatives would have beneficial impacts on aquatic resources, terrestrial resources, and threatened and endangered species. Beneficial impacts would be minor for alternative 1 and minor to moderate for alternative 3.
- Both alternatives would have beneficial impacts on archeological resources, historic structures, cultural landscapes, and museum collections and objects. Beneficial impacts would be minor for alternative 1 and moderate for alternative 3.
- Both alternatives would have a beneficial impact on visitor experience. Beneficial impacts would be minor for alternative 1 and moderate for alternative 3.
- Alternative 1 would have a negligible impact on trail planning, development, and management. Alternative 3 would have a moderate beneficial impact on trail planning, development, and management.
- Both alternatives would have a beneficial impact on socio-economic conditions. In alternative 1 the beneficial impact would be minor over the short-term and negligible over the long-term. In alternative 3 the beneficial impact would be moderate over the short-term and minor over the long-term.

Adverse Impacts of the Alternatives

- Alternative 3 would have a minor adverse impact on aquatic resources
- Both alternatives would have a minor adverse impact on terrestrial resources

Overall, alternative 3 would have greater beneficial impacts, including moderate long-term beneficial impacts in all ten impact topics. Adverse impacts associated with alternative 3 would be minor and long-term in only two impact topics. Any adverse impacts associated with the alternatives would be a result of developing public visitor service facilities or water trail access facilities.

5.10.2 SUMMARY OF PUBLIC INVOLVEMENT IN ALTERNATIVES DEVELOPMENT

In April 2011 the NPS presented the Alternatives 1 through 3 to the public and stakeholders in a series of seven workshops held in communities along the trail. The alternatives were also posted on the NPS Planning, Environment and Public Comment (PEPC) website and the NPS distributed a newsletter summarizing the alternatives to parties on the NPS Chesapeake Bay Office's mailing list.

Approximately 55 people attended the public open house workshops and approximately 25 people attended the stakeholder meetings. During the comment period, the NPS received 113 comments via the NPS Planning Environment and Public Comment (PEPC) website or in writing. Twenty-five comments were a form letter submitted by interested parties from the Upper Bay area.

The public and stakeholders showed overwhelming support for alternative 3 – War of 1812 in the Chesapeake. One hundred twelve (112) people indicated a preference for alternative 3. Only three (3) people preferred alternative 2 – Chesapeake Campaign Summer 1814. No one indicated a preference for alternative 1 – Continuation of Current Management. Almost two-thirds (62%) of the people indicating support for alternative 3 were from the Upper Bay area. Those who supported alternative 3 in preference to Alternatives 1 and 2 generally did so because they felt that alternative 3:

Scope of the Trail

- commemorates all the events of the War of 1812, moving beyond the military campaign and limited 1814 timeframe to interpret the social history of the time, and tying the story to the broader Bay story of early exploration on both land and water
- covers the entire geographic width and breath of the war from Norfolk (VA) to Elkton (MD)
- offers more opportunities for expanded tourism related to the War of 1812, making the trail a potential benefit to more towns and communities throughout the Chesapeake region
- provides the best plan for ensuring that the bicentennial serves not only as a once-in-a-lifetime

opportunity to commemorate the nation's past, but also as a means to create partnerships, amenities, programs, and infrastructure programs that would last long after the bicentennial

Visitor Experience

- best allows for telling the full story of the War of 1812, thus providing a more encompassing understanding of the conflict and the times
- offers the most opportunity for recreational learning related to the War of 1812
- benefits the general family visitor and appeals to people of all ages and diverse backgrounds

Resource Protection

- increases visitor exposure to the rich cultural and natural history of the Chesapeake Bay
- helps to preserve and protect the Bay by broadening the reach of the trail and improving recreational access

Partnerships

- includes more sites and allows for more people to be involved
- allows individual sites the flexibility of coordinating programs to interpret broader aspects of history, including social, economic, and military events as well as natural resources
- provides a more comprehensive and overlapping framework to work collaboratively with a variety of organizations on a wider range of initiatives, sites, and programs
- best connects with and supports other national historic trails, greenways, heritage areas, and attractions throughout the region
- allows for greater technical assistance from NPS for regional coordination of activities, interpretation, and wayfinding

The three parties who preferred alternative 2 did so because they felt that it is important to stay focused on history and educating people about the War of 1812, especially given the current budget limitations faced by the NPS. One person also indicated that alternative 2 concentrates on the stories referenced in the trail's enabling legislation. People favoring alternative 2 expressed an opinion that alternative 3

deemphasizes the war and makes the trail more of a natural history project than a historical one.

5.10.3 SUMMARY OF FINDINGS FROM THE CHOOSING BY ADVANTAGES DECISION-MAKING PROCESS

The CMP Planning Team also used the "Choosing By Advantages" (CBA) process 1) to organize and evaluate the facts most relevant to the selection of the preferred alternative, and 2) to minimize the influence of individual biases and opinions in the decision-making process. The CBA process, which has been used extensively by government agencies and the private sector, evaluates different alternatives by identifying and comparing the relative advantages of each alternative according to a set of criteria. CBA does not weight factors when making decisions. Rather it focuses on the different advantages associated with specific alternatives and determines how important those advantages are.

Findings of the CBA process determined that alternative 3 would fulfill the mission and responsibilities of the trail and would offer a greater overall advantage when compared to alternative 1. The advantages offered by alternative 3 relative to alternative 1 are summarized as follows:

- **Protection of trail-related resources** – Alternative 3 would provide a higher degree of protection of trail-related resources. Alternative 1 would offer no advantage.
- **Enhanced interpretation, education, and understanding** – Alternative 3 would provide greater enhancement of interpretation, education, and understanding for visitors. Alternative 1 would offer no advantage.
- **Enhanced public use and enjoyment of the trail** – Alternative 3 would provide greater enhancement of public use and enjoyment of the trail. Alternative 1 would offer no advantage.
- **Effective trail development and management** – Alternative 3 would provide greater opportunity for effective trail development and management. Alternative 1 would offer no advantage.

5.11 Environmentally Preferable Alternative

In accordance with the DO-12 Handbook, the NPS identifies the environmentally preferable alternative in its NEPA documents for public review and comment [Sect.4.5 E(9)]. The environmentally preferable alternative is the alternative that causes the least damage to the biological and physical environment and best protects, preserves, and enhances historical, cultural, and natural resources. The environmentally preferable alternative is identified upon consideration and weighing by the responsible official of long-term environmental impacts against short-term impacts in evaluating what is the best protection of these resources. In some situations, such as when different alternatives impact different resources to different degrees, there may be more than one environmentally preferable alternative (43 CFR 46.30).

The NPS has determined that the environmentally preferable alternative is alternative 3. This conclusion is based on careful review of potential impacts as a result of implementing the management alternatives and assessing proposed mitigation for cultural and natural resource impacts. Alternative 3 best protects, preserves, and enhances the cultural and natural resources associated with the trail because the NPS and trail partners would continue to promote conservation and stewardship of natural resources in accordance with the intent of the trail MOU. Additionally, this alternative provides potential NPS assistance in identifying and documenting the significance of cultural resources and potential investment by the NPS to protect these resources. Based on the analysis of environmental consequences of each alternative, Alternative 3 is the environmentally preferable alternative

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Chapter 6

Affected Environment



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6. Affected Environment

6.1 Introduction

The Comprehensive Management Plan (CMP) for future development and management of the Star-Spangled Banner Trail is a proposed federal action subject to requirements of the National Environmental Policy Act (NEPA). Consequently, the NPS has completed the CMP planning process and documented its findings as an environmental assessment (EA), in accordance with the Council on Environmental Quality's (CEQ's) implementing regulations for the National Environmental Policy Act (NEPA) (40 CFR 1500-1508) and NPS Director's Order #12, *Conservation Planning Environmental Impact Analysis, and Decision-Making* (DO-12), and accompanying *DO-12 Handbook* (NPS 2001).

Compliance with NEPA requires the NPS to analyze the environmental impacts of the proposed management plan for the trail, feasible alternatives to the plan, and any negative environmental impacts that cannot be avoided if the plan is implemented. Through the scoping process (section 1.5 above) the planning team determined the breadth of environmental issues and alternatives to be addressed in the EA. Scoping was used to identify which issues (or impact topics) should be analyzed in detail and which could be eliminated from in-depth study.

The following section 6.0 of the CMP generally describes the environment potentially affected by the trail management actions proposed in the CMP, focusing on the impact topics to be analyzed in detail (table 6.1). The subsequent section 7.0 of the CMP provides an analysis of the environmental consequences associated with the proposed trail management actions for each impact topic. The rationale for dismissing additional impact topics is provided in section 7.6 below.

6.2 Trail Setting

Approximately 560 miles of land and water routes compose the Star-Spangled Banner Trail, following the waterways of the Chesapeake Bay and its tributary rivers and the nearby land routes used by the British and American armies during

the War of 1812 in the Chesapeake. Jurisdictions along the trail include: the Maryland counties of Anne Arundel, Baltimore, Calvert, Cecil, Charles, Dorchester, Harford, Kent, Montgomery, Prince George's, Queen Anne's, St. Mary's, Talbot, and Baltimore City; the Virginia independent jurisdictions of Alexandria, Fairfax, Falls Church, and Leesburg, and the counties of Accomack (Tangier Island only), Arlington, Fairfax, King George, Loudoun, Northumberland, Prince William, Stafford, and Westmoreland.

The Star-Spangled Banner Trail passes through three ecoregions (Outer Coastal Plain Mixed Forest, Eastern Broadleaf Forest (Oceanic), and Southern Mixed Forest) (USDA 1995) and two land resource regions (Northern Coastal Plain and Northern Piedmont) (USDA 1981).

Table 6.1

Impact Topics RETAINED for Further Analysis

Natural Resources

- aquatic resources
- terrestrial resources
- threatened and endangered species

Cultural Resources

- archeological resources
- historic structures
- cultural landscapes
- museum collections and objects

Other Topics

- visitor experience
- trail planning, development, and management
- socio-economic conditions

6.3 Natural Resources

6.3.1 AQUATIC RESOURCES

■ Surface Water Resources

Water resources in the counties and cities along the trail include the Chesapeake Bay, its tributary rivers and streams, and associated wetlands. The Susquehanna River is the largest tributary river to the Bay. Other major tributaries are the Patapsco, Patuxent, Potomac, Anacostia, Susquehanna Elk, and Sassafras Rivers. These major water bodies link cultural and historic resources and provide a variety of recreation opportunities. The resources and connections created by the waterways opened up the area for settlement and trade and were a major factor in the location of development within the region.

Chesapeake Bay Estuarine Waters. The Chesapeake Bay is the nation's largest estuary (an area where fresh and salt water mix) and the world's third largest estuary. The Bay's watershed of 64,000 square miles encompasses parts of six states – New York, Pennsylvania, Maryland, Virginia, Delaware, and West Virginia, plus the District of Columbia. The Bay itself is approximately 200 miles long, stretching from the mouth of the Susquehanna at Havre de Grace, Maryland, to Norfolk, Virginia. This provides about 2,500 square miles of surface water. The Bay varies in width from about 3.4 miles near Aberdeen, Maryland, to 35 miles at its widest point, near the mouth of the Potomac River. The Bay is unusually shallow, with an average depth of 21 feet. There are few deep holes that are more than 170 feet deep. There are more than 11,600 miles of shoreline, including tidal wetlands and islands.

Patuxent River. The Patuxent River drains about 900 square miles in portions of St. Mary's, Calvert, Charles, Anne Arundel, Prince George's, Howard, and Montgomery Counties in Maryland. The Patuxent is the largest river which drains entirely within Maryland. Larger water bodies include the Western Branch, Little and Middle Patuxent Rivers, and two large water supply reservoirs on the mainstem river above Laurel, which supply water for the Washington Metropolitan area.

Patapsco and Back Rivers. The Patapsco and Back Rivers basin drains about 630 square miles including all of Baltimore City and portions of Anne Arundel, Baltimore, Carroll, and Howard Counties in Maryland. Larger water bodies include the Back River, Gwynns and Jones Falls, the North and South Branches of the Patapsco River, Lake Roland, Piney Run Reservoir, Liberty Reservoir, and the Baltimore Harbor.

Middle Potomac River. The Middle Potomac River basin drains about 610 square miles, including portions of Montgomery and Prince George's Counties in Maryland. The main stem of the river serves as a receiving tributary for upriver sources. Major tributaries include Seneca, Rock and Piscataway Creeks and the Anacostia River. Bladensburg was once a colonial port on the Anacostia River, but due to centuries of sedimentation, is no longer navigable except to small recreational watercraft.

Lower Potomac River. The Lower Potomac River basin drains approximately 730 square miles of Charles, St. Mary's, and Prince George's Counties in Maryland. Within the Lower Potomac basin are eleven smaller watersheds, including the Mattawoman River, Wicomico River, Breton Bay, and St. Mary's River.

Susquehanna River and Susquehanna Flats. The Susquehanna River flows 444 miles from its headwaters near Cooperstown, New York to Havre de Grace, Maryland, where it discharges into the Chesapeake Bay. The river drains 27,500 square miles, covering half the land area of Pennsylvania and portions of New York and Maryland. It is the largest tributary to the Chesapeake Bay, providing 90 percent of the freshwater flows to the upper half of the bay and 50 percent overall. It composes 43 percent of the Chesapeake Bay's drainage area.

The Susquehanna Flats make up a broad, shallow sediment trap adjacent to the mouth of the Susquehanna River. At the flats the confined, rapidly flowing Susquehanna spreads out into the Bay, slowing in velocity and depositing much of its sediment. The flats have a maximum depth of 10 feet in most places. Half a dozen species of freshwater rooted aquatic plants compose a thick bed of underwater grasses

that extends from the northern tip of Spesutie Island to Furnace Bay at the head of the Chesapeake's Bay.

■ Shoreline Habitats and Wildlife

A variety of habitats support diverse wildlife along the shoreline of the Chesapeake Bay including beaches, intertidal flats, salt marshes, brackish marshes, tidal freshwater marshes, and forested wetlands. Where the broad shallows merge with the land's edge, there are approximately one quarter million acres of tidal marshes, or wetlands. These wetlands provide particularly crucial habitat for fish, shellfish, various waterfowl, shorebirds, wading birds, and several mammals. In addition, submerged aquatic vegetation in shallow waters (< 6 to 8 feet deep) provides important habitat.

Beaches. Sandy beach habitat is common along shorelines near areas exposed to wide open waters strongly affected by ocean currents and waves. Exposed beaches in the middle and upper Chesapeake Bay are generally narrower than those closer to the mouth of the Chesapeake Bay. Most of the beach habitat is inundated twice daily by tides, and is often exposed to wind-driven waves. Very few species have adapted to live in the harsh beach habitat. These habitats are generally devoid of vegetation other than occasional seaweed (such as sea lettuce) which may have washed ashore. Characteristic animal species often found on beaches include beach hoppers, mole crabs, horseshoe crabs, ghost crabs, and tiger beetles.

During the winter, overwintering shorebirds are a common site along beaches. Typical shorebirds include sanderlings, willets, black bellied plovers, and ruddy turnstones. In addition, gulls and terns are frequently observed along beaches.

Intertidal Flats. Intertidal flats are shoreline areas of the Bay that are subject to daily inundation during high tides and exposure to air during low tides. There are hard bottom flats composed mostly of sand bottoms, and soft-bottom intertidal flats composed mostly of fine silt and clay particles. Many animals including mud snails, fiddler crabs, square crabs, and hermit crabs are found along the flats. Numerous burrowing animals live in the bottoms of intertidal flats,

including several species of marine worms (e.g., bristle worms), snails, clams, and shrimp. Wading birds that frequent intertidal flats include dunlins, ibises, oystercatchers, and dowitchers, which feed on the rich epifauna and infauna species found on and within the intertidal flats.

Salt Marshes. Shorelines bordering the Chesapeake Bay often are characterized by marshes on generally sandy or gravelly soils. Many of these marshes are along the Bay's eastern and southern shores, which tend to be flatter and are inundated by tides twice daily. They occur as large broad areas and as thin fringe marshes, and are characterized as either low or high salt marshes, depending upon the amount of tidal inundation.

The low salt marsh occurs in low-lying areas flooded twice daily with the tides and are usually dominated by salt marsh cordgrass (*Spartina alterniflora*). Saltmarsh cordgrass often grows in lush stands at the head of tidal creeks, with the most spectacular stands occurring in large areas that are inundated daily. Regularly flooded low marshes are havens for young fish and many species of invertebrates.

The high salt marsh is an irregularly flooded saltmarsh usually only flooded by wind-driven tides or exceptionally high tides. These marshes often adjoin low marshes higher up the slope. A typical high marsh in the Bay area is composed of mainly black needlerush (*Juncus roemerianus*), salt meadow hay (*Spartina patens*), and salt grass (*Distichlis spicata*). Two species of shrubs, marsh elder (*Iva frutescens*) and groundsel tree (*Baccharis halimifolia*), often grow on high spots in the high marsh and often occur at the transition from high marsh to upland.

The Chesapeake Bay salt marshes provide crucial habitat for fish, shellfish, waterfowl, shorebirds, wading birds, and several mammals. Several commercially important species including striped bass, menhaden, flounder, oysters, and blue crabs all depend on these wetlands.

Brackish Marsh. Brackish marshes often occur in low flat areas in areas of lower salinity. Big cordgrass (*Spartina cynosuroides*) – the largest of the three cordgrasses found

around the Bay – is typically found in brackish marshes. This species often grows to heights of 10 feet or more. Another grass found in the upper edges of brackish marshes is switchgrass (*Panicum virgatum*). Reedgrass (*Phragmites australis*) is a tall coarse grass that is often found in brackish marshes.

Tidal Freshwater Marshes. Many Chesapeake Bay tributaries have extensive tidal freshwater marshes. These areas are affected by tides, but are far enough from the Bay that the water has no salinity. A typical freshwater marsh may consist of a variety of broad-leaved plants, such as pickerelweed (*Pontedaria cordata*), arrowhead (*Sagittaria latifolia*), and blue flag (*Iris versicolor*) growing in a wide band in the river. Shoreward of the emergent plants are the rushes (*Juncus* spp.), sedges (*Carex* spp.), mallows (*Kosteletzka virginica* and *Hibiscus moscheutos*), and cattails (*Typha* spp.). Another tidal freshwater marsh species found around the Chesapeake Bay is wild rice (*Zizania aquatica*) which grows in soft mud and shallow water, sometimes reaching 10 feet in height.

Forested Wetlands. Forested wetlands frequently occupy the upper edge of fresh and brackish marshes. Typical species in bottomland forests include willows (*Salix* spp.), red maple (*Acer rubrum*), green ash (*Fraxinus pennsylvanicum*), sycamore (*Platanus occidentalis*), and buttonbush (*Cephalanthus occidentalis*).

Submerged Aquatic Vegetation. An important component of the Chesapeake Bay ecosystem is submerged aquatic vegetation. This includes a variety of vascular plants that grow entirely under water, forming grassy meadows and weed beds that provide habitat for fish, waterfowl, shellfish, and invertebrates. Sixteen species of submerged aquatic vegetation are commonly found in the Bay or its tributary rivers, with salinity being the primary factor affecting their distribution. Eelgrass and widgeon grass are found in sea grass meadows in higher salinity waters in the lower portions of the Bay. Pondweeds, wild celery, water milfoil, and coontails occur in weed beds along upper Bay shorelines where salinity is lower and in the freshwaters of the Bay's tributaries.

A steady decline in the acreage of submerged aquatic vegetation has occurred in the Chesapeake Bay over the past 30 years. Historically, over 200,000 acres of Chesapeake Bay sea grasses grew along the shoreline. By 1984, the total acreage had decreased to 38,000 acres. Today, it is further diminished. The loss is primarily due to turbidity caused by large populations of phytoplankton (e.g., diatoms and dinoflagellates) growing in response to high concentrations of nutrients in the water. High turbidity caused by dense phytoplankton "blooms" can reduce the amount of light that reaches shallowly submerged photosynthesizing plants. When turbidity becomes severe enough, submerged aquatic plants may not be able to photosynthesize enough to grow or even maintain themselves. As a result, sea grass meadows and weed beds can either become highly reduced in size or slowly die out entirely over time. The primary sources of elevated nutrient levels entering the Chesapeake Bay are runoff from agriculture fields, fertilizer runoff from home garden and lawns, sedimentation and erosion from new development sites, and industrial discharge. Despite the serious loss of submerged aquatic vegetation in the Bay and its tributaries, restoration projects where aquatic plants are planted by hand in suitable shallow water habitats are beginning to exhibit some success in reestablishing aquatic plant beds.

■ Aquatic Wildlife

The Chesapeake Bay watershed provides food, water, cover, and nursery areas to an estimated 350 species of finfish, 173 species of shellfish, 29 species of waterfowl, and is a resting ground to an estimated one million migratory waterfowl every winter. The rich plant communities that grow in the Bay's shallow waters – such as submerged aquatic vegetation and tidal marshes – provide key habitat for many invertebrates, fish, and waterfowl in various life stages.

Fish. Fish in the Bay region fall into two categories: resident and migratory. Of the 300 species of fish known to inhabit the Bay region, 32 species are year-round residents of the Bay. Resident fish tend to be smaller than migratory species and often occur in shallow waters, where they feed on a variety of invertebrates. The Chesapeake Bay anchovy is a resident species and considered the most abundant fish in the Bay. As a small forage fish that eats plankton and that is

consumed by larger fish and birds, the anchovy is a critical link in the Bay's food chain.

Migratory fish fall into two categories: catadromous or anadromous. Catadromous fish live in freshwater, but travel to the high salinity ocean waters to spawn. The only catadromous species in the Bay ecosystem is the American eel which leaves its habitat in the Bay to spawn in the Sargasso Sea. Anadromous fish incubate and spend their juvenile state in freshwater, migrate to saltwater where they mature, and return to freshwater as adults where they reproduce. American shad and the Blueback herring travel from the high salinity waters of the lower Bay or Atlantic Ocean to spawn in the Bay watershed's freshwater rivers and streams. Other anadromous fish travel shorter distances to spawn and occupy a narrower range of salinities. Species such as menhaden, flounder, bluefish, and Spanish mackerel visit the Chesapeake Bay during the spring and summer, and then migrate back into the ocean during the fall and winter.

Fish populations in the major river basins of the bay generally are as follows:

- Within the Chesapeake Bay Estuarine Waters, striped bass, menhaden, and flounder are among the most commercially important fish that depend on estuarine wetlands.
- Waters in the Patuxent River basin support more than one hundred species of fish in its freshwater streams and brackish waters, including large-mouth bass, chain pickerel, catfish, weakfish, and bluefish.
- Waters in the Patapsco and Back Rivers support over forty species of fish, including white and yellow perch, and large- and small-mouth bass.
- Waters in the Middle Potomac River basin support over one hundred species of fish in its freshwater streams and brackish waters, including white and yellow perch, large-mouth bass, and catfish.
- Waters in the Lower Potomac River basin support more than one hundred species of fish in its freshwater streams and brackish waters, including American and hickory shad, menhaden, and gizzard shad.

- Waters in the Lower Susquehanna River basin support 39 species of fish, including four species of game fish.

Marine Invertebrates. The Chesapeake Bay has a diverse population of marine invertebrates living within the water column or buried within bottom sediments. These tiny invertebrates are an integral part of the Chesapeake Bay's ecosystem. Large populations of tiny floating zooplankton invertebrates (such as copepods) consume phytoplankton, which are subsequently consumed by small grazing "planktivore" fish (such as anchovies or menhaden). These are then eaten by larger fish (such as striped bass or bluefish).

The most well known invertebrates of the Chesapeake Bay are the blue crab and oyster, both of which occur along the bottom and are harvested commercially. At the mouth of the Patapsco River in the mainstream of the Bay there is a commercially productive oyster bar. The Patuxent River supports an important commercial and recreational blue crab fishery.

In addition, various species of clam occur in the bottom sediments of the Chesapeake Bay. Numerous gastropods (such as snails, arks, and whelks) move along the bottom sediments searching for food or prey. Several small shrimp (such as opossum shrimp and grass shrimp) contribute significantly to the food chain of submerged aquatic vegetation systems where they are consumed by young fish (Lippson and Lippson 1997).

Other Marine Animals. Sea turtles and porpoises enter the Chesapeake Bay during the summer to forage on the abundant small fish populations. Sandbar sharks and cow nose rays are commonly observed during the summer. Occasionally, a migrating whale will enter the Chesapeake Bay, feeding on fish and other organisms.

Waterfowl. Nearly 30 species of waterfowl visit the Chesapeake Bay every winter. Some species include Canada geese, snow geese, mallards, mergansers, canvasbacks, ruddy ducks, scaups, buffleheads, common goldeneyes, pintails, teals, shovelers, oldsquaw, mute swans, tundra swans, coots, and scoters. The Lower Potomac River basin

supports one of the largest great blue heron rookeries on the East Coast.

6.3.2 TERRESTRIAL RESOURCES

■ Terrestrial Wildlife

The Chesapeake Bay region provides habitat for a wide variety of terrestrial wildlife. Important mammals include the white tail deer, black bear, bobcat, red fox, gray fox, gray squirrel, fox squirrel, eastern chipmunk, white-footed mouse, pine vole, short-tail shrew, and common mouse. Common small mammals include raccoons, opossums, rabbits, and numerous species of ground rodents. The turkey, ruffed grouse, bobwhite quail, and mourning dove are the principal game birds. Migratory non-game birds are numerous as are migratory waterfowl. The most abundant breeding birds include the cardinal, tufted titmouse, wood thrush, summer tanager, red-eye vireo, blue gray gnatcatcher, and Carolina wren. Characteristic reptiles include the box turtle, common garter snake, and timber rattlesnake.

■ Terrestrial Vegetation

Riparian Forests. Riparian forests occur in floodplain areas adjacent to streams and rivers where they form the transition between aquatic and the terrestrial environments. The interconnected streams, rivers, and wetlands, and their riparian areas serve as a “circulatory system” for the Chesapeake Bay. Although they compose only 5 to 10 percent of the land in the watershed, riparian areas play an extremely important role in maintaining the health of the Chesapeake Bay. They often act as a buffer area retaining sediments, nutrients, and other contaminants coming from upland runoff, thereby reducing pollutant loads to nearby waters. Typical species found in riparian forests in the area include silver maple, sycamore, butternut hickory, swamp white oak, hop hornbeam, box elder, hackberry, sweet gum, green ash, river birch, and American elm. Pawpaw, poison ivy, wild grape, wild azalea, witch hazel, and spicebush are shrubs and vines often found in these forests.

Upland Forests. Population growth and development constantly threaten the watershed’s forests. Upland forests originally covered as much as 95 percent of the Chesapeake Bay watershed. By 1900, less than 50 percent of the

watershed was forested; by 2000, 59 percent (about 41.25 million acres) of the watershed was forested (Grumet 2000).

Typical mature upland forests in mesic sites around the Chesapeake Bay are dominated by an overstory of white oaks, beeches, hickories, and tulip poplars. American hornbeam, flowering dogwood, blueberries, shadbush, and viburnums are often present in the understory. Sandier areas, may support a drier type forest which often includes chestnut oak, red oak, flowering dogwood, dwarf chinkapin oak, black jack oak, and Virginia pine as dominants. Blueberries, mountain laurel, and a variety of shrubs and grasses are also often present in these upland xeric habitats.

6.3.3 THREATENED AND ENDANGERED SPECIES

Consultation with the U.S. Fish and Wildlife Service, the Maryland Department of Natural Resources and the Virginia Natural Heritage Program indicates occurrences of 19 federally-listed endangered or threatened species within the counties and cities through which the trail passes in Maryland, Virginia, and the District of Columbia (table 6.2).

6.4 Cultural Resources

6.4.1 ARCHEOLOGICAL RESOURCES

■ The Chesapeake Bay

Numerous prehistoric archeological sites likely remain intact along the bottom of the Chesapeake Bay and along ancient river terraces, many in locations that are currently underwater but that were originally on dry land. Underwater archeology has only recently begun to assess these hidden resources with new recovery techniques and predictive locational models.

Historic archeological sites in the Bay include the sites of more than 1,800 shipwrecked vessels that met their end in the Bay’s waters (<http://www.chesapeakebay.net/info/shipwrck.cfm>), some possibly dating back to as early as the 16th century. Because war and associated naval warfare heightened the usual hazards of ship travel, many of the shipwrecks in the Bay were casualties of the Revolutionary War, the War of 1812, and the Civil War. Direct hits from

Table 6.2 Federally-Listed Species along or near the Star-Spangled Banner Trail

Scientific Name	Common Name	Federal Status	Typical Habitat
Plants			
<i>Aeschynomene virginica</i>	Sensitive Joint-Vetch	Threatened	freshwater tidal marshes along the Mid-Atlantic coast
<i>Agalinis acuta</i>	Sandplain Gerardia	Endangered	dry sandy short grass plains, roadsides, and openings in oak scrub along the coastal plain
<i>Isotria medeoloides</i>	Small Whorled Pogonia	Threatened	semi-open, mesic forests in eastern North America
<i>Oxypolis canbyi</i>	Canby's Dropwort	Endangered	pond cypress savannas, shallows of ponds, sloughs and wet pine savannas in the coastal plain
<i>Ptilimnium nodosum</i>	Harperella	Endangered	rocky shoals of clear swift-flowing freshwater creeks
Mollusks			
<i>Alasmodonta heterodon</i>	Dwarf Wedge Mussel	Endangered	bottom substrates of running freshwaters of all sizes
<i>Stygobromus hayi</i>	Hay's Spring Amphipod	Endangered	groundwater outlet feeding Rock Creek
Insects			
<i>Circindela dorsalis dorsalis</i>	Northeastern Beach Tiger Beetle	Threatened	wide, sandy beaches on Chesapeake Bay shores
<i>Cicindela puritan</i>	Puritan Tiger Beetle	Threatened	upper portions of sandy beaches near fresh or salt water
Fishes			
<i>Acipenser brevirostrum</i>	Shortnose Sturgeon	Endangered	Chesapeake Bay, tributary rivers to the Bay, and offshore marine environments
<i>Etheostoma sellare</i>	Maryland Darter	Endangered	mouth of Deer Creek in Maryland
Reptiles			
<i>Caretta caretta</i>	Loggerhead Sea Turtle	Threatened	oceans and estuaries around the world
<i>Chelonia mydas</i>	Green Sea Turtle	Threatened	oceans and estuaries around the world
<i>Clemmys muhlenbergii</i>	Bog Turtle	Threatened	calcareous fens, sphagnum bogs, wet grassy pastures
<i>Dermochelys coriacea</i>	Leatherback Sea Turtle	Endangered	ocean, bays, and estuaries
<i>Eretmochelys imbricata</i>	Hawksbill Sea Turtle	Endangered	ocean, shallow lagoons, coral reefs
<i>Lepidochelys kempii</i>	Kemp's Ridley Sea Turtle	Endangered	ocean, bays, estuaries, mouths of rivers, creeks
Birds			
<i>Charadrius melodus</i>	Piping Plover	Threatened	coastal beaches from Newfoundland to North Carolina
Mammals			
<i>Sciurus niger cinereous</i>	Delmarva Peninsula Fox Squirrel	Endangered	mature forests with minimum understory and ground cover

Source: U.S. Fish and Wildlife Service, Environmental Conservation Online System (<http://ecos.fws.gov/ipac>) (accessed June 9, 2011); MD DNR Communication, 9.29.11 (appendix I); VA DCR-DNH Communication 9.1.11 (appendix I)

cannons, explosives and torpedoes brought down many of the ships, but fires and collisions also played a role. Marine archeologists use whatever records may be available, including old news reports, to help locate wrecks of possible historic interest. Certain areas in the Bay are known for their treacherous shoals or exposure to dangerous storms. The area at the mouth of the Bay between Capes Henry and Charles is particularly infamous for its shifting sand bars. Only recently has underwater archeology begun to assess these hidden resources with new recovery techniques and predictive location models.

■ The Chesapeake Coastal Plain

On the dry land of the Chesapeake Coastal Plain adjoining the bay, there remains a wide variety of archeological resources. As these lands were most often occupied by sedentary agriculturists, and given the fact that these people tended to aggregate into larger settlements with more material remains, the Tidewater areas of the Chesapeake are likely the richest source of archeological resources. Unfortunately, these resources are also in the closest proximity to modern populations and the forces of development, and they remain most at risk in the region.

Recorded history of the Bay area Native Americans began just prior to 1600 A.D. with the records kept by the newly-arrived European settlers. John Smith, who explored the Bay in 1608, found primarily Algonquian-speaking Native Americans inhabiting the shores. Many distinct tribes with their own “wiroance,” or chief, lived around the Bay, but they often grouped into large confederations. The Susquehannocks – who lived at the north end of the Bay – were members of the feared Iroquois nation. The Powhatan Confederation in Virginia – named for its leader (Pocohantas' father) – was one of the most powerful of the time. Despite their strength and savvy the Native American Bay population dropped catastrophically after the settlers' arrival due to murder, European diseases, and migration.

Scientists estimate that there are at least 100,000 archeological sites scattered around the Bay with only a small percentage documented. Most are susceptible to a variety of destructive factors, both natural and manmade, which imperil their existence. With development consuming

land around the Bay at a rapid pace, undocumented sites may be bulldozed before their valuable information comes to light. When farmers plow their fields, they can inadvertently destroy artifacts from a Native American tribe long gone. As sea level rises, as it has for many thousands of years, shoreline erosion will continue to destroy many sites. Minimal till practices limit the likelihood of artifact dislocation, while shoreline stabilization projects help protect sites from wave erosion.

■ The Chesapeake Piedmont

The archeological resources of the Piedmont areas of the Chesapeake Bay region are less densely-packed than the low-lying Coastal Plain, due to the less intensive utilization of these lands over the prehistoric period. However, because of the increased slopes in these areas, more damage is expected to the extant archeological record. Many of the prehistoric archeological resources of the Piedmont pertain to the earliest phases of human occupation, when the subsistence base for these people included wide-ranging areas for resource collection and extraction activities. Quarries, hunting camps, and trade routes to other areas outside the region all potentially lie within the Bay's uplands. Many of these sites are widely dispersed, reflecting a generally low prehistoric settlement density. Many of these areas are also likely to contain a variety of mining, milling, military sites, and homesteads associated with European settlement.

■ War of 1812-Related Archeological Resources

Archeological resources relevant to the War of 1812 are described and mapped in section 2.2.4 above. Land and underwater archeological surveys have been conducted for some of these sites, coordinated through the Maryland Historical Trust. Terrestrial archeological investigations have been conducted at battlefields of North Point, Caulk's Field, St. Leonard Creek, Elkton, and Bladensburg. In addition two earthen forts were surveyed near Easton and Centreville, Maryland. Cannonballs, musket balls, and miscellaneous artifacts were recovered from these sites.

Underwater archeological investigation has been conducted at St. Leonard Creek, Patuxent River near Pig Point, lower Susquehanna River, and upper Elk River. Grape shot, musket

balls, flits, and miscellaneous artifacts were recovered from two gunboats located in the upper reaches of St. Leonard Creek. Numerous artifacts representing a full range of types were recovered from a Chesapeake Flotilla vessel in 1980. The Calvert Marine Museum sponsored excavation of the remains of a ship in the Patuxent River known as the "Turtle Shell Wreck." The excavation team removed the sediment from the river bottom and found the well-preserved wreck and a variety of artifacts 4.5 feet below the surface. Information retrieved from the river bottom confirmed that the ship had belonged to the Chesapeake Flotilla, which was mobilized by Commander Joshua Barney against the British during the War of 1812.

Currently, the Maryland State Highway Administration (SHA), Maryland Historical Trust (MHT) and US Navy are conducting underwater archeology in the Patuxent River to determine the remains of a War of 1812 vessel that could be the USS Scorpion, Commodore Joshua Barney's flagship.

6.4.2 HISTORIC STRUCTURES

The Chesapeake Bay region is endowed with a wide array of historic structures. The region is also fortunate to have a diverse group of public agencies, non-profit organizations, and private individuals committed to scholarly research whose missions are to better document historic sites and structures in the region and work collaboratively to preserve them.

Historic structures in the Chesapeake Bay region are generally associated with three time periods:

- **Colonial period** structures and sites display the character of the early development of the United States. Numerous examples may be found in the area, ranging from large historic districts, such as in Annapolis (ca. 1760s), to private homes, such as Montpelier (ca. 1745) in Prince George's County. Still scattered around the Eastern and Western Shores are several other prime examples of Georgian mansions, formal gardens and grounds, and architectural gems from the late colonial/early republic era.
- **Industrial period** structures in the Bay region illustrate many of the important locations in the

nation's industrial history, including the B&O Railroad (ca. 1827), the C&O Canal (ca. 1815), and the smelting stacks at Principio, Maryland (ca. 1820). Still other locations mark the rise in economic importance of the region, and its major industries located in urban centers, such as Baltimore and Richmond. Similarly, a wide variety of historic houses pertaining to this period are located around the Bay, from palatial estates to humble workers' homes. In many ways, the historic structures of this period are some of the Chesapeake Bay's richest resources.

- **Modern period** architecture has its place in the Chesapeake Bay's cultural heritage as well. Many architects and planners developed new and different approaches in the Bay region. From one of the first planned communities – Greenbelt, Maryland – to one of the first enclosed shopping malls – such as Wheaton Plaza – many 'modern' individuals set about modifying the Chesapeake landscape.

Each of these periods has many examples throughout the trail corridor in Maryland, Virginia, and the District of Columbia. Hundreds of historic structures located in the trail vicinity are listed on the National Register of Historic Places. Hundreds more properties in the vicinity of the trail are either eligible or potentially eligible for listing on the register. In addition, the Chesapeake Bay area contains a significant number of National Historic Landmarks.

■ War of 1812-Related Historic Structures

Historic structures in the trail corridor vary in their association with the history of the War of 1812 in the Chesapeake. Those most relevant to the war are described and mapped in sections 2.2.1, 2.2.3, and 2.2.6 above. In many instances historic sites and structures were extant and related to the events of the war, but have a significance that spans a longer period of time.

6.4.3 CULTURAL LANDSCAPES

Cultural landscapes are the combination of cultural and natural factors that structure affiliations between people and places. Important elements of the cultural landscapes found

in the Chesapeake Bay region include: historic human settlement and development patterns, evidence of agriculture, evidence of transportation infrastructure, and natural features that affected the human environment. Collectively, landscape patterns and their relationship over time imprint and reflect human history on land and water, and give a geographic area its character.

NPS categorizes four general types of cultural landscapes, which are not mutually exclusive: *historic sites*, *historic designed landscapes*, *historic vernacular landscapes*, and *ethnographic landscapes*, defined as follows (NPS 1994):

- **Historic designed landscape** is a landscape that was consciously designed or laid out by a landscape architect, master gardener, architect, or horticulturist according to design principles, or an amateur gardener working in a recognized style or tradition. The landscape may be associated with a significant person(s), trend, or event in landscape architecture; or illustrate an important development in the theory and practice of landscape architecture. Aesthetic values play a significant role in designed landscapes. Examples include parks, campuses, and estates.
- **Historic vernacular landscape** is a landscape that evolved through use by the people whose activities or occupancy shaped that landscape. Through social or cultural attitudes of an individual, family or a community, the landscape reflects the physical, biological, and cultural character of those everyday lives. Function plays a significant role in vernacular landscapes. They can be a single property such as a farm or a collection of properties such as a district of historic farms along a river valley. Examples include rural villages, industrial complexes, and agricultural landscapes.
- **Historic site** is a landscape significant for its association with a historic event, activity, or person. Examples include battlefields and president's house properties.
- **Ethnographic Landscape** is a landscape containing a variety of natural and cultural resources that associated people define as heritage resources. Examples include contemporary settlements, religious sacred sites and massive geological

structures. Small plant communities, animals, subsistence and ceremonial grounds are often components.

The Chesapeake Bay region includes numerous and overlapping examples of cultural landscapes. One example is found on the Delmarva Peninsula, in landscapes that are associated with the Harriet Tubman Historic Area. There are geographic areas in Dorchester County, MD that serve as excellent examples of 19th century American agriculture, including the association with historic events and activities including the rise of abolitionist thinking, the self-reliance and empowerment of free African Americans, and resistance to the Fugitive Slave Act of 1850. This landscape cannot be assessed as exactly resembling the landscape that existed during the 19th century; however the similarity of flat, open fields and the continuity of marsh and woodlands, as natural barriers evoke the landscape that was the backdrop for these historic events and activities.

Likewise, there are geographic areas along the Chesapeake Bay and tributaries that are reminiscent of the early 19th century. While no such landscape will resemble exactly the landscape that existed during the time of the War of 1812, marshlands and riparian areas along major tributary rivers, agricultural lands and forests can be interpreted to evoke that period. Through the efforts of local, state, and federal agencies, many of areas that contain cultural landscapes that are evocative of the early 19th century are conserved. Many more similarly evocative landscapes are unprotected but can provide trail users with an understanding of this resource if they are not encroached upon with further development. Preliminary viewshed analysis has been undertaken to assess the location and integrity of such landscapes in relation to the trail.

■ War of 1812-Related Cultural Landscapes

War of 1812 cultural landscapes include forested and agricultural landscapes, waterscapes and viewsheds that express an aesthetic or historic experience associated with the period of the war, enabling visitors to mentally travel back in time to form an understanding of what life might have been like at the time. Trail-related cultural landscapes fall within three categories:

- War of 1812-associated landscapes

- non-military early 19th century landscapes
- scenic qualities including landscapes, settings, and high quality views

These are described and mapped in section 2.2.2 above.

6.4.4 MUSEUM COLLECTIONS AND OBJECTS

Educational, research, and commemorative resources pertaining to different historical periods are found throughout the trail corridor. Museum collections and objects related to the War of 1812 in the Chesapeake include cannons, flags, weaponry, and ephemera of various types. Section 2.2.5 and 2.2.6 above describe and map locations of museum collections and objects as well as commemorative sites related to the war.

6.5 Visitor Experience

Today visitors seeking a Star-Spangled experience visit War of 1812 sites within the trail corridor, structuring their experience largely on their own by orienting themselves on the NPS trail website or the Maryland Bicentennial website. Many visitors to sites along the trail, however, do not in fact know that there is an official trail offering an integrated visitor experience commemorating the War of 1812. A visit to an historic attraction or recreation site is often inadvertently the initial trail experience for many; it is then that they learn about the trail and receive orientation to it. For many trail visitors it is a stop at the visitor center at Fort McHenry National Monument and Historic Shrine where they learn about the trail and are directed to other War of 1812 sites in and around Baltimore and elsewhere along the trail.

The trail experience is currently composed of experiences offered at War of 1812 sites along the land route from Solomons to North Point. At these sites visitors pick up maps and interpretive materials that tell the stories of the people, places, and events of the War of 1812 and that provide additional orientation to the trail. Because the land and water routes of the trail are not marked visitors make their way to sites using maps and GPS units. The interpretive and learning experiences visitors have are made available by site managers who provide interpretation independently or sometimes in collaboration with nearby War of 1812 sites.

At some sites recreation activities are available including opportunities to learn about the war, such as at North Point State Park and along the Patuxent Water Trail.

6.6 Trail Planning, Development, and Management

The public and private resources that contribute to the significance of the proposed trail are currently under a variety of management and ownership. While there are numerous publicly-owned and/or publicly-accessible lands and resources along the trail, no singular entity coordinates the interpretation and protection of resources related to the War of 1812 in the Chesapeake or the Star-Spangled Banner. Fort McHenry National Monument and Historic Shrine houses and interprets the War of 1812 in the Chesapeake and is a primary hub for visitors interested in the War of 1812.

Many local and state governments, tourism agencies, and non-profit organizations have indicated an interest in building connections to the trail in a variety of ways, from commemorative events and other tourism-related activities, to interpreting the stories and preserving the resources related to the trail. Individual resource sites have maintenance, security, and resource protection measures in place.

6.7 Socio-Economic Conditions

Over the 200 years since the War of 1812, many of the areas through which the British and American Armies traveled have changed as a result of growth and development. Washington, D.C. and Baltimore have grown into dense urban cities and the smaller settlements of the early 19th century have become small cities and busy town centers, such as Havre de Grace and Alexandria. The once narrow rural roads winding through early 19th century farming communities now travel through many suburban communities. Despite these changes, there remain long stretches of the trail – particularly on the water – where the landscape is still largely unsettled or minimally settled and evocative of what those alive in the earth 19th century experienced during the War of 1812.

■ Population

In 2010, the total population of the counties and cities along the trail's land and water routes was approximately 7.8 million. The population has grown steadily in recent decades, up 12 percent from 2000 and up 26 percent from 1990 (table 6.2). The most populous counties surround the two primary metropolitan centers, Washington, D.C. and Baltimore. Between 1990 and 2010, Loudon County's population more than doubled; Calvert County in Maryland and Stafford County and King George County in Virginia also experienced significant population growth. During the two decades, Kent County, Baltimore County, and Queen Anne's County in Maryland, and Westmoreland County and Fairfax City, in Virginia experienced the slowest growth (all less than 20 growth). Baltimore City experienced a 16 percent loss in population over the two decades, while the District of Columbia declined slightly (one percent) due to a five percent growth rate from 2000 to 2010.

■ Regional Economy

In 2010, the cities and counties along the trail had an average total annual employment of approximately 4,398,600. The major employment centers are located on the outskirts of Washington in Fairfax County, Virginia, and Montgomery County, Maryland, and in Baltimore County. Median household income ranged from \$48,523 in Westmoreland County Virginia, to \$114,200 in Loudon County, Virginia. In Baltimore City the household income was lowest at \$37, 58. The regional economy is fueled by employment in several sectors, including federal and local governments, tourism, health services, business services, high-tech/ telecommunications, retail trade, and public sector educational services.

■ Tourism and Visitor Experience

The cities and counties along the trail are a popular destination for local, regional, and out-of-state visitors. Over

28 million visitors reported visitation to the central, southern, and capital regions of Maryland in 2006 (MD DBED 2008). The activity reported most often for these visitors was shopping, followed by visiting historic sites and museums. The state of Maryland reports that in 2010, tourism generated more than \$1.5 billion in tax revenues, \$10.5 billion in expenditures, and more than 157,000 jobs (Tourism Economics 2011). Payroll paid by travel-related firms and directly, attributable to domestic travel spending, exceeded \$6.1 billion in 2010. In 2010, travelers in the northern Virginia spent \$18.3 billion in the cities and counties along the trail. Virginia estimates that over \$408 million dollars in tax revenue, 82,000 jobs, and \$2.2 billion in payroll were generated by the tourism industry in northern Virginia (Virginia Tourism Corporation 2010). Apart from visiting friends and family, visitors' activities were largely composed of visiting parks and historic sites.

The District of Columbia is a destination for international and domestic tourists with 17.28 million visitors in 2,010 (Destination DC 2010). According to the Destination DC, visitors to Washington are twice as likely to visit an historical place or museum than travelers to other U.S. cities (Destination DC 2010).

Within the cities and counties along the trail, major destinations and attractions include the Baltimore Inner Harbor, Fort McHenry National Monument and Historic Shrine, museums and memorials in Washington, D.C., the U.S. Capitol, and President's Park (the White House). Many other attractions along the trail are historic and archeological sites related to the War of 1812 in the Chesapeake that offer full-service, limited service, and self-guided opportunities for learning about the people, places and events of the war (see appendix K for a detailed inventory).

Table 6.3 Population Trends by Jurisdiction

County or City	2010	2000	1990	% Change 1990-2000	% Change 2000-2010	% Change 1990-2010
Maryland						
Anne Arundel County	537,656	489,656	427,239	15%	10%	26%
Baltimore County	805,029	754,292	692,134	9%	7%	17%
Calvert County	88,737	74,563	51,372	45%	19%	73%
Cecil County	101,108	85,951	71,347	20%	18%	42%
Charles County	146,551	120,546	101,154	19%	22%	45%
Harford County	244,826	218,590	182,312	20%	12%	34%
Howard County	287,085	247,842	187,358	32%	16%	53%
Kent County	20,197	19,197	17,842	8%	5%	13%
Montgomery County	971,777	873,341	762,875	14%	11%	27%
Prince George's County	863,420	801,515	722,705	11%	8%	19%
Queen Anne's County	47,798	40,563	33,953	19%	18%	41%
St. Mary's County	105,151	86,211	75,974	13%	22%	38%
Talbot County	37,782	33,812	30,549	11%	12%	24%
Baltimore City	620,961	651,154	736,014	-12%	-5%	-16%
Virginia						
Arlington County	207,627	189,453	170,895	11%	10%	21%
Fairfax County	1,081,726	969,749	818,310	19%	12%	32%
King George County	23,584	16,803	13,527	24%	40%	74%
Loudoun County	312,311	169,599	86,185	97%	84%	262%
Prince William County	402,202	280,813	214,954	31%	43%	87%
Stafford County	128,961	92,446	62,255	48%	39%	107%
Westmoreland County	17,454	16,718	15,480	8%	4%	13%
Alexandria City	139,966	128,283	111,183	15%	9%	26%
Fairfax City	22,565	21,498	19,945	8%	5%	13%
Falls Church City	12,332	10,377	9,464	10%	19%	30%
District of Columbia						
District of Columbia	601,723	572,059	606,900	-6%	5%	-1%
Total	7,828,329	6,965,032	6,221,746	12%	12%	26%

Source: US Department of Commerce 2010

Table 6.4 Economic Impacts of Tourism by County (2010)

County or City	Expenditures	Payroll	Employment	State Tax Receipts	Local Tax Receipts
Maryland (2010)					
Anne Arundel County	\$2,934,100,000	\$1,343,700,000	27,094	\$	\$
Baltimore County	\$927,500,000	\$704,500,000	19,138	\$	\$
Calvert County	\$122,900,000	\$70,200,000	1,967	\$	\$
Cecil County	\$	\$	xx	\$	\$
Charles County	\$168,200,000	\$88,200,000	3,077	\$	\$
Harford County	\$271,900,000	\$182,800,000	6,214	\$	\$
Howard County	\$447,800,000	\$284,500,000	9,554	\$	\$
Kent County	\$41,000,000	\$24,100,000	683	\$	\$
Montgomery County	\$1,540,300,000	\$1,185,100,000	28,834	\$	\$
Prince George's County	\$2,060,900,000	\$1,104,300,000	30,412	\$	\$
Queen Anne's County	\$96,700,000	\$61,400,000	1,621	\$	\$
St. Mary's County	\$114,000,000	\$60,000,000	1,964	\$	\$
Talbot County	\$154,400,000	\$84,100,000	2,367	\$	\$
Baltimore City	\$1,641,800,000	\$982,700,000	24,470	\$	\$
Virginia (2010)					
Arlington County	\$2,486,000,000	\$789,600,000	23,160	\$81,130,000	\$71,990,000
Fairfax County	\$2,459,000,000	\$541,320,000	28,020	\$100,800,000	\$46,840,000
King George County	\$17,000,000	\$3,760,000	210	\$860,000	\$530,000
Loudoun County	\$1,405,000,000	\$539,810,000	15,580	\$33,700,000	\$22,890,000
Prince William County	\$444,000,000	\$117,050,000	5,630	\$16,710,000	\$7,090,000
Stafford County	\$105,000,000	\$21,120,000	1,220	\$4,500,000	\$3,230,000
Westmoreland County	\$51,000,000	\$11,930,000	690	\$2,380,000	\$1,550,000
Alexandria City	\$657,000,000	\$114,080,000	5,958	\$27,360,000	\$22,440,000
Fairfax City	\$104,000,000	\$21,220,000	1,250	\$4,290,000	\$3,000,000
Falls Church City	\$30,000,000	\$9,170,000	460	\$2,080,000	\$1,210,000
District of Columbia (2010)					
District of Columbia	\$8,057,000	\$1,915,300	61,900	na	na
Total	\$18,288,621,000	8,346,685,000	301,000	\$	\$

¹ Exclusive of the District of Columbia

Source: Destination DC 2010; Tourism Economics 2011; Virginia Tourism Corporation 2011

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Chapter 7

Environmental Consequences



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7. Environmental Consequences

7.1 Introduction

As described in section 6.1 above, the Comprehensive Management Plan (CMP) for future development and management of the Star-Spangled Banner Trail is a proposed federal action subject to requirements of the National Environmental Policy Act (NEPA). This requires the National Park Service (NPS) to analyze the environmental impacts of the proposed trail management alternative, feasible alternatives to it, and any negative environmental impacts that cannot be avoided if the proposed management alternative is implemented.

Comprehensive management plans (CMPs) are programmatic, long-range documents that consider alternatives that are typically general in nature and not necessarily site specific. The general nature of the alternatives dictates that the analysis of impacts is also general. Consequently, the impacts of these actions are analyzed in qualitative rather than quantitative terms. As a result – although the NPS can make reasonable projections of likely impacts – this environmental assessment (EA) presents an overview of potential impacts relating to the trail management alternatives under consideration.

This EA will serve as a basis for future preparation of more in-depth NEPA documents that will assess subsequent developments or management actions if and when funding becomes available for their implementation. Section 8.0 of the CMP, Consultation and Coordination, includes a summary chart (table 8.2) listing the types of trail implementation actions included in alternative 3 (preferred alternative) that could require future review under NEPA and Section 106 of the National Historic Preservation Act of 1966.

The following section 7.0 of the CMP provides an analysis of the environmental consequences associated with the proposed trail management actions on the resources described above in section 6.0. Following the presentation of findings from the analysis of the environmental consequences, section 7.6 provides the rationale for dismissing additional impact topics.

7.2 Methods and Assumptions for Analyzing Impacts

7.2.1 METHODS AND ASSUMPTIONS

The CMP planning team has based the impact analysis and the conclusions primarily on review of existing literature and studies, information provided by experts in the NPS and other agencies, and staff insights and professional judgment. For each impact topic the analysis focused on describing the consequences of management actions related to:

- resource protection
- visitor experience
- trail planning, development, and management

Further explanation of the analysis methodology is presented below for each impact topic retained for detailed analysis.

7.2.2 IMPACT INDICATORS

Impacts for each topic retained for detailed analysis (table 6.1 above) are identified and characterized in table 7.1.

7.2.3 MITIGATION MEASURES

As subsequent development or management actions are implemented under the approved CMP, additional site-specific studies and evaluations, including mitigation measures in accordance with NEPA and other applicable compliance requirements will be done. The CMP outlines management actions analyzed as beneficial including conservation and stewardship education, volunteer cleanup, and habitat restorations. Mitigation measures would be taken during the implementation of all the alternatives. All impacts are assessed assuming that mitigating measures have already been implemented.

7.2.4 CUMULATIVE IMPACTS

The Council on Environmental Quality (CEQ) regulations which implement NEPA require assessment of cumulative impacts in the decision-making process for federal projects. Cumulative impacts are defined as "the impact on the environment which results from the incremental impact of

Table 7.1 Impact Indicators and Impact Indicator Definitions

Impact Indicator	Impact Indicator Definition
Type	<p>Impact types include beneficial or adverse:</p> <p>Beneficial – A beneficial impact would be a positive change in the condition or appearance of the resource or a change that moves the resource toward a desired condition.</p> <p>Adverse – An adverse impact would be a change that declines, degrades, and/or moves the resource away from a desired condition or detracts from its appearance or condition.</p> <p>Direct – Direct impacts on the resource actually caused by the proposed action, generally at the same time and place of the proposed action. Direct impacts can extend into the future and are often permanent, but can be temporary. An example of a direct impact would be clearing second growth forest, which would immediately cause habitat loss at that location.</p> <p>Indirect – Indirect impacts generally occur as a result of a “side-effect” of a direct impact, but occur removed in time or space from the proposed action. An indirect impact could result from silt flowing downstream, creating turbid conditions, and adversely affecting water quality.</p>
Context	<p>Context is the affected environment within which an impact would occur, such as the affected region or locality. Context is variable and depends on the circumstances involved with each impact topic. In this document, natural and cultural resource impacts are:</p> <p>Site Specific – the impact would affect the project site</p> <p>Local – the impact would affect the area in the trail vicinity, such as one of the trail regions</p> <p>Regional – the impact would affect the Chesapeake Bay region from the Potomac River to the Upper Bay</p>
Duration	<p>Duration is the time period for which the impacts are evident. The planning horizon for the CMP is 20 years. Unless otherwise specified, the following terms are used to described impact durations:</p> <p>Short-term – The impact would be temporary, lasting a year or less, such as impacts associated with construction. For purposes of the socio-economic analysis, short-term impacts would last less than one year.</p> <p>Long-term – The impact would last more than one year and could be permanent in nature (although an impact may only occur for a short duration at one time, if it occurs regularly over time the impact may be considered to a long-term impact). For purposes of the socioeconomic analysis, long-term impacts would last more than one year and may be permanent.</p>
Intensity	<p>Intensity is a measure of the severity of an impact. The intensity of an impact may be negligible, minor, moderate, or major. Impact intensity definitions are defined for each impact topic in sections 7.3, 7.4, and 7.5. Because this is a programmatic document, the intensities are expressed qualitatively.</p>

the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions" (40 CFR 1508.7Cumulative impacts were considered for each alternative for all impacts. These impacts were determined by combining the impacts of the alternatives with the impacts of other past present, and reasonably foreseeable future actions. The geographic area of interest for the cumulative impact analysis varied, depending on the impact topic.

In defining the contribution of each alternative to cumulative impacts, the following terminology is used:

- **Imperceptible.** The incremental effect contributed by the alternative to overall cumulative impacts is such a small increment that it is impossible or extremely difficult to discern.
- **Noticeable.** The incremental effect contributed by the alternative, while evident and observable, is relatively small in proportion to the overall cumulative impacts.
- **Appreciable.** The incremental effect contributed by the alternative constitutes a large portion of the

overall cumulative impact. Because some of these actions are in the early planning stages, the evaluation of the cumulative impact is based on a general description of the project. The cumulative impact is considered for all alternatives and is presented at the end of each impact topic discussion.

7.3 Natural Resources

7.3.1 AQUATIC RESOURCES

Methodology

Any activity related to trail management or use that reduces the survival of aquatic plant and/or animal species or reduces the natural function or appearance of habitat areas would be

considered an adverse impact. The impacts assessment for aquatic resources was conducted in accordance with NPS 77: Natural Resource Management Guidelines, NPS Management Policies 2006; Director’s Order 2: Planning; and NPS Director’s Order 12: Environmental Impact Analysis (2001). These documents provide general guidance for compliance with environmental laws, executive orders, and other regulations, including the National Environmental Policy Act of 1969 (NEPA), the Endangered Species Act, the Clean Air Act, the Clean Water Act, Executive Order 11988 (Floodplain Management), and Executive Order 11990 (Protection of Wetlands).

Table 7.2 presents the impact intensity definitions used for purposes of analyzing potential impacts on terrestrial resources.

Table 7.2 Impact Intensity Definitions – Aquatic Resources

Negligible	Minor	Moderate	Major
Management actions would result in impacts on aquatic resources that would not be detectable or would be at the lowest level of detection. The abundance, distribution of individuals, or extent of fragmenting features would not be affected or would be slightly affected. Ecological processes and biological productivity would not be affected.	Adverse Impact – Management actions would result in a detectable change in aquatic resources, but the change would be slight and have only a local effect on the resources. This would include changes in the abundance, distribution, fragmenting features, or composition of individual species in a local area, but would not include changes that would affect the viability of local or regional populations or communities. Changes to local ecological processes would be minimal.	Adverse Impact – Management actions would result in a clearly detectable change in aquatic resources that could have an appreciable adverse effect on the community. This could include changes to a local population sufficient to cause a change in the abundance, distribution, fragmenting features, or composition of local aquatic resources, but not changes that would affect the viability of regional populations or communities. Changes to local ecological processes would be of limited extent.	Adverse Impact – Management actions would result in a clearly detectable change in aquatic resources that could have severely adverse effect on the community. The impacts would be substantial and highly noticeable and could result in widespread change. This could include changes in the abundance, fragmenting features, distribution, or composition of local aquatic resources or regional aquatic resources to the extent that it would not be likely to recover. Changes to local ecological processes would be of widespread extent.
	Beneficial impact – Management actions would help to restore or preserve aquatic resources in some areas on and near the trail.	Beneficial impact – Management actions would help to restore or preserve aquatic resources in many areas on and near the trail.	Beneficial impact – Management actions would help to restore or preserve aquatic resources areas on and near much of the trail.

■ **Impacts on Aquatic Resources – Alternative 1
(Continuation of Current Management)**

Surface Water Resources. In alternative 1 trail partners would continue to manage sites in accordance with the memorandum of understanding (MOU) between the NPS and trail partner organizations. Partners agree to promote and interpret conservation stewardship of trail-related natural resources to the maximum extent practicable with available resources so as to:

- improve watershed health through practices such as green building design and construction, environmentally sensitive design, low impact development, recycling, and/or conservation landscaping
- ensure low-impact use of natural resources associated with the trail
- incorporate conservation messaging in interpretive, educational, and marketing initiatives and materials
- identify and develop opportunities for involving volunteers in on-going resource restoration or conservation activities in order to broaden involvement in resource conservation

These actions would have the potential to reduce or prevent sediment and other pollutants from entering adjacent waterways. Collectively these actions would result in a local long-term minor beneficial impact on surface water resources.

Shoreline Habitats and Wildlife. Aquatic vegetation of the Chesapeake Bay and its tributaries includes freshwater wetlands, salt marshes, and submerged aquatic vegetation (SAVs). These vegetation communities would benefit from conservation actions at trail partner sites consistent with the MOU. Collectively these actions would result in a local long-term minor beneficial impact on shoreline habitats and wildlife.

Aquatic Wildlife. In alternative 1 management actions by trail partners consistent with the MOU that benefit water quality and shoreline habitats of the Chesapeake Bay and its tributaries would also likely improve conditions for fish and aquatic life in nearby waters. Collectively these actions

would result in a local long-term minor beneficial impact on aquatic wildlife.

■ **Impacts on Aquatic Resources – Alternative 3
(War of 1812 in the Chesapeake – Preferred)**

Surface Water Resources. As in alternative 1 trail partners would continue to manage sites in accordance with the memorandum of understanding (MOU) between the NPS and trail partner organizations. In addition in alternative 3 NPS could provide technical assistance to partners that would likely involve educating landowners and property managers regarding best management practices to reduce levels of sedimentation and runoff entering surface waters. Alternative 3 could recommend measures to minimize negative impacts of water sedimentation and runoff through stewardship efforts, interpretive signs, use restrictions, and other monitoring. With appropriate management measures in place, surface water quality could benefit from greater protection as visitors are directed to appropriate trail areas and restricted from accessing fragile resource areas and ecosystems. Alternative 3 would result in a local long-term moderate beneficial impact on surface water resources.

Changing traffic patterns and increasing levels of visitor use and activity could have an adverse impact on the aquatic resources in the area. Increased motorized boating along the trail could result in more fuel and motor emissions getting into surface waters through improved access to the trail. Overall, implementation of Alternative 3 is more likely to alter patterns of boating on the Chesapeake Bay, but not greatly increase the overall number of motorized boats. For the entire Chesapeake Bay and tributaries, impacts on surface water quality from increased visitor use and/or increased motor emissions from visitors using the trail is likely to be negligible because better management practices and education would likely minimize damages to shoreline areas, and a large increase in motor boat emissions is not anticipated. Collectively boating impacts associated with Alternative 3 would result in a local long-term negligible impact on surface water resources.

Shoreline Habitats and Wildlife. Increased visitor traffic at partner-owned resource sites could adversely impact shoreline vegetation through trampling and/or boat traffic at

launch sites. However, active management and/or protection and education at these sites would likely offset adverse impacts on aquatic habitats (e.g., salt marshes) and may reduce or eliminate adverse impacts at other sites. Overall there would be a local long-term minor adverse impact and a local long-term moderate beneficial impact on shoreline habitats and wildlife.

Aquatic Wildlife. In alternative 3 conservation education would encourage actions by partners and the public that would likely benefit fish and other aquatic species. Education would encourage actions that lower sediment, nutrient, and other pollutant discharges into the Chesapeake Bay and its tributaries, thereby resulting in reduced phytoplankton spikes, less siltation, and better light quality in SAV habitats. Any improvements to surface water quality through protection, better management practices, education, restricted visitation in sensitive areas, and/or acquisition of new access at partner sites would result in a local long-term moderate beneficial impact on aquatic wildlife.

■ Cumulative Impacts on Aquatic Resources

Past, present, and reasonably foreseeable future actions have contributed and will continue to contribute impacts on aquatic resources. Reasonably foreseeable future actions generally include growth and development on private property, transportation system improvements, and public infrastructure improvements that have resulted in or could result in loss of habitat or adverse impacts to water quality in the Chesapeake Bay and its tributaries. Fragmentation, non-native species introduction, drainage alterations, erosion and sedimentation, introduction of contaminants from urban runoff, and loss due to herbicide drift, has adversely impacted aquatic areas that abut developed land. Reasonably foreseeable actions that would have impacts on aquatic resources would be subject to local regulations requiring stormwater management, erosion and sedimentation control and replanting with native species. Compliance with these regulations would reduce the extent of impacts of foreseeable actions on aquatic resources, although impacts would continue to occur at a reduced level. The impact of Alternatives 1 and 3, in conjunction with the impacts of these actions would result in a cumulative long-term moderate adverse impact on aquatic resources.

Alternatives 1 and 3 would each contribute an imperceptible impact to the total cumulative impact.

■ Conclusion Impacts on Aquatic Resources

Alternative 1 would have a local long-term minor beneficial impact on aquatic resources. The local long-term minor beneficial impact would result from the NPS and trail partners continuing to promote conservation stewardship of Chesapeake Bay-related natural resources in accordance with the intent of the trail MOU. Alternative 1 would contribute an imperceptible impact to the total cumulative long-term moderate adverse impact on aquatic resources.

Alternative 3 would have a local long-term moderate beneficial impact and a local long-term minor adverse impact on aquatic resources. The local long-term minor beneficial impact would result from the NPS and more trail partners continuing to promote conservation stewardship of Chesapeake Bay-related natural resources in accordance with the intent of the trail MOU. The local long-term minor adverse impact would result from an increase in visitor use in sensitive shoreline habitats of the bay. Alternative 3 would contribute an imperceptible impact to the total cumulative long-term moderate adverse impact on aquatic resources.

7.3.2 TERRESTRIAL RESOURCES

■ Methodology

Any activity related to trail management or use that reduces the survival of terrestrial plant and/or animal species or reduces the natural function or appearance of habitat areas would be considered an adverse impact. The impacts assessment for terrestrial resources was conducted in accordance with NPS 77: Natural Resource Management Guidelines, NPS Management Policies; Director's Order 2: Planning; and NPS Director's Order 12: Environmental Impact Analysis (2001). These documents provide general guidance for compliance with environmental laws, executive orders, and other regulations, including the National Environmental Policy Act of 1969 (NEPA), the Endangered Species Act, the Clean Air Act, the Clean Water Act, Executive Order 11988 (Floodplain Management), and Executive Order 11990 (Protection of Wetlands).

Table 7.3 presents the impact intensity definitions used for purposes of analyzing potential impacts on terrestrial resources.

■ **Impacts on Terrestrial Resources – Alternative 1 (Continuation of Current Management)**

Terrestrial Vegetation. In alternative 1 trail partners would continue to manage sites in accordance with the memorandum of understanding (MOU) between the NPS and trail partner organizations. Partners agree to promote and interpret conservation stewardship of trail-related natural resources to the maximum extent practicable with available resources so as to:

- improve watershed health through practices such as green building design and construction, environmentally sensitive design, low impact development, recycling, and/or conservation landscaping
- ensure low-impact use of natural resources associated with the trail

- incorporate conservation messaging in interpretive, educational, and marketing initiatives and materials
- identify and develop opportunities for involving volunteers in on-going resource restoration or conservation activities in order to broaden involvement in resource conservation

These actions would have the potential to reduce or prevent loss of mature vegetation, trampling and overuse of vegetated areas, introduction of exotic species, and disturbances to sensitive areas. Collectively these actions would result in a local long-term minor beneficial impact on terrestrial vegetation.

In alternative 1 development of new access sites and visitor use facilities would result in direct impacts to terrestrial vegetation at currently undeveloped sites. Permanent conversion of natural land to developed uses would result in a local long-term minor adverse impact on terrestrial vegetation.

Table 7.3 Impact Intensity Definitions – Terrestrial Resources

Negligible	Minor	Moderate	Major
Management actions would result in impacts on terrestrial resources that would not be detectable or would be at the lowest level of detection. The abundance, distribution of individuals, or extent of fragmenting features would not be affected or would be slightly affected. Ecological processes and biological productivity would not be affected.	Adverse Impact – Management actions would result in a detectable change in terrestrial resources, but the change would be slight and have only a local effect on the resources. This would include changes in the abundance, distribution, fragmenting features, or composition of individual species in a local area, but not include changes that would affect the viability of local or regional populations or communities. Changes to local ecological processes would be minimal.	Adverse Impact – Management actions would result in a clearly detectable change in terrestrial resources that could have an appreciable adverse effect on the community. This could include changes to a local population sufficient to cause a change in the abundance, distribution, fragmenting features, or composition of local terrestrial resources, but not changes that would affect the viability of regional populations or communities. Changes to local ecological processes would be of limited extent.	Adverse Impact – Management actions would result in a clearly detectable change in terrestrial resources that could have severely adverse effect on the community. The impacts would be substantial and highly noticeable and could result in widespread change. This could include changes in the abundance, fragmenting features, distribution, or composition of local terrestrial resources or regional terrestrial resources to the extent that it would not be likely to recover. Changes to local ecological processes would be of widespread extent.
	Beneficial Impact – Management actions would restore or preserve terrestrial resources in some areas on and near the trail.	Beneficial Impact – Management actions would restore or preserve terrestrial resources in many areas on and near the trail.	Beneficial Impact – Management actions would restore or preserve terrestrial resources on and near much of the trail.

Terrestrial Wildlife. In alternative 1 management actions by trail partners consistent with the MOU that terrestrial vegetation would also likely improve conditions for terrestrial wildlife in the vicinity of partner sites. Collectively these actions would result in a local long-term minor beneficial impact on terrestrial wildlife.

In alternative 3 permanent conversion of natural land to developed uses for development of new access sites and visitor use facilities would result in a local long-term minor adverse impact on terrestrial wildlife.

■ **Impacts on Terrestrial Resources – Alternative 3 (War of 1812 in the Chesapeake – Preferred)**

Terrestrial Vegetation. As in alternative 1 trail partners would continue to manage sites in accordance with the memorandum of understanding (MOU) between the NPS and trail partner organizations. As in alternative 1 these actions would have the potential to reduce or prevent loss of mature vegetation, trampling and overuse of vegetated areas, introduction of exotic species, and disturbances to sensitive areas. In addition in alternative 3 NPS could provide technical assistance to partners that would likely involve educating landowners and property managers regarding best management practices for habitat restoration. Collectively these actions would result in a local long-term moderate beneficial impact on terrestrial vegetation.

In alternative 3 long-term protection of War of 1812 cultural resources would occur through cooperative efforts by the NPS and its partners using a variety of land protection strategies. Priority for land protection would be placed on protecting high potential historic sites and on protecting evocative landscapes that adjoin high potential historic structures along the land routes of the trail. There would be potential for investment by the NPS to protect these sites through fee simple acquisition or purchase of conservation easements, but only when protection could not be accomplished through other means. Once protected terrestrial vegetation on these sites would be permanently protected and subject to conservation management practices. Collectively these resource protection actions would result in a local long-term moderate beneficial impact on terrestrial vegetation.

In alternative 3 development of new access sites and visitor use facilities would result in direct impacts to terrestrial vegetation at currently undeveloped sites. (The majority of new access sites would be included within alternative 1). Permanent conversion of natural land to developed uses would result in a local long-term minor adverse impact on terrestrial vegetation.

Terrestrial Wildlife. As in alternative 1 management actions by trail partners consistent with the MOU that terrestrial vegetation would also likely improve conditions for terrestrial wildlife in the vicinity of partner sites. In addition in alternative 3 NPS could provide technical assistance to partners that would likely involve educating landowners and property managers regarding best management practices for habitat restoration. Collectively these actions would result in a local long-term moderate beneficial impact on terrestrial wildlife.

In alternative 3 long-term protection of War of 1812 cultural resources would occur through cooperative efforts by the NPS and its partners using a variety of land protection strategies (see terrestrial vegetation above). These land protection actions would result in a local long-term moderate beneficial impact on terrestrial wildlife.

In alternative 3 permanent conversion of natural land to developed uses for development of new access sites and visitor use facilities would result in a local long-term minor adverse impact on terrestrial wildlife.

■ **Cumulative Impacts on Terrestrial Resources**

Past, present, and reasonably foreseeable future actions have contributed and will continue to contribute impacts on terrestrial resources. Reasonably foreseeable future actions generally include growth and development on private property, transportation system improvements, and public infrastructure improvements that have resulted in or could result in loss of habitat. Fragmentation, non-native species introduction, drainage alterations, erosion and sedimentation, introduction of contaminants from urban runoff, and loss due to herbicide drift, has adversely impacted terrestrial areas that abut developed land. Reasonably foreseeable actions that would have impacts on

terrestrial resources would be subject to local regulations requiring stormwater management, air quality control, and planting with native species. Compliance with these regulations would reduce the extent of impacts of foreseeable actions on terrestrial resources, although impacts would continue to occur at a reduced level. The impact of Alternatives 1 and 3, in conjunction with the impacts of these actions would result in a cumulative long-term moderate adverse impact on terrestrial resources. Alternatives 1 and 3 would each contribute an imperceptible impact to the total cumulative impact.

■ **Conclusion Impacts on Terrestrial Resources**

Alternative 1 would have a local long-term minor beneficial impact and a local long-term minor adverse impact on terrestrial resources. The local long-term minor beneficial impact would result from the NPS and trail partners continuing to promote conservation stewardship of natural resources (including terrestrial vegetation and terrestrial wildlife habitat) in accordance with the intent of the trail MOU. The local long-term minor adverse impact would result from the permanent conversion of natural land (including terrestrial vegetation and terrestrial wildlife habitat) to developed uses. Alternative 1 would contribute an imperceptible impact to the total cumulative long-term moderate adverse impact on terrestrial resources.

Alternative 3 would have local long-term moderate beneficial impacts and a local long-term minor adverse impact on terrestrial resources. The local long-term moderate beneficial impacts would result from 1) the NPS and trail partners continuing to promote conservation stewardship of natural resources (including terrestrial vegetation and terrestrial wildlife habitat) in accordance with the intent of the trail MOU, and 2) land protection that would permanently protect terrestrial vegetation and terrestrial wildlife. The local long-term minor adverse impact would result from the permanent conversion of natural land (including terrestrial vegetation and terrestrial wildlife habitat) to developed uses. Alternative 3 would contribute an imperceptible impact to the total cumulative long-term moderate adverse impact on terrestrial resources.

7.3.3 THREATENED AND ENDANGERED SPECIES

■ **Methodology**

The list of federally protected species with known populations near the trail were obtained from U.S. Fish and Wildlife Service offices serving Maryland, Virginia, and the District of Columbia.

The impacts assessment for threatened and endangered species was conducted in accordance with NPS 77: Natural Resource Management Guidelines, NPS Management Policies; Director's Order 2: Planning; and NPS Director's Order 12: Environmental Impact Analysis (2001). These documents provide general guidance for compliance with environmental laws, executive orders, and other regulations, including the National Environmental Policy Act of 1969 (NEPA), the Endangered Species Act, the Clean Air Act, the Clean Water Act, Executive Order 11988 (Floodplain Management), and Executive Order 11990 (Protection of Wetlands).

Table 7.4 presents the impact intensity definitions used for purposes of analyzing potential impacts on threatened and endangered species.

■ **Impacts on Threatened and Endangered Species – Alternative 1 (Continuation of Current Management)**

In alternative 1 trail partners would continue to manage sites in accordance with the memorandum of understanding (MOU) between the NPS and trail partner organizations as described in sections 7.3.2 and 7.3.3 above. Collectively these actions would result in a local long-term minor beneficial impact on threatened and endangered species where they occur on or in proximity to partner sites.

In alternative 1 development of new access sites and visitor use facilities would result in direct impacts to terrestrial and aquatic habitats. Coordination would occur with the U.S. Fish and Wildlife Service under Section 7 of the Endangered Species Act of 1973, as amended) during preliminary project planning to ensure that development actions would not jeopardize the continued existence of listed species or critical habitat that may occur on or in proximity to development sites. As a result there would be a local long-term negligible impact on threatened and endangered species.

Table 7.4 Impact Intensity Definitions – Threatened and Endangered Species

Negligible	Minor	Moderate	Major
Management actions would result in impacts on threatened, endangered, and rare species that would not be detectable or would be at the lowest level of detection. Ecological processes and biological productivity would not be affected.	Adverse Impact – Management actions would result in a detectable change in threatened, endangered, and rare species, but the change would be slight and have only a local effect on the species. Changes to local ecological processes would be minimal.	Adverse Impact – Management actions would result in a clearly detectable change in threatened, endangered, and rare species that could have an appreciable adverse effect on the community. Changes to local ecological processes would be of limited extent.	Adverse Impact – Management actions would result in a clearly detectable change in threatened, endangered, and rare species that could have severely adverse effect on the community. The impacts would be substantial and highly noticeable and could result in widespread change. Changes to local ecological processes would be of widespread extent.
	Beneficial Impact – Management actions would restore or preserve threatened, endangered, and rare species in some areas on and near the trail.	Beneficial Impact – Management actions would restore or preserve threatened, endangered, and rare species in many areas on and near the trail.	Beneficial Impact – Management actions would restore or preserve threatened, endangered, and rare species on and near much of the trail.

■ **Impacts on Threatened and Endangered Species – Alternative 3 (War of 1812 in the Chesapeake – Preferred)**

In alternative 3 trail partners would continue to manage sites in accordance with the memorandum of understanding (MOU) between the NPS and trail partner organizations as described in sections 7.3.2 and 7.3.3 above. Collectively these actions would result in a local long-term moderate beneficial impact on threatened and endangered species where they occur on or in proximity to partner sites.

In alternative 3 long-term protection of War of 1812 cultural resources would occur through cooperative efforts by the NPS and its partners using a variety of land protection strategies (see sections 7.3.2 and 7.3.3 above). Once protected any threatened or endangered species on these sites would be permanently protected and subject to enhanced conservation management practices. Collectively these resource protection actions would result in a local long-term moderate beneficial impact on threatened and endangered species.

In alternative 3 development of new access sites and visitor use facilities would result in direct impacts to terrestrial and aquatic habitats. (The majority of new access sites would be included within alternative 1). Coordination would occur

with the U.S. Fish and Wildlife Service under Section 7 of the Endangered Species Act of 1973, as amended) during preliminary project planning to ensure that development actions would not jeopardize the continued existence of listed species or critical habitat that may occur on or in proximity to development sites. As a result there would be a local long-term negligible impact on threatened and endangered species.

■ **Cumulative Impacts on Threatened and Endangered Species**

Past, present, and reasonably foreseeable future actions have contributed and will continue to contribute impacts on threatened and endangered species. Reasonably foreseeable future actions generally include growth and development on private property, transportation system improvements, and public infrastructure improvements that have resulted in or could result in loss of terrestrial or aquatic habitat or adverse impacts to water quality in the Chesapeake Bay and its tributaries. Fragmentation, non-native species introduction, drainage alterations, erosion and sedimentation, introduction of contaminants from urban runoff, and loss due to herbicide drift, has adversely impacted terrestrial areas that abut developed land. Reasonably foreseeable actions that would have impacts on threatened and endangered species would be subject to local regulations requiring stormwater management, erosion and

sedimentation control, air quality control, and planting with native species. Compliance with these regulations would reduce the extent of impacts of foreseeable actions on threatened and endangered species, although impacts would continue to occur at a reduced level. The impact of Alternatives 1 and 3, in conjunction with the impacts of these actions would result in a cumulative long-term moderate adverse impact on threatened and endangered species. Alternatives 1 and 3 would each contribute an imperceptible impact to the total cumulative impact.

■ **Conclusion Impacts on Threatened and Endangered Species**

Alternative 1 would have a local long-term minor beneficial impact and a local long-term negligible impact on threatened and endangered species. The local long-term minor beneficial impact would result from the NPS and trail partners continuing to promote conservation stewardship of natural resources (including terrestrial vegetation and terrestrial wildlife habitat) in accordance with the intent of the trail MOU. The local long-term negligible impact would result from the permanent conversion of natural land (including terrestrial vegetation and terrestrial wildlife habitat) to developed uses. Alternative 1 would contribute an imperceptible impact to the total cumulative long-term moderate adverse impact on threatened and endangered species.

Alternative 3 would have local long-term moderate beneficial impacts and a local long-term negligible impact on threatened and endangered species. The local long-term moderate beneficial impacts would result from 1) the NPS and trail partners continuing to promote conservation stewardship of natural resources in accordance with the intent of the trail MOU, and 2) land protection that would permanently protect terrestrial vegetation and terrestrial wildlife. The local long-term negligible impact would result from the permanent conversion of natural land (including terrestrial vegetation and terrestrial wildlife habitat) to developed uses. Alternative 3 would contribute an imperceptible impact to the total cumulative long-term moderate adverse impact on threatened and endangered species.

7.4 Cultural Resources

7.4.1 ARCHEOLOGICAL RESOURCES

■ **Methodology**

This EA is a policy level document and therefore does not detail all actions to the degree of specificity necessary to make a determination of effect on archeological resources. In the future, trail implementation will fully comply with 36 CFR 800, regulations of the Advisory Council on Historic Preservation for compliance with Section 106 of the *National Historic Preservation Act* when projects are detailed to the level of specificity that a determination of effect could be identified.

Table 7.5 presents the impact intensity definitions used for purposes of analyzing potential impacts on archeological resources.

Impacts on Archeological Resources – Alternative 1 (Continuation of Current Management). In alternative 1 NPS and its partners would continue to develop a better understanding of War of 1812 archeological resources and the opportunities they offer for visitors to experience the trail and for trail partners to tell its stories. State historic preservation entities would continue to assist with identifying and understanding War of 1812 resources, supporting archeological investigations, and providing technical reviews. Additional Information would be obtained through studies by the trail partners if and when there is partner interest and funding is available through matching grants and/or other sources. Collectively these resource identification actions would have a local long-term minor beneficial impact on archeological resources.

NPS technical assistance and funding for projects would place higher priority on actions that protect War of 1812 archeological resources that are designated as high potential historic sites and/or that would enhance the trail experience at sites that are designated high potential historic sites. NPS would not actively pursue identification of additional high potential historic sites along the trail beyond those identified in the CMP. In accordance with the trail MOU, partner sites would agree to protect archeological resources and to

Table 7.5 Impact Intensity Definitions – Archeological Resources

Negligible	Minor	Moderate	Major
Management actions would result in impacts on archeological resources at the lowest levels of detection with neither adverse nor beneficial consequences.	Adverse Impact – Actions would cause site disturbances resulting in little, if any, loss of integrity. For the purposes of Section 106 of the NHPA, the determination of effect would be no adverse effect.	Adverse Impact – Actions would cause site disturbances resulting in loss of integrity. For purposes of Section 106 of the NHPA, national register eligibility would be lost and the determination of effect would be adverse effect.	Adverse Impact – Actions would cause site disturbances resulting in loss of integrity. For purposes of Section 106 of the NHPA, national register eligibility would be lost and the determination of effect would be adverse effect.
	Beneficial Impact – Actions would result in minimal disturbances. Actions would contribute to maintenance or preservation of a site or sites. For the purposes of Section 106 of the NHPA, the determination of effect would be no adverse effect.	Beneficial Impact – Actions would result in mitigation procedures and comprehensive site condition assessments and data recovery. Actions would result in stabilization of sites. For the purposes of Section 106 of the NHPA, the determination of effect would be no adverse effect.	Beneficial Impact – Actions would result in a mitigation procedure and a comprehensive site condition assessment and data recovery. Action would result in active intervention to preserve a site. For the purposes of Section 106 of the NHPA, the determination of effect would be no adverse effect.

promote and interpret conservation stewardship of archeological resources through site management, programming, marketing, and citizen involvement. NPS would support federal, state, local, and not-for-profit organizations in their efforts to protect War of 1812 archeological resources and to protect the setting of those designated as high potential historic sites where the setting remains evocative of the early 19th century. There would be no potential for investment by the NPS to protect archeological resources through fee simple acquisition or purchase of conservation easements. Collectively these resource protection actions would have a local long-term minor beneficial impact on archeological resources.

■ **Impacts on Archeological resources – Alternative 3 (War of 1812 in the Chesapeake – Preferred)**

In alternative 3 resource identification would also emphasize further research on historic water routes which could provide new information on War of 1812 archeological resources. Information would be obtained through studies by the trail partners and the NPS if and when there is partner interest and funding is available through matching grants and/or other sources. NPS cultural resource programs and conservation assistance programs could assist with documentation and protection of trail resources and

cooperative conservation, as funding is available. Trail sites, state parks, and local governments would assist with documentation and protection of archeological resources and cooperative conservation with assistance from NPS, as available. NPS and its partners would also collaborate with SHPOs to complete studies as needed to document the significance of War of 1812 archeological resources and to identify protection needs. Collectively these resource identification actions would have a local long-term moderate beneficial impact on archeological resources.

As in alternative 1 NPS technical assistance and funding for projects would place higher priority on actions that protect War of 1812 archeological resources that are designated as high potential historic sites. Unlike Alternative 1 NPS would actively pursue identification of additional high potential historic sites along the trail beyond those identified in the CMP. Technical assistance would be provided to owners of War of 1812 archeological resources, including assistance with nominating resources to the National Register of Historic Places, or preparing determinations of eligibility for the National Register. Landowners would be encouraged to address preservation needs for their property. NPS would take actions to enforce Section 106 of the National Historic Preservation Act to specifically protect archeological

resources from potential adverse impacts of development actions. NPS and local governments would collaborate to protect and preserve War of 1812 archeological resources by promoting local government awareness of the preservation needs for specific archeological resources along the trail. NPS would provide technical assistance to partners with education of landowners regarding stewardship, planning, partner acquisition, and identification of funding sources.

Long-term protection of War of 1812 archeological resources would occur through cooperative efforts by the NPS and its partners using a variety of land protection strategies. Priority for land protection would be placed on protecting archeological resources that are designated high potential historic sites. Priority would also be placed on protecting evocative landscapes that adjoin high potential archeological resources along the land routes of the trail. There would be potential for investment by the NPS to protect archeological resources through fee simple acquisition or purchase of conservation easements, but only when protection could not be accomplished through other means. Collectively these resource protection actions would have a local long-term moderate beneficial impact on archeological resources.

■ Cumulative Impacts on Archeological resources

Past, present, and reasonably foreseeable future actions have contributed and will continue to contribute impacts on archeological resources. Reasonably foreseeable future actions generally include growth and development on private property, transportation system improvements, and public infrastructure improvements. Many of these actions have resulted in loss of archeological resources and adverse effects to archeological resources. Some local ordinances are in place to mitigate potential adverse effects of private development actions to archeological resources. Public infrastructure and transportation system projects using federal funding are required to mitigate potential adverse effects to archeological resources in accordance with Section 106 of the NHPA. The impact of Alternatives 1 and 3, in conjunction with the impacts of these actions would result in a cumulative long-term moderate adverse impact on archeological resources. Alternatives 1 and 3 would each contribute a minor beneficial impact to the total cumulative impact.

■ Conclusion – Impacts on Archeological resources

Alternative 1 (Continuation of Current Management) would have local long-term minor beneficial impacts on archeological resources. The minor beneficial impact would generally result from 1) additional research to identify and document the significance of War of 1812 archeological resources and to assess their protection needs, and 2) NPS technical assistance and potential support for management actions that would protect archeological resources identified as high potential historic sites along the trail. Alternative 1 would contribute a minor beneficial impact to the total cumulative long-term moderate adverse impact on archeological resources.

Alternative 3 (Preferred) would have local long-term moderate beneficial impacts on archeological resources. The moderate beneficial impacts would result from 1) significantly expanded research – with possible assistance from the NPS – to identify and document the significance of War of 1812 archeological resources along the trail and to assess their protection needs, 2) identification of additional high potential historic sites, 3) expanded NPS technical assistance and potential support for management actions that would protect archeological resources identified as high potential historic sites, and 4) potential investment by the NPS to protect archeological resources through fee simple acquisition or purchase of conservation easements when protection cannot be accomplished through other means. Alternative 3 would contribute a minor beneficial impact to the total cumulative long-term moderate adverse impact on archeological resources.

7.4.2 HISTORIC STRUCTURES

■ Methodology

This EA is a policy level document and therefore does not detail all actions to the degree of specificity necessary to make a determination of effect on historic structures. In the future, trail implementation will fully comply with *36 CFR 800*, regulations of the Advisory Council on Historic Preservation for compliance with Section 106 of the *National Historic Preservation Act* when projects are detailed to the level of specificity that a determination of effect could be identified.

Table 7.6 Impact Intensity Definitions – Historic Structures

Negligible	Minor	Moderate	Major
Management actions would result in alterations of patterns or features of historic structures at the lowest levels of detection with neither adverse nor beneficial consequences.	Adverse Impact – Management actions would result in alteration of features that would not diminish the overall integrity of the resource. For the purposes of Section 106 of the NHPA, the determination of effect would be no adverse effect.	Adverse Impact – Management actions would result in alteration of features that would diminish the overall integrity of the resource. For purposes of Section 106 of the NHPA, national register eligibility would be lost and the determination of effect would be adverse effect.	Adverse Impact – Management actions would result in alteration of features that would diminish the overall integrity of the resource. For purposes of Section 106 of the NHPA, national register eligibility would be lost and the determination of effect would be adverse effect.
	Beneficial Impact – Management actions would result in stabilization/preservation of character-defining feature(s) in accordance with the <i>Secretary of the Interior's Standards for the Treatment of Historic Properties</i> . Integrity of structures would be maintained. For the purposes of Section 106 of the NHPA, the determination of effect would be no adverse effect.	Beneficial Impact – Management actions would result in alterations to structures; however, all mitigation measures would be accomplished in accordance with the <i>Secretary of the Interior's Standards for the Treatment of Historic Properties</i> . Integrity of structures would be rehabilitated or enhanced. For the purposes of Section 106 of the NHPA, the determination of effect would be no adverse effect.	Beneficial Impact – Management actions would result in alterations to structures; however, all mitigation measures would be accomplished in accordance with the <i>Secretary of the Interior's Standards for the Treatment of Historic Properties</i> . Integrity and character of structures would be restored. For the purposes of Section 106 of the NHPA, the determination of effect would be no adverse effect.

Table 7.6 presents the impact intensity definitions used for purposes of analyzing potential impacts on historic structures

■ **Impacts on Historic Structures – Alternative 1
(Continuation of Current Management)**

In alternative 1 NPS and its partners would continue to develop a better understanding of War of 1812 historic structures and the opportunities they offer for visitors to experience the trail and for trail partners to tell its stories. State historic preservation entities would continue to assist with identifying and understanding War of 1812 resources, supporting research and providing technical reviews. Additional Information would be obtained through studies by the trail partners if and when there is partner interest and funding is available through matching grants and/or other sources. Collectively these resource identification actions would have a local long-term minor beneficial impact on historic structures.

NPS technical assistance and funding for projects would place higher priority on actions that protect War of 1812

historic structures that are designated as high potential historic sites and/or that would enhance the trail experience at sites that are designated high potential historic sites. NPS would not actively pursue identification of additional high potential historic sites along the trail beyond those identified in the CMP. In accordance with the trail MOU, partner sites would agree to protect historic structures and to promote and interpret conservation stewardship of historic structures through site management, programming, marketing, and citizen involvement. NPS would support federal, state, local, and not-for-profit organizations in their efforts to protect War of 1812 historic structures and to protect the setting of those designated as high potential historic sites where the setting remains evocative of the early 19th century. There would be no potential for investment by the NPS to protect historic structures through fee simple acquisition or purchase of conservation easements. Collectively these resource protection actions would have a local long-term minor beneficial impact on historic structures.

■ **Impacts on Historic Structures – Alternative 3
(War of 1812 in the Chesapeake – Preferred)**

In alternative 3 resource identification would also emphasize further research on historic water routes which could provide new information on War of 1812 historic structures. Information would be obtained through studies by the trail partners and the NPS if and when there is partner interest and funding is available through matching grants and/or other sources. NPS cultural resource programs and conservation assistance programs could assist with documentation and protection of trail resources and cooperative conservation, as funding is available. Trail sites, state parks, and local governments would assist with documentation and protection of historic structures and cooperative conservation with assistance from NPS, as available. NPS and its partners would also collaborate with SHPOs to complete studies as needed to document the significance of War of 1812 historic structures and to identify protection needs. Collectively these resource identification actions would have a local long-term moderate beneficial impact on historic structures.

As in alternative 1 NPS technical assistance and funding for projects would place higher priority on actions that protect War of 1812 historic structures that are designated as high potential historic sites. Unlike Alternative 1 NPS would actively pursue identification of additional high potential historic sites along the trail beyond those identified in the CMP. Technical assistance would be provided to owners of War of 1812 historic structures, including assistance with nominating resources to the National Register of Historic Places, or preparing determinations of eligibility for the National Register. Landowners would be encouraged to address preservation needs for their property. NPS would take actions to enforce Section 106 of the National Historic Preservation Act to specifically protect historic structures from potential adverse impacts of development actions. NPS and local governments would collaborate to protect and preserve War of 1812 historic structures by promoting local government awareness of the preservation needs for specific historic structures along the trail. NPS would provide technical assistance to partners with education of landowners regarding stewardship, planning, partner acquisition, and identification of funding sources.

Long-term protection of War of 1812 historic structures would occur through cooperative efforts by the NPS and its partners using a variety of land protection strategies. Priority for land protection would be placed on protecting historic structures that are designated high potential historic sites. Priority would also be placed on protecting evocative landscapes that adjoin high potential historic structures along the land routes of the trail. There would be potential for investment by the NPS to protect historic structures through fee simple acquisition or purchase of conservation easements, but only when protection could not be accomplished through other means. Collectively these resource protection actions would have a local long-term moderate beneficial impact on historic structures.

■ **Cumulative Impacts on Historic Structures**

Past, present, and reasonably foreseeable future actions have contributed and will continue to contribute impacts on historic structures. Reasonably foreseeable future actions generally include growth and development on private property, transportation system improvements, and public infrastructure improvements. Many of these actions have resulted in loss of historic structures and adverse effects to historic structures. Some local ordinances are in place to mitigate potential adverse effects of private development actions to historic structures. Public infrastructure and transportation system projects using federal funding are required to mitigate potential adverse effects to historic structures in accordance with Section 106 of the NHPA. The impact of Alternatives 1 and 3, in conjunction with the impacts of these actions would result in a cumulative long-term moderate adverse impact on historic structures. Alternatives 1 and 3 would each contribute a minor beneficial impact to the total cumulative impact.

■ **Conclusion – Impacts on Historic Structures**

Alternative 1 (Continuation of Current Management) would have local long-term minor beneficial impacts on historic structures. The minor beneficial impact would generally result from 1) additional research to identify and document the significance of War of 1812 historic structures and to assess their protection needs, and 2) NPS technical assistance and potential support for management actions that would protect historic structures identified as high

potential historic sites along the trail. Alternative 1 would contribute a minor beneficial impact to the total cumulative long-term moderate adverse impact on historic structures.

Alternative 3 (Preferred) would have local long-term moderate beneficial impacts on historic structures. The moderate beneficial impacts would result from 1) significantly expanded research – with possible assistance from the NPS – to identify and document the significance of War of 1812 historic structures along the trail and to assess their protection needs, 2) identification of additional high potential historic sites, 3) expanded NPS technical assistance and potential support for management actions that would protect historic structures identified as high potential historic sites, and 4) potential investment by the NPS to protect historic structures through fee simple acquisition or purchase of conservation easements when protection cannot be accomplished through other means. Alternative 3 would

contribute a minor beneficial impact to the total cumulative long-term moderate adverse impact on historic structures.

7.4.3 CULTURAL LANDSCAPES

■ Methodology

This EA is a policy level document and therefore does not detail all actions to the degree of specificity necessary to make a determination of effect on cultural landscapes. In the future, trail implementation will fully comply with *36 CFR 800*, regulations of the Advisory Council on Historic Preservation for compliance with Section 106 of the *National Historic Preservation Act* when projects are detailed to the level of specificity that a determination of effect could be identified.

Table 7.7 presents the impact intensity definitions used for purposes of analyzing potential impacts on cultural landscapes.

Table 7.7 Impact Intensity Definitions – Cultural Landscapes

Negligible	Minor	Moderate	Major
Management actions would result in alterations of patterns or features of cultural landscapes at the lowest levels of detection, barely perceptible, not measurable, and with neither negative nor positive consequences.	Adverse Impact – Management actions would result in alterations of patterns or features of the landscape that would not diminish the overall integrity of the landscape. For the purposes of Section 106 of the NHPA, the determination of effect would be no adverse effect.	Adverse Impact – Management actions would result in alterations of patterns or features of the landscape that would diminish the overall integrity of the landscape. For purposes of Section 106 of the NHPA, national register eligibility would be lost and the determination of effect would be adverse effect.	Adverse Impact – Management actions would result in alterations of patterns or features of the landscape that would diminish the overall integrity of the landscape. For purposes of Section 106 of the NHPA, national register eligibility would be lost and the determination of effect would be adverse effect.
	Beneficial Impact – Management actions would result in slight alterations of landscape patterns and features in accordance with <i>the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes</i> . For the purposes of Section 106 of the NHPA, the determination of effect would be no adverse effect.	Beneficial Impact – Management actions would result in alterations to landscape patterns and features; however, a treatment plan would be put in place in accordance with the <i>Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes</i> . Integrity of the landscape would be enhanced. For the purposes of Section 106 of the NHPA, the determination of effect would be no adverse effect.	Beneficial Impact – Management actions would result in alterations to landscape patterns and features; however, a treatment plan would be put in place in accordance with the <i>Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes</i> . Integrity of the landscape would be restored. For the purposes of Section 106 of the NHPA, the determination of effect would be no adverse effect.

■ **Impacts on Historic Structures – Alternative 1
(Continuation of Current Management)**

In alternative 1 NPS and its partners would continue to develop a better understanding of War of 1812 cultural landscapes and the opportunities they offer for visitors to experience the trail and for trail partners to tell its stories. State historic preservation entities would continue to assist with identifying and understanding War of 1812 resources, supporting research and providing technical reviews. Additional Information would be obtained through studies by the trail partners if and when there is partner interest and funding is available through matching grants and/or other sources. Collectively these resource identification actions would have a local long-term minor beneficial impact on cultural landscapes.

NPS technical assistance and funding for projects would place higher priority on actions that protect War of 1812 cultural landscapes that are designated as high potential historic sites and/or that would enhance the trail experience at sites that are designated high potential historic sites. NPS would not actively pursue identification of additional high potential historic sites along the trail beyond those identified in the CMP. In accordance with the trail MOU, partner sites would agree to protect cultural landscapes and to promote and interpret conservation stewardship of cultural landscapes through site management, programming, marketing, and citizen involvement. NPS would support federal, state, local, and not-for-profit organizations in their efforts to protect War of 1812 cultural landscapes and to protect the setting of those designated as high potential historic sites where the setting remains evocative of the early 19th century. There would be no potential for investment by the NPS to protect cultural landscapes through fee simple acquisition or purchase of conservation easements. Collectively these resource protection actions would have a local long-term minor beneficial impact on cultural landscapes.

■ **Impacts on Cultural landscapes – Alternative 3
(War of 1812 in the Chesapeake – Preferred)**

In alternative 3 resource identification would also emphasize further research on historic water routes which could provide new information on War of 1812 cultural landscapes.

Information would be obtained through studies by the trail partners and the NPS if and when there is partner interest and funding is available through matching grants and/or other sources. NPS cultural resource programs and conservation assistance programs could assist with documentation and protection of trail resources and cooperative conservation, as funding is available. Trail sites, state parks, and local governments would assist with documentation and protection of cultural landscapes and cooperative conservation with assistance from NPS, as available. NPS and its partners would also collaborate with SHPOs to complete studies as needed to document the significance of War of 1812 cultural landscapes and to identify protection needs. Collectively these resource identification actions would have a local long-term moderate beneficial impact on cultural landscapes.

As in alternative 1 NPS technical assistance and funding for projects would place higher priority on actions that protect War of 1812 cultural landscapes that are designated as high potential historic sites. Unlike Alternative 1 NPS would actively pursue identification of additional high potential historic sites along the trail beyond those identified in the CMP. Technical assistance would be provided to owners of War of 1812 cultural landscapes, including assistance with nominating resources to the National Register of Historic Places, or preparing determinations of eligibility for the National Register. Landowners would be encouraged to address preservation needs for their property. NPS would take actions to enforce Section 106 of the National Historic Preservation Act to specifically protect cultural landscapes from potential adverse impacts of development actions. NPS and local governments would collaborate to protect and preserve War of 1812 cultural landscapes by promoting local government awareness of the preservation needs for specific cultural landscapes along the trail. NPS would provide technical assistance to partners with education of landowners regarding stewardship, planning, partner acquisition, and identification of funding sources.

Long-term protection of War of 1812 cultural landscapes would occur through cooperative efforts by the NPS and its partners using a variety of land protection strategies. Priority for land protection would be placed on protecting cultural

landscapes that are designated high potential historic sites. Priority would also be placed on protecting evocative landscapes that adjoin high potential cultural landscapes along the land routes of the trail. There would be potential for investment by the NPS to protect cultural landscapes through fee simple acquisition or purchase of conservation easements, but only when protection could not be accomplished through other means. Collectively these resource protection actions would have a local long-term moderate beneficial impact on cultural landscapes.

■ Cumulative Impacts on Cultural landscapes

Past, present, and reasonably foreseeable future actions have contributed and will continue to contribute impacts on cultural landscapes. Reasonably foreseeable future actions generally include growth and development on private property, transportation system improvements, and public infrastructure improvements. Many of these actions have resulted in loss of cultural landscapes and adverse effects to cultural landscapes. Some local ordinances are in place to mitigate potential adverse effects of private development actions to cultural landscapes. Public infrastructure and transportation system projects using federal funding are required to mitigate potential adverse effects to cultural landscapes in accordance with Section 106 of the NHPA. The impact of Alternatives 1 and 3, in conjunction with the impacts of these actions would result in a cumulative long-term moderate adverse impact on cultural landscapes. Alternatives 1 and 3 would each contribute a minor beneficial impact to the total cumulative impact.

■ Conclusion – Impacts on Cultural landscapes

Alternative 1 (Continuation of Current Management) would have local long-term minor beneficial impacts on cultural landscapes. The minor beneficial impact would generally result from 1) additional research to identify and document the significance of War of 1812 cultural landscapes and to assess their protection needs, and 2) NPS technical assistance and potential support for management actions that would protect cultural landscapes identified as high potential historic sites along the trail. Alternative 1 would contribute a minor beneficial impact to the total cumulative long-term moderate adverse impact on cultural landscapes.

Alternative 3 (Preferred) would have local long-term moderate beneficial impacts on cultural landscapes. The moderate beneficial impacts would result from 1) significantly expanded research – with possible assistance from the NPS – to identify and document the significance of War of 1812 cultural landscapes along the trail and to assess their protection needs, 2) identification of additional high potential historic sites, 3) expanded NPS technical assistance and potential support for management actions that would protect cultural landscapes identified as high potential historic sites, and 4) potential investment by the NPS to protect cultural landscapes through fee simple acquisition or purchase of conservation easements when protection cannot be accomplished through other means. Alternative 3 would contribute a minor beneficial impact to the total cumulative long-term moderate adverse impact on cultural landscapes.

7.4.4 MUSEUM COLLECTIONS AND OBJECTS

■ Methodology

Because museum collections and objects do not qualify for listing in the National Register future implementation of specific trail projects would not be required to comply with *36 CFR 800*, regulations of the Advisory Council on Historic Preservation for compliance with Section 106 of the *National Historic Preservation Act*.

Table 7.8 presents the impact intensity definitions used for purposes of analyzing potential impacts on museum collections and objects.

■ Impacts on Museum Collections and Objects – Alternative 1 (Continuation of Current Management)

In alternative 1 NPS and its partners would continue to develop a better understanding of War of 1812 cultural resources and the opportunities they offer for visitors to experience the trail and for trail partners to tell its stories. State historic preservation entities would continue to assist with identifying and understanding War of 1812 resources, supporting research and providing technical reviews. Additional Information would be obtained through studies by the trail partners if and when there is partner interest and funding is available through matching grants and/or other sources. These activities have the potential for discovery and

Table 7.8 Impact Intensity Definitions – Museum Collections and Objects

Negligible	Minor	Moderate	Major
Management actions would result in alterations to the condition of museum collections and objects at the lowest levels of detection, barely perceptible, not measurable, and with neither negative nor positive consequences.	Adverse Impact – Management actions would affect the integrity of a few items in some museum collections but would not degrade the usefulness of affected collections for future research and interpretation. For the purposes of Section 106 of the NHPA, the determination of effect would be no adverse effect.	Adverse Impact – Management actions would affect the integrity of many items in some museum collections and would diminish the usefulness of affected collections for future research and interpretation. For purposes of Section 106 of the NHPA, national register eligibility would be lost and the determination of effect would be adverse effect.	Adverse Impact – Management actions would affect the integrity of most items in some museum collections and would destroy the usefulness of affected collections for future research and interpretation. For purposes of Section 106 of the NHPA, national register eligibility would be lost and the determination of effect would be adverse effect.
	Beneficial Impact – Management actions would stabilize the current condition of some collections or their constituent components to minimize degradation and/or would minimally enhance the opportunity for using some collections for future research and interpretation. For the purposes of Section 106 of the NHPA, the determination of effect would be no adverse effect.	Beneficial Impact – Management actions would improve the current condition of some collections or their constituent components to minimize degradation and/or would moderately enhance the opportunity for using some collections for future research and interpretation. For the purposes of Section 106 of the NHPA, the determination of effect would be no adverse effect.	Beneficial Impact – Management actions would secure the condition of some collections or their constituent components from the threat of further degradation and/or would greatly enhance the opportunity for using some collections for future research and interpretation. For the purposes of Section 106 of the NHPA, the determination of effect would be no adverse effect.

documentation of previously unknown objects with a connection to the War of 1812 time period. Collectively these research activities would have a long-term minor beneficial impact on museum collections and objects.

NPS technical assistance and funding for projects would place higher priority on actions that protect War of 1812 cultural resources that are designated as high potential historic sites and/or that would enhance the trail experience at sites that are designated high potential historic sites. NPS would not actively pursue identification of additional high potential historic sites along the trail beyond those identified in the CMP. Projects at high potential historic sites would have the potential for discovery and documentation of previously unknown objects with a connection to the War of 1812 time period. Partners receiving assistance and/or funding for projects involving objects with a connection to the War of 1812 time period would seek to comply with NPS practices for collecting, protecting, preserving and providing access to museum collections (NPS 2006, 2002a and 2000).

This would potentially slightly enhance curation capabilities at partner sites to protect the integrity of collections and objects while making them available for research and interpretation. Collectively these resource protection actions would have a local long-term minor beneficial impact on museum collections and objects.

■ **Impacts on Museum Objects and Collections – Alternative 3 (War of 1812 in the Chesapeake – Preferred)**

In alternative 3 resource identification would also emphasize further research on historic water routes which could provide new information on War of 1812 cultural resources. Information would be obtained through studies by the trail partners and the NPS if and when there is partner interest and funding is available through matching grants and/or other sources. NPS cultural resource programs and conservation assistance programs could assist with documentation and protection of trail resources and cooperative conservation, as funding is available. Trail sites,

state parks, and local governments would assist with documentation and protection of cultural resources and cooperative conservation with assistance from NPS, as available. NPS and its partners would also collaborate with SHPOs to complete studies as needed to document the significance of War of 1812 cultural resources and to identify protection needs. These activities have the potential for discovery and documentation of previously unknown objects with a connection to the War of 1812 time period. Collectively these research activities would have a long-term minor beneficial impact on museum collections and objects.

As in alternative 1 NPS technical assistance and funding for projects would place higher priority on actions that protect War of 1812 cultural resources that are designated as high potential historic sites. Unlike Alternative 1 NPS would actively pursue identification of additional high potential historic sites along the trail beyond those identified in the CMP. Projects at high potential historic sites would have the potential for discovery and documentation of previously unknown objects with a connection to the War of 1812 time period. Technical assistance would be provided to owners of War of 1812 cultural resources, including assistance with nominating resources to the National Register of Historic Places, or preparing determinations of eligibility for the National Register. Landowners would be encouraged to address preservation needs for their property. NPS and local governments would collaborate to protect and preserve War of 1812 cultural resources by promoting local government awareness of the preservation needs for specific cultural resources along the trail. NPS would provide technical assistance to partners with education of landowners regarding stewardship, planning, partner acquisition, and identification of funding sources. Partners receiving assistance and/or funding for projects involving objects with a connection to the War of 1812 time period would seek to comply with NPS practices for collecting, protecting, preserving and providing access to museum collections (NPS 2006, 2002a and 2000). This would potentially significantly enhance curation capabilities at partner sites to protect the integrity of collections and objects while making them available for research and interpretation. Collectively these resource protection actions would have a local long-term

moderate beneficial impact on museum collections and objects.

■ **Cumulative Impacts on Museum Collections and Objects**

Past, present, and reasonably foreseeable future actions have contributed and will continue to contribute impacts on museum collections and objects. Reasonably foreseeable future actions generally include development of museums, research facilities, and other archival facilities at partner sites within the trail corridor, including curation capabilities that protect the integrity of collections and objects while making them available for research and interpretation. Alternatives 1 and 3, in conjunction with the impacts of these actions would result in a cumulative long-term major beneficial impact on museum collections and objects. Alternatives 1 and 3 would each contribute a minor beneficial impact to the total cumulative impact.

■ **Conclusion – Impacts on Museum Objects and Collections**

Alternative 1 (Continuation of Current Management) would have local long-term minor beneficial impacts on museum objects and collections. The minor beneficial impacts would generally result from 1) additional research to identify and document the significance of War of 1812 cultural resources with the potential for discovery and documentation of previously unknown objects with a connection to the War of 1812 time period, and 2) NPS technical assistance and potential support for management actions that would have the potential to slightly enhance curation capabilities at partner sites that protect the integrity of collections and objects while making them available for research and interpretation. Alternative 1 would contribute a minor beneficial impact to the total cumulative long-term major beneficial impact on museum objects and collections.

Alternative 3 (Preferred) would have local long-term moderate beneficial impacts on museum objects and collections. The moderate beneficial impacts would result from 1) significantly expanded research – with possible assistance from the NPS – to identify and document the significance of War of 1812 cultural resources with the potential for discovery and documentation of previously

unknown objects with a connection to the War of 1812 time period, and 2) identification of additional high potential historic sites with the potential for discovery and documentation of previously unknown objects with a connection to the War of 1812 time period, and 3) NPS technical assistance and potential support for management actions that would have the potential to significantly enhance curation capabilities at partner sites that protect the integrity of collections and objects while making them available for research and interpretation. Alternative 3 would contribute a minor beneficial impact to the total cumulative long-term major beneficial impact on museum objects and collections.

7.5 Other Impact Topics

7.5.1 VISITOR EXPERIENCE

■ Methodology

Management actions are generally assessed in terms of how they enhance or detract from the potential for visitors to experience the trail. Trail administration and management actions are described in terms of the opportunities provided to manage and assist in the management of the trail. Visitor experience, use, and access management actions are evaluated with respect to how they would help orient visitors to the trail and enable them to experience the trail. Land protection actions and cooperative efforts with partners are qualitatively considered in terms of how they would generally enhance trail administration and management.

Table 7.10 presents the impact intensity definitions used for purposes of analyzing potential impacts on park operations.

■ Impacts on Visitor Experience – Alternative 1 (Continuation of Current Management)

Interpretative and Education. In alternative 1 the interpretive plan would guide the partners and the NPS in making decisions about what projects to propose and fund, there would continue to be no management framework in place to focus interpretive programming on how visitors would experience the trail, what stories would be emphasized, and where those experiences would be provided. Interpretive programming and services would

assist visitors in understanding the relevance of the trail within the context of the interpretive themes. Most visitors would use a variety of self-guided interpretive products as they travel the trail. Site-based educational programs and services would be developed for access point, for places of cultural, historical, and natural interest, and for information centers. Existing and newly created educational resources would be introduced to teachers in partnership with state and local school systems through teacher professional development. Capacity-building would enable the NPS and its partners to effectively develop, manage, and interpret the trail. Research would help broaden the scope of subjects available for interpretation and would bolster the overall interpretive effort for the trail. Collectively these resource identification actions would have a local long-term minor beneficial impact on visitor experience.

Visitor Facilities and Services. In alternative 1 partners would be encouraged to provide appropriate visitor facilities and services to support visitor learning and recreation experiences. The MOU between the NPS and each partner would outline how partners would collaborate with respect to providing visitor facilities and services. Existing land trails from Solomons to North Point would provide recreation opportunities and access to sites where visitors could learn about the War of 1812. In the future, the NPS and its partners would continue to expand the network of land trails if and when partners identify new projects and secure funding for implementation. Collectively these resource protection actions would have a local long-term minor beneficial impact on visitor experience.

Water Trails and Related Visitor Facilities. In alternative 1 existing water trails on the Patuxent and Potomac Rivers would provide visitors with opportunities to view some War of 1812 sites and landscapes from the water. Visitors would continue to have access to the trail's water routes through existing sites, located at local, state, and federal parks and existing water trail routes. In the future, the NPS and its partners would continue to expand the network of trail access facilities if and when partners identify new projects and secure funding for implementation. New access sites would generally include those identified in *Maryland's Access, Stewardship and Interpretive Opportunity Plan* (MD DBED

Table 7.10 Impact Intensity Definitions – Visitor Experience

Negligible	Minor	Moderate	Major
Management actions would result in impacts that would be barely detectable, or would occasionally affect the experience of few visitors in the applicable setting.	Adverse Impact – Management actions would result in impacts that would be slight but detectable; could be perceived as negative by visitors or would inhibit visitor experience. Impacts would negatively affect the experience of some visitors in the applicable setting.	Adverse Impact – Management actions would result in impacts that would be readily apparent and perceived as somewhat negative. Impacts would negatively affect the experience of many visitors in the applicable setting.	Adverse Impact – Management actions would result in impacts that would be highly negative, affecting the experience of a majority of visitors in the applicable setting.
	Beneficial Impact – Management actions would positively affect the experience of some visitors in the applicable setting.	Beneficial Impact – Management actions would positively affect the experience of many visitors in the applicable setting.	Beneficial Impact – Management actions would positively affect the experience of the majority of visitors in the applicable setting.

2010a). Opportunities for multi-day trips along water segments of the trail would continue to be very limited. In the future, the NPS and its partners would continue to expand the network of camping facilities if and when partners identify new projects and secure funding for implementation. Collectively these resource protection actions would have a local long-term minor beneficial impact on visitor experience.

■ **Impacts on Visitor Experience – Alternative 3 (War of 1812 in the Chesapeake – Preferred)**

Interpretative and Education. In alternative 3 there would be a major increase in interpretive media and programming along the trail. Media and programs would be developed by partners, with limited NPS technical and financial assistance. The interpretive plan (NPS 2011e) would continue to provide the framework for public appreciation of resources and for a wide range of partnership activities to facilitate public use and understanding of trail history. The CMP management framework would guide the partners and the NPS in making decisions about what types of interpretation projects to produce and fund. Research would help broaden the scope of subjects available for interpretation and would bolster the overall interpretive effort for the trail.

Most visitors would use a variety of self-guided interpretive products as they travel the trail. Interpretive programming

and services would assist visitors in understanding the relevance of the trail within the context of the interpretive themes. Guided and self-guided itineraries and other interpretive media would provide new opportunities to explore the cultural and natural history of the Chesapeake Bay while recreating along intersecting hiking, biking, or water trails including the Captain John Smith Chesapeake National Historic Trail and the Potomac Heritage National Scenic Trail. Expanded and new educational programs at sites along the trail would tell the stories of the War of 1812 as well as the natural history of the Chesapeake Bay. Site-based educational programs and services would be developed for access point, for places of cultural, historical, and natural interest, and for information centers. Collectively these resource protection actions would have a local long-term moderate beneficial impact on visitor experience.

Visitor Facilities and Services. In alternative 3 partners would be encouraged to provide appropriate visitor facilities and services. A system of visitor contact facilities would provide information and orientation for trail visitors on projects, programs and activities trail-wide, with a focus on nearby learning and recreation activities. One existing facility in each region would be enhanced to provide exhibits that orient visitors to the overall trail, with a focus on the opportunities for trail experiences within the region. The

MOU between the NPS and each partner would outline how partners would collaborate with respect to providing visitor facilities and services. Existing land trails from Solomons to North Point, and thematically-related land trails that guide visitors by land to historic sites and evocative landscapes along the trail's water routes, would provide recreation opportunities and access to sites where visitors could learn about the War of 1812 and the natural environment of the Chesapeake Bay in the early 19th century. Full integration with the Captain John Smith Chesapeake National Historic Trail, Potomac Heritage National Scenic Trail, state heritage areas, and greenways would provide physical connections among resources from different historical time periods and enhance outdoor recreation opportunities. Collectively these resource protection actions would have a local long-term moderate beneficial impact on visitor experience.

Water Trails and Related Visitor Facilities. In alternative 3 the NPS would work with partners in Virginia and the District of Columbia and with units of the National Park System to further develop existing water trails along the Potomac River and Anacostia River and to plan new water trails along tributaries to the Potomac River. An expanded network of water trails would provide new and enhanced interpretive and recreation experiences along the trail. Future development of the trail would include addition of public access sites to enhance access to the water routes where it is not currently available or where it is needed to facilitate multiple-day trips in non-motorized boats. Investment in new public access sites would emphasize soft access sites for non-motorized car-top boats such as canoes and kayaks coupled with opportunities for backcountry camping – meeting a demand that is currently not well-served by existing partner facilities. Collectively these resource protection actions would have a local long-term moderate beneficial impact on visitor experience.

■ Cumulative Impacts on Visitor Experience

Past, present, and reasonably foreseeable future actions have contributed and will continue to contribute impacts on the visitor experience. Reasonably foreseeable future actions generally include growth and development on private property, transportation system improvements, and public infrastructure improvements. Many of these actions have

resulted in loss of trail resources and adverse effects to trail resources. Development has altered the character of roadways along the travel routes and the setting of many War of 1812 sites. Congestion on roadways composing the land routes of the trail slows travel times and detracts from the visitor experience. The impact of Alternatives 1 and 3, in conjunction with the impacts of these actions would result in a cumulative long-term moderate adverse impact on visitor experience. Alternatives 1 and 3 would each contribute a minor beneficial impact to the total cumulative impact.

■ Conclusion – Impacts on Visitor Experience

Alternative 1 (Continuation of Current Management) would have local long-term minor beneficial impacts on visitor experience. The minor beneficial impacts would generally result from 1) efforts of the trail partners to enhance interpretive media and educational programming at partner sites, 2) efforts of the trail partners to provide visitor facilities and services, and 3) expansion of water trails and related visitor facilities. Alternative 1 would contribute a minor beneficial impact to the total cumulative long-term moderate adverse impact on visitor experience.

Alternative 3 (Preferred) would have local long-term moderate beneficial impacts on visitor experience. The moderate beneficial impacts would result from 1) enhancement of interpretive media and educational programming made possible through limited NPS technical and financial assistance along with guidance provided by the CMP regarding coordination of interpretation and learning opportunities, 2) enhancement of trail visitor facilities and services including development of regional visitor contact facilities, expanded land trails, and integration of the trail with other recreation and heritage resources, and 3) additional expansions to water trails and related visitor facilities. Alternative 3 would contribute a minor beneficial impact to the total cumulative long-term moderate adverse impact on visitor experience.

7.5.2 TRAIL PLANNING, DEVELOPMENT, AND MANAGEMENT

■ Methodology

Management actions are generally assessed in terms of how they enhance or detract from the potential for visitors to experience the trail. Trail administration and management actions are described in terms of the opportunities provided to manage and assist in the management of the trail. Visitor experience, use, and access management actions are evaluated with respect to how they would help orient visitors to the trail and enable them to experience the trail. Land protection actions and cooperative efforts with partners are qualitatively considered in terms of how they would generally enhance trail administration and management.

Table 7.10 presents the impact intensity definitions used for purposes of analyzing potential impacts on park operations.

■ Impacts on Trail Planning, Development and Management – Alternative 1 (Continuation of Current Management)

In alternative 1 there would not be an overall coordinated and uniform approach at partner sites along the trail. Partnerships would continue to focus on existing partner sites, existing land and water trails, and existing recreation opportunities. Trail development would occur opportunistically as partnerships are forged or enhanced with traditional and non-traditional partners and as partners

propose and implement projects at individual sites. However, trail partners along the land route from Solomons to North Point would be encouraged to work collaboratively to implement proposed land trails and infrastructure and to develop new products and programs that support trail interpretive themes and that link sites. There would however be few incentives for collaboration.

During the bicentennial period Maryland OTD would facilitate discussion and planning among regional marketing interests in Maryland, Virginia, and the District of Columbia. After the bicentennial period, trail marketing would continue to be a general function of state and local tourism offices done without the benefit of trail-wide coordinated planning among regional marketing interests.

Collectively the proposed management framework and partnership actions would have a local long-term negligible impact on trail planning, development, and management.

■ Impacts on Trail Planning, Development, and Management – Alternative 3 (War of 1812 in the Chesapeake – Preferred)

Partnerships would emphasize integration of regional trail planning efforts. The NPS would continue to encourage groups of partners within regions of the trail to work together. Grants from the NPS would also tend to favor

Table 7.10 Impact Intensity Definitions – Trail Planning, Development, and Management

Negligible	Minor	Moderate	Major
Management actions would result in impacts on trail operations and trail access that would be barely detectable to trail staff and visitors.	Adverse Impact – Management actions would result in adverse impacts on trail operations and access that would be small, but would be noticeable to staff, but probably not to visitors.	Adverse Impact – Management actions would result in adverse impacts on trail operations and access that would be readily apparent to staff and possibly to visitors.	Adverse Impact – Management actions would result in adverse impacts on trail operations and access that would be readily apparent to staff and visitors, and would result in substantial, widespread changes.
	Beneficial Impact – Management actions would result in beneficial impacts on trail operations and access that would be small, but would be noticeable to staff, but probably not to visitors.	Beneficial Impact – Management actions would result in beneficial impacts on trail operations and access that would be readily apparent to staff and possibly to visitors.	Beneficial Impact – Management actions would result in beneficial impacts on trail operations and access that would be readily apparent to staff and visitors, and would result in substantial, widespread changes.

projects that involve multiple partners over those that do not. Trail partners, CBGN partners, the Captain John Smith Chesapeake National Historic Trail (CAJO), the Potomac Heritage National Scenic Trail (POHE), and the Washington-Rochambeau Revolutionary Route National Historic Trail (W3R) would fully collaborate on projects, programs, and infrastructure, including shared facilities that provide recreational experiences and enhance visitor understanding of the Chesapeake Bay.

One partner in each trail region would become a regional coordinator who would assist the NPS with overall trail coordination. The regional coordinator would be the lead coordinator in each region for trail marking, programming, marketing, establishing resource priorities, and facilitating matching of proposed projects with funding opportunities. Some heritage areas would become regional coordinators. Limited NPS technical and financial assistance would be available to coordinate regional efforts relative to recreation, landscape protection, interpretation, and heritage tourism.

A non-profit trail-wide friends group would work closely with the NPS, states, and regional coordinators with trail development through advocacy, fundraising, marketing, and staff support. The friends group would support public access, recreation, interpretation, and connections with related history and recreation initiatives including national trails.

State and local tourism offices would participate in a trail-wide marketing team initially focused on the bicentennial period (as in Alternative 1) and later on transitioning bicentennial period resources to long-term promotion and marketing of the trail. There would be trail-wide coordinated planning among regional marketing interests.

Collectively the proposed management framework and partnership actions would have a local long-term moderate beneficial impact on trail planning, development, and management.

- **Cumulative Impacts on Trail Planning, Development, and Management**

Past, present, and reasonably foreseeable future actions have contributed and will continue to contribute impacts on

trail planning, development, and management. Reasonably foreseeable future actions generally include actions of the trail partners that would further protect of War of 1812 resources, actions to enhance visitor facilities, and actions to provide recreation opportunities. Alternatives 1 and 3, in conjunction with the impacts of these actions would result in a cumulative long-term moderate beneficial impact on trail planning, development, and management. Alternative 1 would contribute an imperceptible impact to the total cumulative impact. Alternative 3 would contribute a minor beneficial impact to the total cumulative impact.

- **Conclusion – Trail Planning, Development and Management**

Alternative 1 (Continuation of Current Management) would have a local long-term negligible impact on trail planning, development, and management. The negligible impact would generally result from the continued absence of an overall coordinated and uniform approach to trail development and continued opportunistic trail development. Alternative 1 would contribute an imperceptible impact to the total cumulative long-term moderate beneficial impact on trail planning, development, and management.

Alternative 3 (War of 1812 in the Chesapeake) would have a local long-term moderate beneficial impact on trail planning, development, and management. The moderate beneficial impact would generally result from a common agenda that would guide the collective group of partners, along with coordinated regional management, assistance from a trail-wide friends group, and a long-term coordinated approach to trail marketing. Alternative 1 would contribute a minor beneficial impact to the total cumulative long-term moderate beneficial impact on trail planning, development, and management.

7.5.3 SOCIO-ECONOMIC CONDITIONS

- **Methodology**

Primary economic impacts associated with the trail would result from increased visitation and visitor spending locally along the trail and within the region. Secondly there would be slight increases in local employment and investment in tourism-related businesses.

Table 7.11 Impact Intensity Definitions – Socio-Economic Conditions

Negligible	Minor	Moderate	Major
The action would produce no measurable impacts on the area's economy, employment base, labor force, or housing market.	Adverse Impact – The action would result in small, but detectable, changes to economic conditions locally and throughout the region.	Adverse Impact – The action would result in readily apparent changes to economic conditions.	Adverse Impact – The action would result in readily apparent changes to economic conditions. Measurable changes in social or economic conditions at the regional level would occur. The impact would be severely adverse or within the region.
	Beneficial Impact – The action would result in small, but detectable, positive changes to economic conditions.	Beneficial Impact – The action would result in readily apparent, positive changes to economic conditions.	Beneficial Impact – The action would result in readily apparent, positive changes to economic conditions. Impacts would occur throughout the region.

Table 7.11 presents the impact intensity definitions used for purposes of analyzing potential impacts on the socio-economic conditions.

■ **Impacts on Socio-Economic Conditions – Alternative 1 (Continuation of Current Management)**

Impacts during the Commemorative Period. Implementation of alternative 1 during the commemorative period would provide a one-time economic benefit to the local economy associated with investments made in preparation for the bicentennial commemoration. These investments would include a wide variety of projects designed to protect War of 1812 resources and to make partner sites and attractions along the trail ready for visitors, such as development of interpretive media, enhancements to existing visitor facilities, and construction of new facilities, particularly new access sites and water trail improvements within the state of Maryland. The total one-time costs for alternative 1 are estimated at approximately \$ 5,386,000. Much of this capital budget would be used for construction labor and materials that would come from the local economy.

During the commemorative period from 2012 to 2015 there would be significantly increased tourism and visitation along the trail, particularly during special events. Increased visitation would result in increased visitor spending in all sectors of the tourism economy. Visitor spending would

include expenditures for lodging, food, activities, and outdoor recreation.

Development of new facilities and programs at partner sites would increase demand for interpretive staff and for administration and maintenance staff likely resulting in creation of new jobs.

In general the investments in tourist destinations such as attractions along the trail result in new business opportunities in the larger local economy by encouraging existing tourism-related businesses to revitalize their facilities and services and to provide new support services. Private investment in new tourism-related facilities – such as lodging facilities, restaurants, specialty sporting goods stores, marinas, and outfitting services – would also be stimulated.

Collectively the economic impacts of alternative 1 during the commemorative period would be local and regional short-term moderate and beneficial.

Impacts over the Long-Term. Investments in the trail in preparation for the bicentennial would have a lasting legacy well beyond the commemorative period, attracting visitors by greatly enhancing opportunities for learning about the War of 1812 and for recreation along the trail. Visitation would continue to be higher at partner sites, although likely not as high as during the commemorative period. Total capital expenditures from 2016 to 2032 are estimated at

approximately \$1,725,500. Collectively the economic impacts of the trail in alternative 1 over the long-term would be negligible.

- **Impacts on Socio-Economic Conditions – Alternative 3 (War of 1812 in the Chesapeake – Preferred)**

Impacts during the Commemorative Period. As in alternative 1 Implementation of alternative 3 during the commemorative period would provide a one-time economic benefit to the local economy associated with investments made in preparation for the bicentennial commemoration. By comparison to alternative 1 these investments would include a much wider variety of projects and a larger number of projects designed to protect War of 1812 resources and to make partner sites and attractions along the trail ready for visitors. The total one-time costs for alternative 3 are estimated at approximately \$14,191,000. Much of this capital budget would be used for construction labor and materials that would come from the local economy.

When compared to alternative 1, in alternative 3 during the commemorative period from 2012 to 2015 there would be significantly increased tourism and visitation along the trail, particularly during special events. Greater increased visitation would result in higher increased visitor spending in all sectors of the tourism economy. Visitor spending would include expenditures for lodging, food, activities, and outdoor recreation.

When compared to alternative 1, development of new facilities and programs at partner sites in alternative 3 would result in higher demand for interpretive staff and for administration and maintenance staff likely resulting in creation of more new jobs.

When compared to alternative 1, in alternative 3 new business opportunities would be greater in the larger local economy, encouraging existing tourism-related businesses to revitalize their facilities and services and to provide new support services. Private investment in new tourism-related facilities – such as lodging facilities, restaurants, specialty sporting goods stores, marinas, and outfitting services – would also be more strongly stimulated when compared to alternative 1.

Collectively the economic impacts of alternative 3 during the commemorative period would be local and regional short-term moderate and beneficial.

Impacts over the Long-Term. As in alternative 1 investments in the trail in preparation for the bicentennial would have a lasting legacy well beyond the commemorative period, attracting visitors by greatly enhancing opportunities for learning about the War of 1812 and for recreation along the trail. Visitation would continue to be higher at partner sites, although likely not as high as during the commemorative period. Total capital expenditures from 2016 to 2032 are estimated at approximately \$8,387,500. Collectively the economic impacts of the trail in alternative 3 over the long-term would be local long-term minor and beneficial.

- **Cumulative Impacts on Socio-Economic Conditions**

Past, present, and reasonably foreseeable future actions have contributed and will continue to contribute impacts on socio-economic conditions. Reasonably foreseeable future actions generally include growth and development on private property (particularly involving creation of new jobs), transportation system improvements, and public infrastructure improvements. Alternatives 1 and 3, in conjunction with the impacts of these actions would result in a cumulative long-term major beneficial impact on socio-economic conditions. Alternative 1 would contribute an imperceptible impact to the total cumulative impact. Alternative 3 would contribute a minor beneficial impact to the total cumulative impact.

- **Conclusion – Socio-Economic Conditions**

Alternative 1 (Continuation of Current Management) would have local and regional short-term moderate beneficial impacts on socio-economic conditions during the commemorative period. The moderate beneficial impacts would generally result from 1) one-time investments, 2) increased visitation and visitor spending, 3) creation of new jobs, and 4) new business opportunities along the trail. As one-time investments in the trail diminish during the years following the commemorative period, alternative 1 would have local and regional negligible impacts on socio-economic conditions. Alternative 1 would contribute an imperceptible

impact to the total cumulative long-term major beneficial impact on socio-economic conditions.

Alternative 3 (Preferred) would have local and regional short-term moderate beneficial impacts on socio-economic conditions during the commemorative period. The moderate beneficial impacts would generally result from 1) one-time investments, 2) increased visitation and visitor spending, 3) creation of new jobs, and 4) new business opportunities along the trail. As one-time investments in the trail diminish slightly during the years following the commemorative period, alternative 3 would have local and regional minor beneficial impacts on socio-economic conditions. Alternative 3 would contribute an imperceptible impact to the total cumulative long-term major beneficial impact on socio-economic conditions. Alternative 3 would contribute a minor beneficial impact to the total cumulative long-term major beneficial impact on socio-economic conditions.

7.6 Impact Topics Considered but Dismissed

Several impact topics were considered and dismissed from further analysis because the resources do not exist along the trail or because the management actions under consideration would either not impact the resources or the impact would be negligible (table 7.11). Following is a discussion of the impact topics dismissed from detailed analysis and a summary of the rationale supporting dismissal.

7.6.1 FLOODPLAINS

Executive Order 11988, “Floodplain Management” requires federal agencies to examine project impacts on floodplains and the potential risks associated with having facilities within floodplains. The general nature of the management objectives and potential actions in the CMP necessitates that the analysis of impacts on floodplains be general and programmatic. In the future, as specific trail implementation projects are proposed by the NPS and/or the trail partners, they would be subject to site-specific analysis to establish the presence of floodplains within the project area and to describe the potential adverse impacts on floodplain values and the potential risks associated with having facilities within the floodplain. Future actions with the potential to impact floodplains would incorporate measures to avoid or minimize

Table 7.11

Impact Topics Considered but DISMISSED
Natural Resources
■ floodplains
■ wetlands
■ prime farmland and unique soils
■ exotic/non-native species
■ air quality
■ soundscapes
■ lightscares and night skies
Cultural Resources
■ Ethnographic Resources
■ Indian Sacred Sites
Other Topics
■ Indian Trust Resources
■ environmental justice
■ climate change
■ energy requirements and conservation potential

adverse impacts on floodplains and floodplain values and to avoid risks associated with development within floodplains. Therefore the floodplains impact topic was dismissed from further analysis in this CMP/EA.

7.6.2 WETLANDS

Executive Order 11990, “Protection of Wetlands” requires federal agencies to examine project impacts on wetlands and wetland values. The general nature of the management objectives and potential actions in the CMP necessitates that the analysis of impacts on wetlands be general and programmatic. In the future, as specific trail implementation projects are proposed by the NPS and/or the trail partners, they would be subject to site-specific analysis to establish the presence of wetlands within the project area and to describe

the potential adverse impacts on wetland values. Future actions with the potential to impact wetlands would incorporate measures to avoid or minimize adverse impacts on wetlands and wetland values. Therefore the wetlands impact topic was dismissed from further analysis in this CMP/EA.

The aquatic resources and terrestrial resources topics are retained for study in this CMP/EA. In those contexts the occurrences of wetlands along the trail, their habitat values, and the general types of impacts that could result from trail development are addressed (sections 6.3.1, 6.3.2, 7.3.1 and 7.3.2 above).

7.6.3 PRIME FARMLAND AND UNIQUE SOILS

CEQ NEPA Regulations (40 CFR 1508.27) require federal agencies to assess the impacts of their actions on soils classified by the US Natural Resources Conservation Service (NRCS) as prime farmland or unique soils. Prime farmlands are defined as land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops, and is also available for these uses. Unique farmlands are lands other than prime farmland that are used for the production of specific high value food and fiber crops.

The NRCS has classified numerous soil series along the trail as prime farmland or unique soils. These soils occur in a variety of topographic settings, ranging from nearly level areas on uplands to floodplain and terraces along rivers and streams. Agricultural use in these areas varies from small farms to large agricultural operations. Many areas of prime farmland or unique soils have also been irreversibly converted to nonagricultural uses or severely disturbed by construction of roadways and urban infrastructure.

The general nature of the management objectives and potential actions in the CMP necessitates that the analysis of impacts on prime farmland or unique soils be general and programmatic. In the future, as specific trail implementation projects are proposed by the NPS and/or the trail partners, they would be subject to site-specific analysis to establish the presence of prime farmland or unique soils within the project area and to describe the potential adverse impacts on those

soils. Future actions would incorporate measures to avoid or minimize adverse impacts on prime farmland or unique soils. Therefore the prime farmland or unique soils impact topic was dismissed from further analysis in this CMP/EA.

7.6.4 EXOTIC SPECIES

In the future, as specific trail implementation projects are proposed by the NPS and/or the trail partners, management actions would seek to prevent displacement of native species by exotic species. In general, projects would not introduce new exotic species to the trail corridor. To the extent practicable, site managers would be encouraged to initiate management of exotic species that could have a substantial impact on trail resources and that could reasonably be expected to be successfully controlled. Programs to manage exotic species would seek to avoid causing damage to native species, natural ecological communities, natural ecological processes, cultural resources, and human health and safety. Therefore the exotic species impact topic was dismissed from further analysis in this CMP/EA.

7.6.5 AIR QUALITY

Both CMP alternatives would have local short-term negligible impacts on air quality caused by fugitive dust from soil erosion and disturbance during construction and maintenance of trail facilities. These impacts would be mitigated through requirements for contractors and trail partner maintenance personnel to apply water and dust control agents at construction sites. Both CMP alternatives would also have local long-term negligible impacts on air quality caused by increased local traffic during peak visitation periods. Because both short-term and long-term adverse impacts would be negligible, the air quality impact topic has been dismissed from further analysis in this CMP/EA.

7.6.6 SOUNDSCAPES

Both CMP alternatives would have a short-term negligible impact on the natural soundscape along the trail. Construction activities associated with planned new or modified facilities or transportation projects would generate temporary unwanted construction-related sound that would be direct and short-term in nature and concentrated in areas near construction sites. In accordance with normal

construction practice, noise-generating construction equipment would be equipped with effective noise control devices. All equipment would be properly maintained to ensure that no additional unwanted sound would be generated. Trail partners would likely further prevent and/or minimize unwanted construction sound by managing its intensity, frequency, magnitude, and duration in any one place on any particular day.

Both CMP alternatives would also have long-term negligible impact on the natural soundscape caused by slightly increased local traffic. While the mix of vehicles using local roads or vehicle speeds would generally remain unchanged, there would be a very minor shift in traffic patterns and local increases in traffic volumes in some areas of the trail. These shifts and increases would not likely result in measurable long-term sound impacts. Therefore the soundscape impact topic was dismissed from further analysis in this CMP/EA.

7.6.7 LIGHTSCAPES AND NIGHT SKIES

Both CMP alternatives would have long-term negligible impacts on the lightscape and night skies in the trail corridor. The NPS would encourage trail partners to employ a variety of techniques to protect natural darkness and other components of the natural lightscape, such as:

- restricting the use of artificial lighting to those areas where security, basic human safety, and specific cultural resource requirements must be met
- using minimal-impact lighting techniques, including shielded light fixtures to prevent light spill over and use of low-intensity lights
- shielding artificial lighting to prevent the disruption of the night sky, physiological processes of living organisms, and other natural processes
- seeking the cooperation of visitors, neighbors, and local government agencies to prevent or minimize the intrusion of artificial light into the night scene of the trail corridor ecosystem

Therefore lightscape and night skies impact topic was dismissed from further analysis in this CMP/EA.

7.6.8 ETHNOGRAPHIC RESOURCES

Ethnographic resources are natural and cultural resources that are important in the cultural practices, values, beliefs, heritage and identity of traditionally associated peoples and groups. Such groups may be ethnic and occupational groups, American Indian tribes, and other groups whose traditional cultural practices, values and beliefs connect them with the resources in the Chesapeake Bay region. These peoples must have been associated with the resource for at least two generations, or forty years, prior to the establishment of the trail.

Three main categories of ethnographic resources can be recognized in the Chesapeake Bay region: sites, ethnographic landscapes, and natural ethnographic resources. Each type of resource relates to different traditionally associated groups including American Indians, African Americans, or traditional watermen, and at different times (e.g., mythical, prehistoric, historic), but they remain important aspects of the shared cultural heritage. Cultural resource management actions associated with both CMP alternatives would have local long-term negligible impacts on the sites, ethnographic landscapes, and natural ethnographic resources related to these traditionally associated groups. Therefore the ethnographic resources impact topic was dismissed from further analysis in this CMP/EA.

7.6.9 INDIAN TRUST RESOURCES

Secretarial Order 3175 requires that any anticipated impacts on Indian Trust Resources from a proposed project or action be explicitly addressed in environmental documents. There are no federally recognized Indian tribes in the study area and no lands are held in trust on behalf of a tribe. Therefore the Indian Trust Resources impact topic was dismissed from further analysis in this CMP/EA.

7.6.10 INDIAN SACRED SITES

The Native American Graves Protection Act (25 U.S.C. 3001 et seq.) and Executive Order 13007, "Indian Sacred Sites" require managers of federal lands to avoid adversely affecting the physical integrity of Indian sacred sites. Because there are no federally-recognized Indian Tribes associated with the study area, there are no sacred sites as

defined by Executive Order 13007 with the boundaries of New River Gorge National River. Therefore the Indian sacred sites impact topic was dismissed from further analysis in this CMP/EA.

7.6.11 ENVIRONMENTAL JUSTICE

Executive Order 12891, “General Actions to Address Environmental Justice in Minority Populations and Low Income Populations,” requires all federal agencies to incorporate environmental justice into their missions by identifying and addressing disproportionately high and adverse health or environmental impacts of their programs and policies on minorities or low-income populations or communities.

According to the most recent US Census data (U.S. Census 2010), minority and low-income populations as defined in E.O. 12891 reside in cities, towns, and rural areas within the trail corridor. During the CMP planning process – including ongoing public scoping – no issues or concerns specific to these populations were identified. No management actions under either alternative evaluated in the CMP/EA are directed at minority/low income populations nor are any of the potential effects of the alternatives believed to have disproportionate effects on minority/low income populations. For these reasons the environmental justice impact topic was dismissed from further analysis in this CMP/EA.

7.6.12 CLIMATE CHANGE

Climate change refers to any significant changes in average climatic conditions (such as mean temperature, precipitation, or wind) or variability (such as seasonality, storm frequency, etc.) lasting for an extended period (decades or longer). Recent reports by the U.S. Climate Change Science Program, the National Academy of Sciences, and the United Nations Intergovernmental Panel on Climate Change provide clear evidence that the climate change is occurring and would accelerate in the coming decades. There is strong evidence that global climate change is being driven by human activities worldwide, primarily the burning of fossil fuels and tropical deforestation. These activities release carbon dioxide and other heat-trapping gases – commonly called “greenhouse gases” – into the atmosphere.

There are two aspects of climate change that must be considered in an environmental impact analysis:

- impacts of climate change on the trail (how the resources managed in these alternatives are likely to change in response to changing climate conditions and how does that change or otherwise affect our management actions and the impacts of those actions on the resource – for example, potential impacts from sea level rises in response to climate change would likely have cumulative impacts on shoreline vegetation and possibly on submerged aquatic vegetation)
- trail impacts on climate change (i.e., through our actions, the potential to increase or decrease emissions of greenhouse gases that contribute to climate change)

The full extent of climate change impacts on resources and visitor experience is not known, nor do managers and policy makers agree on the most effective response mechanisms for adapting to climate change. Both CMP alternatives include a number of management actions that the NPS would implement to respond to the climate change challenge. As more specific information on climate change response becomes available, the trail would incorporate climate change considerations into future management actions and carry out any necessary compliance processes, as appropriate.

In general, the actions proposed in either CMP alternative would not result in more than a negligible increase in greenhouse gas emissions. There would be some increase in traffic associated with increased visitation to the trail; however, this additional vehicular travel is not expected to result in more than a negligible increase in the current amount of vehicular traffic, and associated greenhouse gas emissions, in local areas or in the Chesapeake Bay region. In addition, motorized boats using the trail would contribute to emissions, although the overall motorized boat traffic in Chesapeake Bay waters are not anticipated to increase due to the trail.

The NPS is committed to incorporating energy efficiency and reduction in greenhouse gas emissions for trail operations. To the extent possible, the NPS would encourage partners to

comply with NPS sustainable energy design and energy management requirements. Any facility development, whether it is a new building, a renovation, or an adaptive reuse of an existing facility, would seek to include improvements in energy efficiency and reduction in greenhouse gas emissions. Projects that include visitor services facilities would also seek to incorporate Leadership in Energy and Environmental Design (LEED) standards and to achieve the highest LEED certification possible.

Based on these considerations, the climate change impact topic was dismissed from further analysis in this CMP/EA.

7.6.13 ENERGY REQUIREMENTS AND CONSERVATION POTENTIAL

In both CMP alternatives, NPS would generally encourage trail partners to seek to comply with NPS sustainable energy design and energy management requirements through the following types of actions:

- include improvements in energy efficiency and reduction in greenhouse gas emissions for new facilities (for new buildings, renovations, or adaptive reuse of existing facilities)
- achieve maximum energy efficiency
- use energy-efficient construction projects as an educational opportunity for the visiting public
- seek to incorporate Leadership in Energy and Environmental Design (LEED) standards to achieve a silver rating for all projects that include visitor services facilities
- operate and manage facilities, vehicles, and equipment to minimize consumption of energy, water, and nonrenewable fuels
- give full consideration to use of alternative fuels
- where appropriate, encourage alternative transportation programs and the use of bio-based fuels
- where appropriate and cost-effective over the life cycle, use renewable sources of energy and new developments in energy-efficiency technology, including products from the recycling of materials and waste

Because of these commitments to energy conservation and sustainability energy requirements and conservation potential was dismissed from further analysis in this CMP/EA.

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Chapter 8

Consultation and Coordination



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8. Consultation and Coordination

8.1 Public Involvement and Agency Coordination

Since beginning the CMP planning process the NPS has reached out to the public on numerous occasions for input regarding trail management issues, the range of alternatives under consideration, and the types of impacts to be addressed in the CMP. This process – referred to as scoping – has involved the general public, interested individuals, civic organizations, trail user groups, American Indian tribes, and various federal, state, and local agencies. As the planning process has progressed, the NPS has provided information and updates via newsletters, news releases, the trail website, briefings, and public workshops.

Throughout the planning process, the NPS, MD SHA, and MD DBED worked cooperatively to develop the CMP in accordance with a memorandum of agreement (MOA) calling for joint trail planning (appendix H). Representatives from each agency were on the CMP planning team and met on numerous occasions throughout the planning process.

Table 8.1 below provides a running list of the consultations and public involvement activities. The key issues considered in the CMP planning process – developed through the analysis of issues and concerns related to trail management – are discussed above in section 1.5.2. Also appendix I contains relevant correspondence with agencies and American Indian tribes.

Table 8.1 Summary of Public Involvement and Agency Coordination

Date	Consultation or Public Involvement Activity
December 5, 2008	Trail and Byway Coordination Meeting, Maryland SHA, Fort McHenry National Monument, Baltimore, MD
May 5, 2009	Trail and Byway Coordination Meeting, Maryland OTD, Fort McHenry National Monument, Baltimore, MD
May 28, 2009	Trail Update, National-Capital Region 1812 Consortium, Riversdale Mansion, Riverdale Park, MD
July 7, 2009	Trail and Byway Coordination Meeting, Maryland OTD, Fort McHenry National Monument, Baltimore, MD
September 4, 2009	Display and Information, Defenders Day at North Point, Edgemere, MD
September 11, 2009	Trail Update, Virginia War of 1812 Commission Advisory Council, Richmond, VA
September 30, 2009	Trail Update, National-Capital Region 1812 Consortium, Dumbarton House, Washington, D.C.
October 6, 2009	Trail and Byway Coordination Meeting, Maryland OTD, NPS Chesapeake Bay Office, Annapolis, MD
November 16, 2009	Interpretive Plan Workshop, D.C. Stakeholders, AIA Headquarters, Washington, D.C.
November 17, 2009	Interpretive Plan Workshop, Southern Maryland Stakeholders, Jefferson Patterson Park and Museum, St. Leonard, MD
November 18, 2009	Interpretive Plan Workshop, Prince George's County Stakeholders, Hyattsville Municipal Building, Hyattsville, MD
November 19, 2009	Interpretive Plan Workshop, Virginia Stakeholders, Lloyd House, Alexandria, VA

Table 8.1 Summary of Public Involvement and Agency Coordination (continued)

Date	Consultation or Public Involvement Activity
December 7, 2009	Interpretive Plan Workshop, Maryland Eastern Shore Stakeholders, Queenstown Town Hall, Queenstown, MD
December 8, 2009	Interpretive Plan Workshop, Baltimore City Stakeholders, Maryland Historical Society, Baltimore, MD
December 9, 2009	Interpretive Plan Workshop, Baltimore County Stakeholders, North Point State Park, Edgemere, MD
December 10, 2009	Interpretive Plan Workshop, Upper Bay Stakeholders, Havre de Grace Maritime Museum, Havre de Grace, MD
January 27, 2010	Trail Update, Southern Maryland War of 1812, Calvert Marine Museum, Solomons, MD
February 19, 2010	Meeting, Eastern Shore Water Trails, Queen Anne's County Visitor Center, MD
March 17, 2010	Interpretive Plan Presentation, Maryland War of 1812 Bicentennial Commission Resource Stewardship and Visitor Experience Committee, ERM Office, Annapolis, MD
March 26, 2010	Discussion and Site Visit, St. Mary's County War of 1812 Committee, St. Mary's County Planning Department, Leonardtown, MD
March 31, 2010	Trail Overview and Discussion, Lower Patuxent Scenic Byway, NPS Chesapeake Bay Office, Annapolis, MD
April 1, 2010	Trail Update, Star-Spangled 200, Georgetown, MD
April 7, 2010	Trail Update, Annapolis History Consortium, Maryland State Archives, MD
April 13, 2010	Event Planning, National Trails Day, Carlyle House, Alexandria, VA
May 1, 2010	Presentation, Havre de Grace O'Neill Canon Rededication, Concord Lighthouse, Havre de Grace, MD
May 1, 2010 to June 1, 2010	Public comment period on the <i>Draft Star-Spangled Banner National Historic Trail Interpretive Plan</i>
May 4, 2010	Site Visit, North Point Planning Team, Edgemere, MD
May 21, 2010	Presentation, Maryland Preservation Conference, Easton, MD
June 5, 2010	Display and Information, National Trails Day, Alexandria, VA
June 10, 2010	Trail Update, Maryland Trails Workshop, Upper Marlboro, MD
June 22, 2010	Presentation, Hancock's Resolution Annual Meeting, Pasadena, MD
June 22, 2010	Trail Update, Star-Spangled 200, Dundalk, MD
July 1, 2010	Meeting, CMP Planning Team Meeting, NPS Chesapeake Bay Office, Annapolis, MD
July 13, 2010	Presentation, Maryland War of 1812 Bicentennial Commission Resource Stewardship and Visitor Experience Committee, Maryland Higher Education, MD
July 14, 2010	Meeting, NPS Planning Team and M-NCPPC Planners, M-NCPPC, Upper Marlboro, MD
July 21, 2010	Site Visit, NPS Planning Team and M-NCPPC Planners, M-NCPPC, Upper Marlboro, MD

Table 8.1 Summary of Public Involvement and Agency Coordination (continued)

Date	Consultation or Public Involvement Activity
July 23, 2010	Workshop, Bladensburg Stakeholders, Anacostia Watershed Society, Bladensburg, MD
July 24, 2010	Discussion, Lower Susquehanna Scenic Byway, Lower Susquehanna Heritage Greenway Office, Conowingo Hydroelectric Plant Visitor Center, Darlington, MD
August 20, 2010	Meeting, CMP Planning Team Meeting, Annapolis, MD
September 3, 2010	Display and Information, Defenders Weekend at Fort McHenry, Fort McHenry National Monument and Historic Shrine, Baltimore, MD
September 11, 2010	Display and Information, North Point Defenders Day, Edgemere, MD
October 3, 2010	Scoping Stakeholders Workshop, Huntley Meadows, Alexandria, VA
October 3, 2010	Scoping Public Workshop, George Washington House, Bladensburg, MD
October 4, 2010	Scoping Stakeholders Workshop, Maryland Historical Society, Baltimore, MD
October 4, 2010	Scoping Public Workshop, North Point State Park Visitor Center, Edgemere, MD
October 8, 2010	Scoping Public Workshop, Lower Susquehanna Heritage Greenway, Conowingo Hydroelectric Plant Visitor Center, Darlington, MD
October 9, 2010	Scoping Stakeholders Workshop, Dumbarton House, District of Columbia
October 9, 2010	Scoping Public Workshop, Benedict Volunteer Fire Department and Rescue Squad, Benedict, MD
October 20, 2010	Discussion, Anne Arundel County Parks and Recreation, Annapolis, MD
November 3, 2010 to December 31, 2010	Comment period on public scoping for the Star-Spangled Banner National Historic Trail and Scenic Byway Comprehensive Management Plan/EA
December 1, 2010	Workshop, North Point Stakeholders, Southeast Regional Recreation Center, Dundalk, MD
January 18, 2011	Discussion, Dundalk Southeast and Greektown CDC and JHU Bayview, Dundalk, MD
February 10, 2011	Meeting, CMP Planning Team Meeting, Annapolis, MD
March 8, 2011	Presentation, Charles County Commission, La Plata, MD
March 10, 2011	Presentation, Prince George's County Planning Commission, Upper Marlboro, MD
March 15, 2011	Presentation, Calvert County Commission, Prince Frederick, MD
March 23, 2011	Workshop, District of Columbia Stakeholders, Washington, D.C.
April 15, 2011 to May 15, 2011	Public comment period on draft alternatives for the Star-Spangled Banner National Historic Trail and Scenic Byway Comprehensive Management Plan/EA
April 18, 2011	Alternatives Public Workshop, Bladensburg Waterfront Park, Bladensburg, MD
April 19, 2011	Alternatives Stakeholders Workshop, Queenstown, MD
April 19, 2011	Alternatives Public Workshop, Havre de Grace, Maritime Museum, Havre de Grace, MD

Table 8.1 Summary of Public Involvement and Agency Coordination (continued)

Date	Consultation or Public Involvement Activity
April 20, 2011	Alternatives Webinar for Virginia Stakeholders
April 20, 2011	Alternatives Public Workshop, Creative Alliance @ The Patterson, Baltimore, MD
April 21, 2011	Alternatives Public Workshop, King's Landing Park, Huntingtown, MD
June 22, 2011	Meeting, Star-Spangled Banner Scenic Byway Advisory Committee, Billingsley House Upper Marlboro, MD
June 29, 2011	Meeting, Star-Spangled Banner National Historic Trail Advisory Council, Fort McHenry National Monument and Historic Shrine, Baltimore, MD
June 30, 2011	Workshop, Bladensburg Stakeholders, Anacostia Watershed Society, Bladensburg, MD
June 30, 2011	Site Visit, North Point State Battlefield Planning Team, Dundalk, MD
July 14, 2011	Workshop, North Point State Battlefield Stakeholders, North Point Library, Dundalk, MD
August 2, 2011	Webinar, Star-Spangled Banner National Historic Trail Advisory Council and Star-Spangled Banner Scenic Byway Advisory Committee
September 1, 2011	Workshop, North Point State Battlefield Planning Team, Dundalk, MD
September 8, 2011	Workshop, Alexandria Stakeholders, Office of Historic Alexandria, Alexandria, VA
September 9, 2011	Trail and Byway Coordination Meeting, District of Columbia Departments of Planning and Transportation, Telephone Meeting
September 28, 2011	Webinar, Star-Spangled Banner National Historic Trail Advisory Council and Star-Spangled Banner Scenic Byway Advisory Committee
October 19, 2011	Webinar, Star-Spangled Banner National Historic Trail Advisory Council and Star-Spangled Banner Scenic Byway Advisory Committee
November 1, 2011	National Park Service-National Capital Region War of 1812 Symposium
November 16, 2011	Webinar, Star-Spangled Banner National Historic Trail Advisory Council and Star-Spangled Banner Scenic Byway Advisory Committee
November 18, 2011	Meeting, District of Columbia Stakeholders, Cultural Tourism DC, Washington, DC
January 10, 2012	Meeting, National-Capital Region War of 1812 Bicentennial Consortium, Cultural Tourism DC, Washington, DC
January 12, 2012	Meeting, Baltimore Stakeholders, Visit Baltimore, Baltimore, MD
January 13, 2012	Meeting, National Park Service-National Capital Region War of 1812 Bicentennial Planning, NCR, Washington, DC
February 8, 2012	Meeting, Upper Bay Stakeholders, Chesapeake Bay Office, Annapolis, MD

8.2 Tribal Coordination

Indian tribes having possible cultural associations with sites along the trail were contacted via letter to initiate consultation regarding management planning for the trail. Letters inviting comments were sent to the following tribes and tribal organizations (appendix I):

- Maryland Commission on Indian Affairs
- Piscataway Indian Nation
- Pocomoke Indian Tribe
- Cedarville Band of Piscataway Indians
- Piscataway Conoy Confederacy and Sub-Tribes
- Assateague Peoples Tribe
- Accohannock Indian Tribe
- Nause-Waiwash Band of Indians

Consultation with tribes will continue during implementation of the CMP, as needed, and throughout the Section 106 consultation process.

8.3 Section 106 Consultation

Section 106 of the National Historic Preservation Act of 1966 (NHPA), as amended, requires that federal agencies 1) consider the effect of undertakings on properties listed on the National Register of Historic Places, and 2) allow the State Historic Preservation Officer (SHPO) and the Advisory Council on Historic Preservation (ACHP) the opportunity to comment. The general nature of the management objectives and potential actions in the CMP has necessitated that the analysis of impacts to cultural resources and related Section 106 consultation be general and programmatic. In the future, Section 106 consultation will occur during design and construction of specific projects of the types identified in the CMP, if and when project funding becomes available. Table 8.2 provides a list of the general types of trail-related projects that could require consultation in the future.

Table 8.2 Types of CMP Implementation Actions that could Require Future Section 106 Consultation

Action	Alternative 1	Alternative 3
visitor contact facilities	■	■
road resurfacing, restoration, and rehabilitation		■
streetscape improvements		■
public water access (new or enhanced canoe/kayak soft launches and paddlers waysides)	■	■
public water access (new or enhanced deep water launches)		■
day-use facilities	■	■
pull-offs	■	■
hiking/biking trails and trailheads	■	■
primitive camping facilities		■
developed campground		■
land acquisition (for conservation purposes)		■

Consultation with the SHPOs will occur during review of the Draft CMP/EA. Each SHPO will receive a copy of the plan. Following review of the Draft CMP, additional conversations with the SHPOs will occur to address their comments and to develop a final list of actions subject to future Section 106 compliance review.

8.4 Section 7 Consultation

Section 7 of the Endangered Species Act of 1973, as amended (16 USC 1531 et seq.) requires all federal agencies to consult with the U.S. Fish and Wildlife Service to ensure that any action authorized, funded, or carried out by the agency does not jeopardize the continued existence of listed species or critical habitat. NPS management policies also require cooperation with appropriate state conservation agencies to protect state-listed and candidate species of special concern.

On August 3, 2011, the NPS sent letters to the Maryland Wildlife and Heritage Program and the Virginia Heritage Program (see appendix I) for consultation purposes and to request information about special status species within the trail corridor (generally described as extending 1,000 feet from the trail's land and water routes). The Virginia Heritage Program responded via email on September 1, 2011, providing a list of special status species in each county along the trail. The state of Maryland responded on September 29, 2011, providing similar information.

On June 9, 2011, the NPS sent letters to the Chesapeake Bay Field Office and the Virginia Field Office of the U.S. Fish and Wildlife (FWS) (see appendix I) for consultation purposes and to request information about special species status within the trail corridor (generally described as extending 1,000 feet from the trail's land and water routes). Each consulted FWS field office responded via email, directing the NPS to a website to access a list of special status species within the trail corridor. The FWS field offices requested further consultation when the draft CMP is complete, and consultation including detailed maps when any specific shoreline sites are planned for development (see appendix I). The NPS will continue to consult with FWS in accordance with this request (see appendix I).

8.5 Consultation with the Maryland Department of Transportation (State Highway Administration)

The Maryland Scenic Byways Program resides within the Landscape Architectural Division (LAD) of the MD SHA Office of Environmental Design (OED). During the development of the CMP, various offices within MD SHA provided advice and coordination regarding:

- the highway safety analysis (providing traffic and crash history data) (appendix P)
- the development of transportation strategies through its various offices, especially the OED (through its context sensitive solutions approach for guiding future work along the travel route)
- for coordinating any wayfinding and signage strategies through its Office of Traffic and Safety, especially the Tourism Area and Corridor (TAC) Signing Program

In the future, the Maryland State Scenic Byway Coordinator will continue to monitor project activities on the trail. If MD SHA proposes a project that will result in significant changes to the trail route, then LAD will be included in project planning from preliminary engineering design forward. For resurfacing, restoration, rehabilitation, and maintenance work on the trail route, OED will generally provide recommendations for ways to ensure that projects preserve, maintain or enhance the character-defining features of the trail in a manner that is consistent with the CMP.

8.6 Coastal Zone Management Act/Federal Consistency

The federal Coastal Zone Management Act was passed by congress in 1972 to encourage the appropriate development and protection of the nation's coastal and shoreline resources. The Coastal Zone Management Act gives the primary role in managing these areas to the states. To assume this role, the state prepares a Coastal Zone Management Program (CZMP) document that describes the state's coastal resources and how these resources are managed. Activities and development affecting coastal resources, which involve the federal government, are evaluated through a process called "federal consistency". This process allows the public, local governments, tribes, and

state agencies an opportunity to review federal actions likely to affect coastal resource or uses. Three categories of activities trigger a federal consistency review: activities undertaken by a federal agency, activities that require federal approval, or activities that use federal funding.

Consultation with the Maryland Coastal Zone Management Program and the Virginia Coastal Resources Management Program will occur during review of draft CMP/EA. Each CZMP office will receive copies of the draft document, in addition to other materials that address the specific requirements of each CZMP. Additional consultation will occur to address any comments or concerns, and as necessary the document will be amended to ensure federal consistency.

8.7 Draft CMP Document Review

The Draft CMP for the Star-Spangled Banner National Historic Trail and Scenic Byway will be on public and agency review for 30 days. During the review period, the public will have opportunities to provide comments on the management alternatives, including the preferred alternative. The public will be able to comment on-line or in the form of email and letters, which must be post-marked by the due date posted on the website.

Following the comment period, the NPS planning team will evaluate comments received from federal agencies, organizations, businesses, and individuals regarding the draft plan. It will then prepare a finding of no significant impact (FONSI) document, as appropriate. The FONSI will incorporate changes made in response to the comments received, as appropriate, and will document the NPS selection of the preferred alternative. Once the FONSI is signed, the NPS will be able to proceed with implementation of management actions identified in the approved CMP.

As noted previously, the CMP presents an overview of potential actions and impacts related to the management concepts for the trail. Once the CMP is approved more detailed plans would be developed by the NPS and its partners for individual development and management projects along the trail, if and when funding becomes

available. These plans would require and be subject to additional environmental compliance reviews, such as those required pursuant to NEPA and Section 106 of the NHPA, as amended.

8.8 List of Draft CMP Recipients

Copies of and links to the Draft CMP are being distributed to the following officials, government agencies, and non-government organizations and institutions. The document will also be made available on the NPS Planning, Environment and Public Comment (PEPC) website or upon request to over 1000 individuals and organizations on the trail's mailing list.

- **Congressional Delegations**

Maryland

Senator Benjamin L. Cardin

Senator Barbara A. Mikulski

Rep. Donna F. Edwards

Rep. Andy Harris

Rep. Steny H. Hoyer

Rep. C.A. Dutch Ruppersberger

Rep. John P. Sarbanes

District of Columbia

Delegate Eleanor Holmes Norton

Virginia

Senator Mark Warner

Senator Jim Webb

Rep. Robert J. Wittman

Rep. James P. Moran

Rep. Gerald E. Connolly

- **Federal Agencies**

Advisory Council on Historic Preservation

Federal Highway Administration

Library of Congress

National Archives

National Park Service

C&O Canal National Historical Park

Fort McHenry National Monument and Historic Shrine

George Washington Birthplace National Monument

George Washington Memorial Parkway

National Capital Regional Office

National Capital Parks – East
 National Mall and Memorial Parks
 Northeast Regional Office
 Potomac Heritage National Scenic Trail
 Washington-Rochambeau Revolutionary Route
 National Historic Trail
 Smithsonian Institution
 National Museum of American History
 U.S. Fish and Wildlife Service
 Ecological Services Field Offices
 Chesapeake Bay Office
 Virginia Field Office
 National Wildlife Refuges (NWRs)
 Chesapeake Marshlands NWR Complex
 Blackwater NWR (including Garrett Island)
 Eastern Neck NWR
 Martin NWR
 Susquehanna NWR
 Patuxent Research Refuge
 Potomac River NWR Complex
 Featherstone NWR
 Mason Neck NWR
 Occoquan NWR
 Regional Offices
 Northeast Regional Office
 Washington Office
 US Department of Defense
 US Naval Academy Museum
 US Naval History and Heritage Command
 US Environmental Protection Agency
 National Oceanic and Atmospheric Administration

- **State and Local Agencies**

Anne Arundel County
 Department of Recreation and Parks
 Office of Planning and Zoning
 Baltimore City
 Department of Planning
 Department of Recreation and Parks
 Baltimore County
 Department of Planning
 Department of Recreation and Parks
 Calvert County
 Department of Economic Development
 Department of Planning and Zoning

Department of Recreation and Parks
 Charles County
 Department of Economic Development
 Department of Planning and Growth Management
 City of Havre de Grace Office of Tourism
 Cultural Tourism DC
 Destination DC
 District of Columbia Department of the Environment
 Kent County Office of Tourism Development
 State of Maryland
 Department of Natural Resources
 Maryland Park Service
 Department of Planning
 Maryland Historic Trust
 Office of Tourism Development
 Maryland-National Capital Park and Planning
 Commission (Prince George’s County)
 Maryland State Highway Administration
 Maryland War of 1812 Bicentennial Commission
 Northern Virginia Regional Park Authority
 Office of Historic Alexandria
 Preservation Virginia
 Prince George’s County
 Conference and Visitors Bureau
 Queen Anne’s County
 Department of Parks and Recreation
 Department of Tourism
 St. Mary’s County
 Department of Planning and Historic Preservation
 Department of Recreation and Parks
 Division of Tourism
 Town of Bladensburg
 Virginia
 Bicentennial of the American War of 1812
 Commission
 Department of Conservation and Recreation
 Department of Historic Resources
 Virginia Tourism Corporation

- **Tribes and American Indian Organizations**

Accohannock Indian Tribe
 Assateague Tribe
 Cedarville Band of Piscataway Indians
 Maryland Commission on Indian Affairs

Nause-Waiwash Indians
Piscataway Conoy Confederacy and Sub-Tribes
Piscataway Indian Nation
Pocomoke Tribe
Virginia Council on Indians

- **Partner Organizations**

Accokeek Foundation
Aman Memorial Trust American Architectural
Foundation (Octagon House)
Anacostia Trails Heritage Area
Anacostia Watershed Society
Annapolis Maritime Museum
Baltimore National Heritage Area
Calvert Marine Museum
Chesapeake Bay Maritime Museum
Chesapeake Conservancy
Concord Point Lighthouse and Museum
Deale Island Historical Society
Dumbarton House
General Society of the War of 1812
Fells Point Historical Society
Four Rivers Heritage Area
Friends of Hancock's Resolution
Friends of Jefferson Patterson Park and Museum
Friends of Patterson Park
Friends of Todd's Inheritance
Havre de Grace Maritime Museum

Historic Congressional Cemetery
Historic Elk Landing Foundation
Historic London Town and Garden
Historic St. Mary's City
Historic Sotterley, Inc.
Jefferson Patterson Park and Museum
Living Classrooms Foundation, Inc.
Lower Susquehanna Heritage Greenway
Maryland Historical Society
National Society US Daughters of the War of 1812
National Women's Party (Sewall-Belmont House)
North Point Community Coordinating Council
Patuxent Riverkeeper
Pride of Baltimore II, Inc.
Prince George's Heritage, Inc.
Robert E. Lee Memorial Association (Stratford Hall
Plantation
Sotterley Plantation
Southern Maryland Heritage Area Consortium
Southern Maryland Resource Conservation and
Development, Inc.
Star-Spangled Banner Flag House and Museum
Stratford Hall Plantation
Susquehanna Museum of Havre de Grace
Tangier Island History Museum
Visit Baltimore
White House Historical Association

Preparers and Planning Team Members

United States Department of Interior, National Park Service

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Paula Degen, Interpretive Specialist

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Andy Fitch, Information Technology Specialist

Amy Handen, Community Assistance Coordinator

Mike Land, Information Technology Specialist/Web Administrator

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Gay Vietzke, Superintendent (former)

NATIONAL CAPITAL REGIONAL OFFICE

Stephen Potter, Regional Archeologist

Gary Scott, Historian

NORTHEAST REGIONAL OFFICE

Joanne Blacoe, Interpretive Planner

Allen Cooper, Acting Chief of Park Planning & Special Studies, NER

Wink Hastings, Outdoor Recreation Planner, River, Trails and Conservation Assistance Program

Louis Hutchins, Chief Historian

Jackie Katzmire, Environmental Protection Specialist

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Glossary

Accessibility. Accessibility occurs when individuals with disabilities are able to reach, use, understand, or appreciate NPS programs, facilities, and services, or to enjoy the same benefits that are available to persons without disabilities. (see also, “universal design”)

Advisory Council. A citizen group appointed by the Secretary of the Interior to advise on matters relating to the trail, including standards for the erection and maintenance of markers along the trail, and the administration of the trail.

Alternative. A possible course of action, one of several ways to achieve an objective or vision. The term is used in a GMP to describe different management actions.

Archeological quality. Characteristics of a scenic byway corridor that are physical evidence of historic or prehistoric human life or activity and that are visible and capable of being inventoried and interpreted. The scenic byway corridor’s archeological interest, as identified through ruins, artifacts, structural remains, and other physical evidence have scientific significance that educate the viewer and stir an appreciation for the past.

Auto tour route. A designated route of all-weather highways that closely parallels the historic trail route.

Best management practices (BMPs). Practices that apply the most current means and technologies available to not only comply with mandatory environmental regulations, but also maintain a superior level of environmental performance.

Carrying capacity. The type and level of visitor use that can be accommodated while sustaining the desired resource and visitor experience conditions in a park.

Character-defining features. The intrinsic qualities or resources and the elements of the road and roadside context that contribute to the scenic and/or historic character of the trail and byway.

Comprehensive management plan (CMP). A planning document developed pursuant to Section 5(f) of the National Trails System Act, as amended clearly defines direction for management and use of the trail. CMPs are developed with broad public involvement.

Cooperating agency. A federal action other than the one preparing the National Environmental Policy Act document (lead agency) that has jurisdiction over the proposal by virtue of law or special expertise and that has been deemed a cooperating agency by the lead agency. State or local governments, and/or Indian tribes, may be designated cooperating agencies as appropriate.

Cooperative agreement. A clearly defined, written arrangement between two or more parties that allows some specific action to be taken while protecting the landowner interests (for example, to allow access for resource protection and management, interpretation or recreation; to allow the posting of markers or signs; or to allow others to manage activities or developments)

Corridor. The road or highway right-of-way and the adjacent area that is visible from and extending along the highway. The distance the corridor extends from the highway can vary with different intrinsic qualities.

Corridor management plan. A written document that specifies the actions, procedures, controls, operational practices, and administrative strategies to maintain the scenic, historic, recreational, cultural, archeological, and natural qualities of a scenic byway.

Cultural landscape. A geographic area (including both cultural and natural resources and the wildlife and domestic animals therein) associated with a historic event, activity or person or exhibiting other cultural or aesthetic values. There are four types of cultural landscapes, not mutually exclusive: historic sites, historic designed landscapes, historic vernacular landscapes, and ethnographic landscapes.

Cultural quality. Evidence and expressions of the customs or traditions of a distinct group of people. Cultural features including, but not limited to, crafts, music, dance, rituals,

festivals, speech, food, special events, vernacular architecture, etc., are currently practiced. The cultural qualities of the corridor could highlight one or more significant communities and/or ethnic traditions.

Cultural resources. Aspects of a cultural system that are valued by or significantly representative of a culture or that contain significant information about a cultural. A cultural resource may be a tangible entity or a cultural practice. Tangible cultural resources are categorized as districts, sites, buildings, structures and objects for the National Register of Historic Places, and as archeological resources, cultural landscapes, structures, museum objects, and ethnographic resources for NPS management purposes.

Cumulative actions. Actions that, when viewed with other actions in the past, the present, or the foreseeable future regardless of who has undertaken or will undertake them, have an additive impact on the resource the proposal would affect.

Cumulative impact. The impacts of cumulative actions.

Desired condition. A qualitative description of the integrity and character for a set of resources and values, including visitor experiences, that park management has committed to achieve and maintain.

Direct effect. An impact that occurs as a result of the proposed action or alternative in the same place and at the same time as the action.

Direct federal acquisition. Purchase by the United States.

Environmental consequences. The scientific and analytic basis for comparing alternatives in an environmental impact statement, based on their environmental effects, including any unavoidable adverse effects. Environmental consequences include short-term, long-term, and cumulative impacts to ecological, aesthetic, historical, cultural, economic, and social environments.

Environmental assessment. A brief National Environmental Policy Act document that is prepared (a) to help determine

whether the impact of a proposal or alternatives could be significant; (b) aid NPS in compliance with NEPA by evaluating a proposal that will have no significant impacts, but that may have measurable adverse impacts; or (c) evaluate a proposal that either is not described on the list of categorically excluded actions, or is on the list but exceptional circumstances (Section 3.5) apply.

Environmental impact statement. A detailed National Environmental Policy Act document that is prepared when a proposal or alternatives have the potential for significant impact on the human environment.

Ethnographic resources. Objects and places, including sites, structures, landscapes, and natural resources, with traditional cultural meaning and value to associated peoples. Research and consultation with people identifies and explains the places and things they find culturally meaningful. Ethnographic resources eligible for the National Register are called traditional cultural properties.

Environmentally preferred alternative. Of the action alternatives analyzed, the one that would best promote the policies in NEPA Section 101.

Evocative landscape. A place possessing a feeling that expresses the aesthetic or historic sense of a particular period of time. This feeling results from the presence of physical features that, taken together, convey a landscape's historic character. For example, landscapes that generally relate the feeling of the early 19th century landscape in the Chesapeake Bay Region – or that are “evocative” of that landscape – would be those that are generally free from intrusion by the sights, sounds, and smells of modern development.

Fundamental resources and values. Those features, systems, processes, experiences, stories, scenes, sounds, smells, or other attributes, including opportunities for visitor enjoyment, determined to warrant primary consideration during planning and management because they are critical to achieving the park's purpose and maintaining its significance.

High potential route segment. From Section 12 of the National Trails System Act, this means, those segments of a trail which would afford a high quality recreation experience in a portion of the route having greater than average scenic values or affording an opportunity to vicariously share the experience of the original users of a historic route.

High potential historic site. From Section 12 of the National Trails System Act, this means those historic sites related to the route or sites in close proximity thereto, which provide opportunities to interpret the historical significance of the trail during the period of its major use. Criteria for consideration as high potential historic sites include historic significance, presence of visible historic remnants, scenic quality, and relative freedom from intrusion.

Historic quality. Legacies of the past that are distinctly associated with physical elements of the landscape, whether natural or manmade, that are of such historic significance that they educate the viewer and stir an appreciation for the past. The historic elements reflect the actions of people and may include buildings, settlement patterns, and other examples of human activity. Historic features can be inventoried, mapped, and interpreted. They possess integrity of location, design, setting, material, workmanship, feeling, and association.

Historic site. A landscape significant for its association with a historic event, activity or person.

Impact topics. Specific natural, cultural, or socioeconomic resources that would be affected by the proposed action or alternatives (including no action). The magnitude, duration, and timing of the effect to each of these resources are evaluated in the impact section of an EIS.

Impairment. An impact so severe that, in the professional judgment of a responsible NPS manager, it would harm the integrity of park resources or values and violate the 1916 NPS Organic Act.

Indicators of user capacity. Specific, measurable physical, ecological, or social variables that can be measured to track

changes in conditions caused by public use, so that progress toward attaining the desired conditions can be assessed.

Indirect effect. Reasonably foreseeable impacts that occur removed in time or space from the proposed action.

Interpretation. Activities or media designed to help people understand, appreciate, enjoy, and care for the natural and cultural environment.

Intrinsic qualities. Scenic, natural, historic, recreational, cultural, or archeological features that are considered representative, unique, irreplaceable, or distinctly characteristic of an area.

Issue. Some point of debate that needs to be decided. For CMP planning purposes issues can be divided into “major questions to be answered by the GMP” (also referred to as the decision points of the GMP) and the “NEPA issues” (usually environmental problems related to one or more of the planning alternatives).

Lead agency. The agency either preparing or taking primary responsibility for preparing the National Environmental Policy Act document.

Management concept. A brief, inspirational statement of the kind of place a park should be (a “vision” statement).

Memorandum of understanding. A mutual understanding between the National Park Service and a state or local government or another party that is set forth in a written document to which both parties are participants. A memorandum of understanding does not obligate funds. It is comparable to nonfederal cooperative agreements that may be negotiated between other parties.

Mitigation. Modification of a proposal to lessen the intensity of its impact on a particular resource.

Natural quality. Features in the visual environment that are in a relatively undisturbed state. These features predate the arrival of human populations and may include geological formations, fossils, landform, water bodies, vegetation, and

wildlife. There may be evidence of human activity, but the natural features reveal minimal disturbances.

Notice of intent. The notice submitted to the *Federal Register* that an environmental impact statement will be prepared. It describes the proposed action and alternatives, identifies a contact person in the National Park Service, and gives time, place, and descriptive details of the agency's proposed scoping process.

Other important resources and values. Attributes that are determined to be particularly important to park management and planning, although they are not related to the park's purpose and significance.

Park purpose. The specific reason(s) for establishing a particular park.

Potentially eligible for the National Register of Historic Places. Possessing qualities that may meet the criteria for eligibility in the National Register of Historic Places, as defined in 36 CFR 60.4, but not formally evaluated by the National Park Service to conclusively determine eligibility status in consultation with a state historic preservation officer.

Preferred alternative. The alternative an NPS decision-maker has identified as preferred at the draft EIS stage. It is identified to show the public which alternative is likely to be selected to help focus its comments.

Preservation. The act or process of applying measures to sustain the existing form, integrity, and material of a historic structure, landscape or object. Work may include preliminary measures to protect and stabilize the property, but generally focuses upon the ongoing preservation, maintenance, and repair of historic materials and features rather than extensive replacement and new work. Preservation involves the least change, and is the most respectful of historic materials. It maintains the form and material of the existing landscape.

Primary interpretive themes. The most important ideas or concepts to be communicated to the public about a park.

Projected implementation costs. A projection of the probably range of recurring annual costs, initial one-time costs, and life-cycle costs of plan implementation.

Public access sites. Places where the public can view the voyage routes from the land or gain physical access to the water along the voyage routes for boating, fishing, swimming or other recreational use; these places can be either publicly-owned or privately-owned (provided that the landowner has granted public access to the property).

Record of decision. The document that is prepared to substantiate a decision based on an environmental impact statement. It includes a statement of the decision made, a detailed discussion of decision rationale, and the reasons for not adopting all mitigation measures analyzed, if applicable.

Reconstruction. The act or process of depicting, by means of new construction, the form, features, and detailing of a non-surviving site, landscape, building, structure, or object for the purpose of replicating its appearance at a specific period of time and in its historic location. Reconstruction attempts to recapture the appearance of a property or an individual feature at a particular point in time, as confirmed by detailed historic documentation.

Recreational quality. Outdoor recreational activities directly association with and dependent upon the natural and cultural elements of the corridor's landscape. The recreational activities provide opportunities for active and passive recreational experiences. They include, but are not limited to, downhill skiing, rafting, boating, fishing, and hiking. Driving the road itself may qualify as a pleasurable recreational experience. The recreational activities may be seasonal, but the quality and importance of the recreational activities as seasonal operations must be well recognized.

Rehabilitation. Rehabilitation usually accommodates contemporary alterations or additions without altering significant historic features or materials, with successful projects involving minor to major change. Rehabilitation attempts to recapture the appearance of a property, or an individual feature at a particular point in time, as confirmed by detailed historic documentation.

Restoration. The act or process of accurately depicting the form, features, and character of a property as it appeared at a particular period of time by means of the removal of features from other periods in its history and reconstruction of missing features from the restoration period.

Scenic byway. A public road having special scenic, historic, recreational, cultural, archeological and/or natural qualities that have been recognized as such through legislation or some other official declaration. The terms “road” and “highway” are synonymous. They are not meant to define higher or lower functional classifications or wider or narrower cross-sections. The terms State Scenic Byway, National Scenic Byway, or All-American Road refer not only to the road or highway itself but also to the corridor through which it passes.

Scenic quality. The heightened visual experience derived from the view of natural and manmade elements of the visual environment of a scenic byway corridor. The characteristics of the landscape are strikingly distinct and offer a pleasing and most memorable visual experience. All elements of the landscape – landform, water, vegetation, and manmade development – contribute to the quality of the corridor’s visual environment. Everything present is in harmony and shares in the intrinsic qualities.

Significance. Statements of why, within a national, regional, and systemwide context, the park’s resources and values are important enough to warrant national park designation.

Scoping. Internal NPS decision-making on issues, alternatives, mitigation measures, the analysis boundary, appropriate level of documentation, lead and cooperating agency roles, available references and guidance, defining purpose and need, and so forth. External scoping is the early involvement of interested and affected public.

Special mandates. Legal mandates specific to the park that expand upon or contradict a park’s legislated purpose.

Stakeholders. Individuals and organizations that are actively involved in the project, or whose interests may be positively or negatively affected as a result of the project

execution/completion. They may also exert an influence over the project and its results. For GMP planning purposes, the term stakeholder includes NPS officials/staff as well as public and private sector partners and the public, which may have varying levels of involvement.

State. Each of several states, including Delaware, Maryland, Virginia, and the District of Columbia.

State scenic byway. A road or highway under state, federal, or local ownership that has been designated by the state through legislation or some other official declaration for its scenic, historic, recreational, cultural, archeological, or natural qualities. An official declaration is an action taken by a governor or that of an individual, board, committee, or political subdivision acting with granted authority on behalf of the state.

User capacity. The types and levels of visitor and other public use that can be accommodated while sustaining the desired resource conditions and visitor experiences that complement the purposes of a park.

Visitor experience. The perceptions, feeling, and interactions that visitors have with the park’s environment and programs. The experience is affected by the setting, the types and levels of activities permitted, and the interpretive techniques used to convey park themes.

Water trail. A water trail connects scenic and historical sites along a riverway, lakeshore, or bay coastline for the recreational and educational benefit of paddlers, boaters, and other water users. A water trail typically includes points of interest, access locations, day-use sites, and camping areas that are shown in a map-and-guide brochure or booklet. It may include both public and private lands with varying restrictions. Camping, for instance, may be restricted on some trails to those traveling by self-propelled craft and be open on other trails to powerboat users.

Without expense to the government. From Section 12 of the National Trails System Act, this means that no funds may be expended by federal agencies for the development of trail-related facilities or for the acquisition of lands or

interest in lands outside the exterior boundaries of federal areas. For the purposes of the preceding sentence, amounts made available to any state or political subdivision under the Land and Water Conservation Fund Act of 1965 or any other provision of law shall not be treated as an expense to the United States.

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Flag House (middle right): Visit Baltimore

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