

Chapter 1



USFWS

Great egret

The Purpose of, and Need for, Action

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1.1 Introduction

This draft Comprehensive Conservation Plan and Environmental Assessment (CCP/EA) for Presquile National Wildlife Refuge (NWR, refuge, Presquile) was prepared pursuant to the National Wildlife Refuge System Administration Act of 1966 (16 U.S.C. 668dd–668ee), as amended by the National Wildlife Refuge System Improvement Act of 1997 (Refuge Improvement Act) (Public Law 105-57; 111 Stat. 1253); the National Environmental Policy Act of 1969 (NEPA) (42 U.S.C. 4321 et seq.; 83 Stat. 852); and in conformance with United States Fish and Wildlife Service (Service, we, our) policy and legal mandates (see “The Service, its Policies and Legal Mandates,” below). The development of a CCP is subject to NEPA because the adoption and implementation of management actions analyzed in a CCP have the potential to affect the natural and human environment. This CCP will serve as a guide for the refuge’s management over the next 15 years.

In an effort to streamline the administrative requirements of the CCP development process and NEPA, this document combines required elements of a CCP and an EA. Our Regional Director’s final decision to adopt this plan would be documented in a Finding of No Significant Impact (FONSI), if appropriate, to satisfy NEPA requirements. To complete the CCP development process, we will produce a final CCP.

This draft CCP/EA has five chapters. Chapter 1 explains the purpose of, and need for, preparing a CCP, and sets the stage for four subsequent chapters and the appendixes. Chapter 1 also:

- Defines the refuge’s regional context and planning analysis area;
- Presents the mission, policies, and mandates affecting the development of the plan;
- Identifies other conservation plans we used as references;
- Clarifies the vision and goals that drive refuge management; and
- Describes the planning process we followed, including public and partner involvement, in the course of developing this plan.

Chapter 2, “Affected Environment,” describes the refuge’s regional and local setting, physical attributes, habitats, species, and other natural resources, and human-created environment of roads, trails, croplands, impoundments, and buildings.

Chapter 3, “Alternatives,” presents two management alternatives and their objectives and strategies for meeting refuge goals and addressing public issues. It also describes the activities that the Service expects to occur regardless of the alternative selected for the final CCP/EA. The range of alternatives we analyzed include continuing our present management of the refuge unchanged, increasing and enhancing opportunities for public uses through partnerships, restoring tidal marsh and tidal swamp habitats found on the refuge, and emphasizing habitat management with a wider, regional focus.

Chapter 4, “Environmental Consequences,” assesses the environmental effects of implementing each of two management alternatives. It predicts the foreseeable benefits and consequences affecting the socioeconomic, physical, cultural, and biological environments described in chapter 2.

Chapter 5, “Consultation, Coordination, and Preparation,” summarizes how the Service involved the public and our partners in the planning process. Also, it includes a list of Service and non-Service contributors to the planning effort.

A bibliography, glossary, list of acronyms and abbreviations, list of species scientific names, and five appendices provide additional supporting documentation and references used in this document.

Project Area

Presquile NWR is located near Hopewell, Chesterfield County, Virginia, and is approximately 20 miles southeast of Richmond, the State capital. The regional context of the project area is defined by the interactions of the nearby metropolitan area, the James River watershed, and the Chesapeake Bay Estuary (map 1.1).

Lands within the refuge were transferred to the U.S. Government as a gift under the provisions of the will of Dr. A.D. Williams, D.D.S. Presquile NWR was officially established in 1953 “...for use as an inviolate sanctuary, or for any other management purpose, for migratory birds” (Migratory Bird Conservation Act, 16 U.S.C. § 715d) (map 1.2). It is one of many important migratory bird stopover sites along the Atlantic Flyway, providing protected breeding habitat for State-listed threatened and endangered species, as well as many neotropical migrant bird species.

The 1,329-acre refuge comprises a variety of wildlife habitats: open waters of the James River and associated backwaters, tidal swamp forest, tidal freshwater marshes, grasslands, mixed mesic forest (transitional and mature), and river escarpment. This total acreage includes one acre held by the Service in right-of-way easements on adjacent private properties.

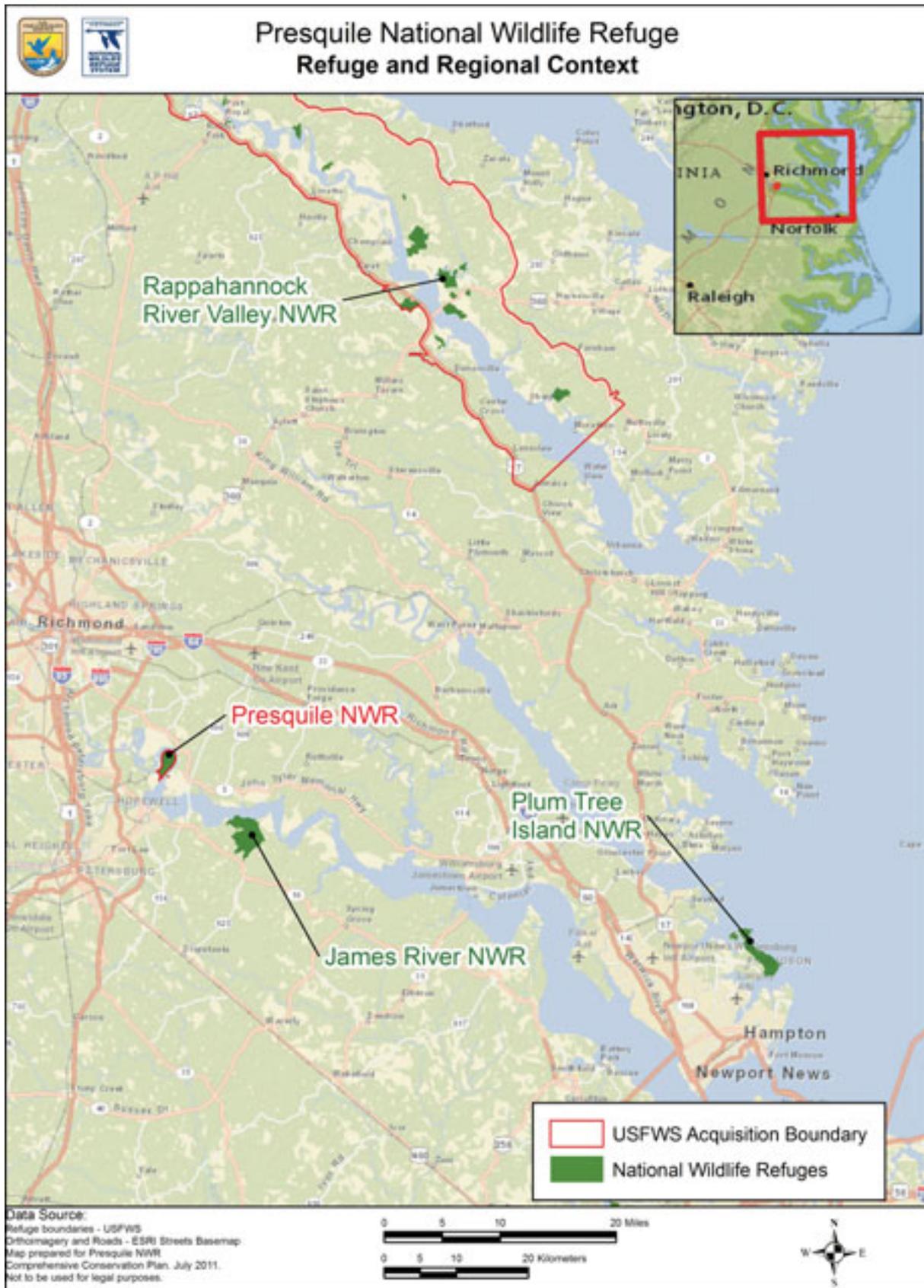
The refuge was administratively complexed with Rappahannock NWR, James River NWR, and Plum Tree Island NWR as the Eastern Virginia Rivers NWR Complex (Refuge Complex) in 2003 to increase management efficiencies. At that time, Presquile NWR became an unstaffed refuge. The refuge complex staff share responsibility for the four refuges and are located at Rappahannock NWR and in Charles City, Virginia. The CCP for Rappahannock NWR was completed in December 2009 and did not address Presquile NWR. Each of the remaining three NWRs will have their own CCPs.



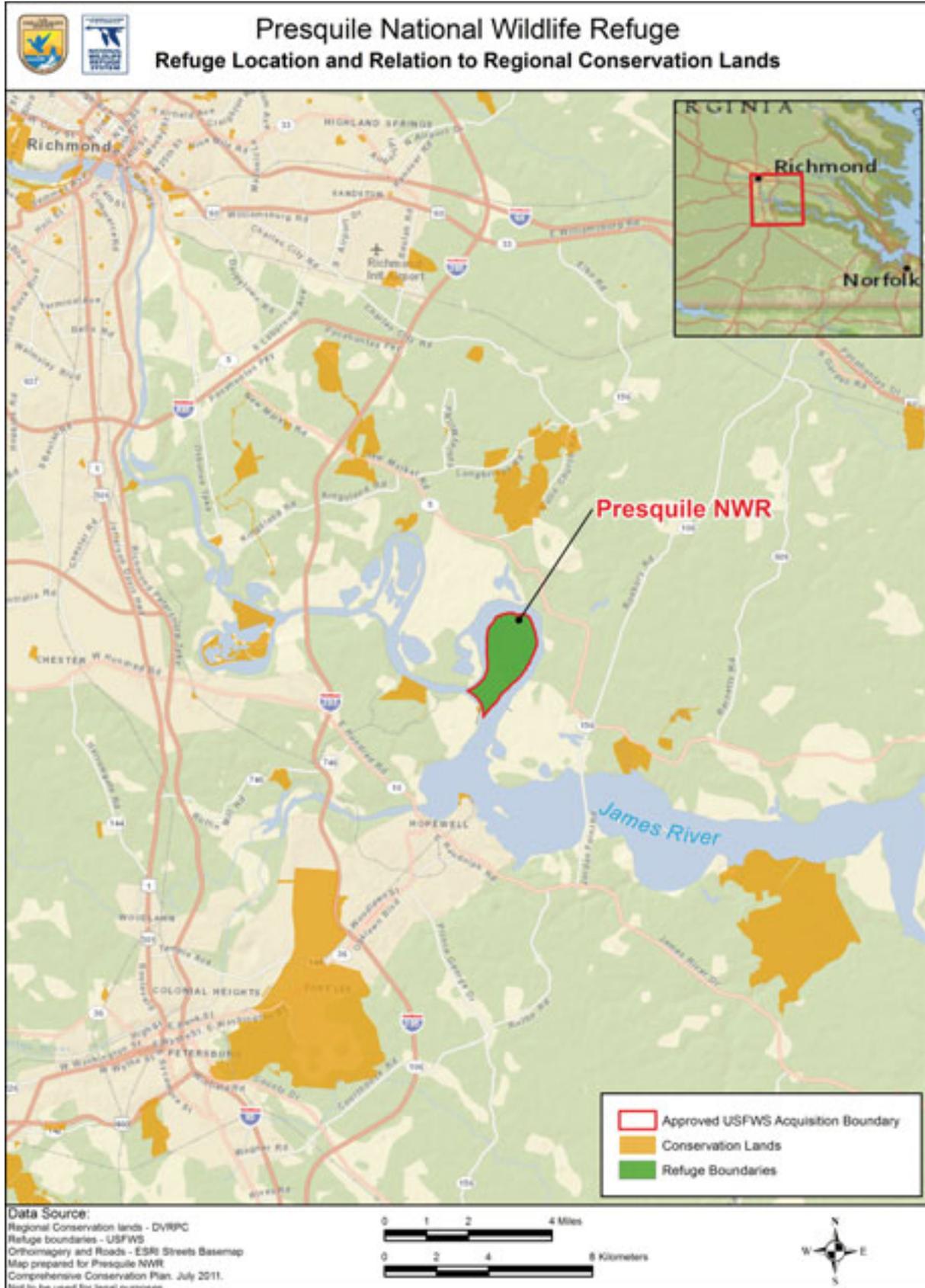
Cyrus Brame/USFWS

Little Creek in winter

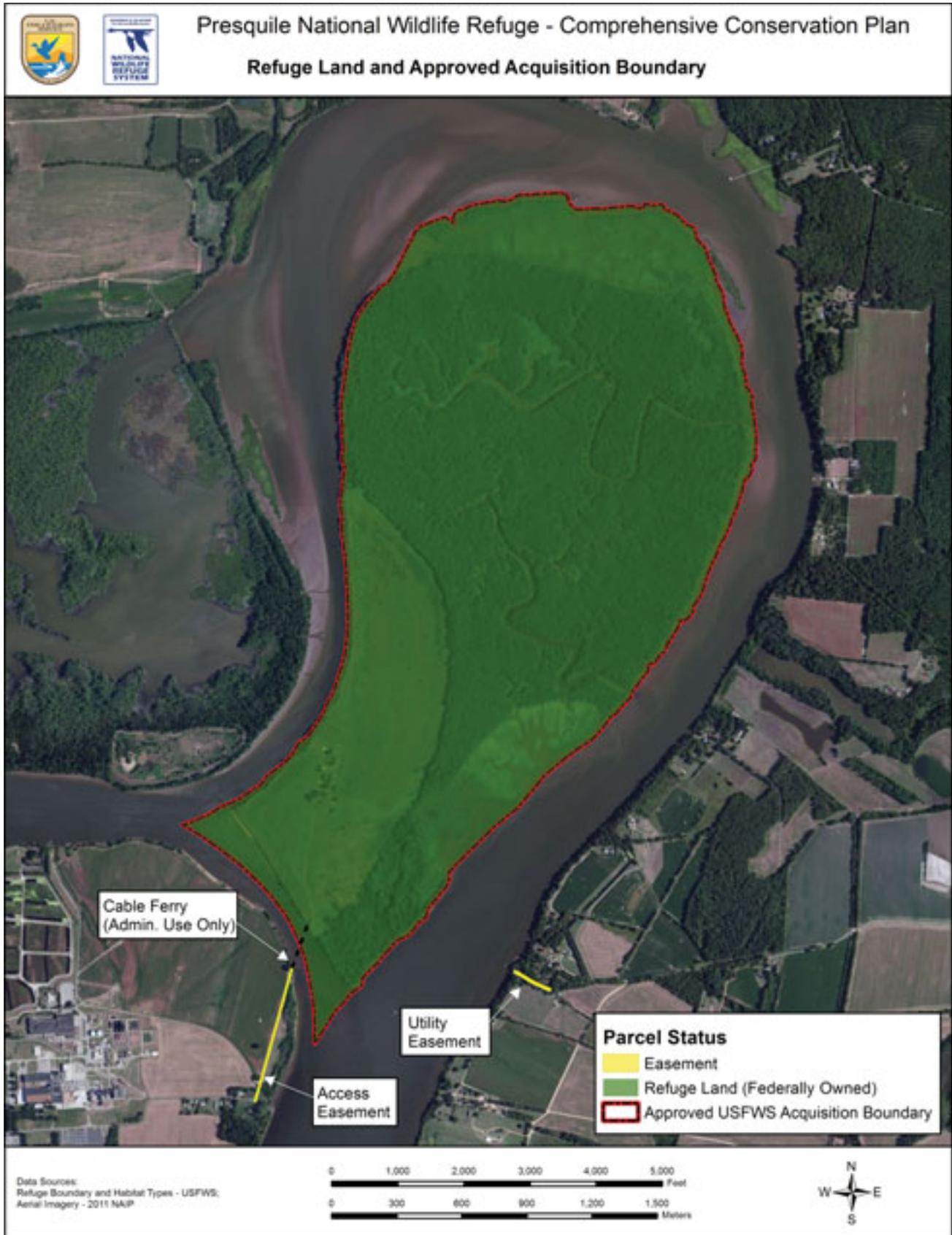
Map 1.1. Presquile NWR and Regional Context



Map 1.2. Refuge Location and Relation to Regional Conservation Lands



Map 1.3. Refuge Land and Approved Acquisition Boundary



1.2 Purpose of, and Need for, the Action

This CCP has been developed in the context of a changing and dynamic environment. The region's natural environment, human uses, and management direction have all changed over the past 60 years since refuge establishment. This CCP is designed to address management and protection of valuable natural resources into the future, a future where continued change is even more likely to occur. Thus, the purpose of this CCP is to provide strategic management direction to ensure that our management of the refuge will best mesh four key areas of concern. "Strategic" means we will implement approaches that are ecologically sound and sustainable in light of physical and biological change, and are also practical, viable, and economically realistic. We will develop and adopt a CCP for Presquile NWR that best:

- Abides by and contributes to the mission, mandates, and policies of the Service and the National Wildlife Refuge System (Refuge System);
- Meets the refuge's goals;
- Addresses key issues; and
- Responds to public concerns.

While explained in more depth below in this chapter, this CCP will address the following:

- 1) The mission of the Refuge System is

"To administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans."

- 2) Important Refuge System laws and policies concerning habitat management and wildlife conservation include a key Service policy addressing biological integrity, diversity, and environmental health, known as "BIDEH." Other Service policies regarding human uses require that all uses of a refuge be evaluated for their appropriateness, and direct that inappropriate, incompatible, or harmful uses be prevented or eliminated; compatible uses can be allowed and, in particular, six wildlife-dependent public uses should be facilitated whenever possible. Not every aspect of refuge management implemented at earlier times complies with current directives. Other policies and laws direct how long-term refuge planning is conducted. This CCP is designed to bring all aspects of refuge management into conformity with current laws and policies.
- 3) The refuge's goals describe the desired future condition of the refuge and provide a framework for developing alternative objectives to achieve that desired future condition. Along with a vision statement, five fundamental goals were developed for Presquile NWR to frame its purpose for *"use as an inviolate sanctuary, or for any other management purpose, for migratory birds"* and define how this can be best achieved in the future. Two of the goals direct management attention to protection and restoration of the ecological integrity, diversity, and sustainability of key habitat types (forested and emergent wetlands and mature and transitional mixed mesic forest). Other refuge goals address cultural resources, environmental education, and public uses of the refuge.
- 4) Through the NEPA scoping process and the refuge's understanding of its particular challenges, and incorporating the best available scientific and technical information, several key issues have been identified which this CCP will address. They are grouped into two broad categories (see section 1.7 below):

- Biological management
- Public use and interpretation of environmental and cultural resources

NEPA requires that a thorough analysis be completed of a range of alternatives, including the proposed action and no action. Ultimately, our Regional Director will select between these alternatives based on their greater or lesser ability to meet the purposes and needs described above. We analyze the socioeconomic, biological, physical, and cultural consequences of implementing each alternative. This draft CCP/EA evaluates two alternatives that represent different ways to achieve the areas of concern outlined above. For the alternatives, the refuge's goals will be achieved through different objectives, although there are some objectives and actions that are common to both alternatives. Alternative A fulfills the NEPA requirement for a "no action" alternative, one that proposes no change in the current management of the refuge. In other words, alternative A is to continue to manage the refuge as we do at the present time. Alternative B will focus on species of conservation concern, with emphasis on forest-dependent species. Alternative B is our preferred alternative and the action that we recommend for final selection.

Developing a CCP with partner and public involvement is vital to the success of management at every national wildlife refuge. A CCP will provide management direction for the next 15 years that:

- States clearly the desired future conditions of refuge habitat, wildlife, visitor services, staffing, and facilities;
- Provides State agencies, refuge neighbors, visitors, and partners with a clear understanding of the reasons for refuge management actions;
- Ensures that refuge management reflects the policies, legal mandates, and the mission of the Refuge System and refuge purpose;
- Ensures the compatibility of current and future public use;
- Provides long-term continuity in refuge management; and
- Provides justification for our staffing, operations, and maintenance, and projected budget requests.

After its completion, the CCP will be reviewed, evaluated, and subsequently updated approximately every 15 years. However, if and when significant new information becomes available, ecological conditions change, major refuge expansion occurs, or when we identify the need to do so, the plan can be reviewed sooner. All plan revisions will require NEPA compliance.

In developing and adopting a CCP for Presquile NWR, we want to accomplish the following goals:

- Goal 1.** Forested and Emergent Wetlands: Protect, maintain, and restore the integrity of the refuge's tidal swamp forest and tidal freshwater marsh to sustain native plants and wildlife, including species of conservation concern, and benefit aquatic resources of the James River watershed and Chesapeake Bay.
- Goal 2.** Upland Habitats: Protect, restore, and enhance the refuge's upland habitats, with emphasis on the mixed mesic forest ecological community, to sustain plants and wildlife native to the James River area, in particular those species of conservation concern.

Goal 3. Cultural Resources: Protect and conserve the refuge's cultural resources and landscape, and seek opportunities to increase knowledge and appreciation of the refuge's history as part of the James River region.

Goal 4. Environmental Education: Provide environmental education experiences for visitors to inspire appreciation and stewardship of the refuge in relation to the James River watershed, the Chesapeake Bay Estuary, and the National Wildlife Refuge System.

Goal 5. Wildlife-Dependent Recreation: Provide wildlife-dependent recreational opportunities (interpretation, wildlife observation, nature photography, and hunting) for visitors to enjoy and connect with nature, and to develop an enhanced appreciation for, and understanding of, the refuge's natural and cultural resources.

Development of a CCP addresses three needs. First, the Refuge Improvement Act requires that all refuges have a CCP in place to help fulfill the mission of the Refuge System by October 9, 2012. We anticipate that the final CCP for Presquile NWR will meet this deadline or will be close to finalization and approval by that date.

Second, there is currently no master plan establishing priorities and ensuring consistent and integrated management for Presquile NWR. The final CCP will guide management decisions and actions on the refuge during the next 15 years by presenting the combination of management goals, objectives, and strategies to be implemented on the refuge. The CCP will also help the Commonwealth of Virginia's natural resource agencies, our conservation partners, local communities, and the public understand our priorities and work with us to achieve common goals.

Third, management should be consistent with current policies. The new CCP will bring the refuge into conformity with all current law and policies.

In addition to the laws already mentioned, this section highlights Service policy, legal mandates, and existing regional, State, and local resource plans that directly influenced development of this draft CCP/EA.

1.3 The Service and Refuge System Policies and Mandates Guiding Planning

The U.S. Fish and Wildlife Service Mission and Policies

The U.S. Fish and Wildlife Service is a bureau within the Department of the Interior. The Service's mission is, "Working with others, to conserve, protect, and enhance fish, wildlife, and plants and their habitats for the continuing benefit of the American people."

Congress entrusts to the Service the conservation and protection of these national natural resources: migratory birds and fish, federally listed endangered or threatened species, interjurisdictional fish, wetlands, certain marine mammals, and national wildlife refuges. The Service also enforces Federal wildlife laws and international treaties on importing and exporting wildlife, assists states with their fish and wildlife programs, and helps other countries develop conservation programs.

The Service Manual (USFWS 2012a) contains the standing and continuing directives on implementing our authorities, responsibilities, and activities. The Service publishes special directives that affect the rights of citizens or the authorities of other agencies separately in the Code of Federal Regulations (CFR); the Service Manual does not duplicate them (<http://www.fws.gov/policy/direct.html>; accessed May 2012).

The National Wildlife Refuge System Mission

The Service administers the Refuge System, which is the world's largest network of lands and waters set aside specifically for the conservation of wildlife and the protection of ecosystems. More than 550 national wildlife refuges encompass more than 150 million acres of lands and waters in all 50 states and several island territories. Each year, more than 40 million visitors hunt, fish, observe, and photograph wildlife, or participate in environmental education and interpretation on refuges (USFWS 2007a).

In 1997, President Clinton signed into law the Refuge Improvement Act. This act establishes a unifying mission for the Refuge System and a new process for determining the compatibility of public uses on refuges, and requires us to prepare a CCP for each refuge. The act states that the Refuge System must focus on wildlife conservation first. It also states that the mission of the Refuge System, coupled with the purpose(s) for which each refuge was established, will provide the principal management direction on that refuge. The mission of the Refuge System is, "To administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans." (National Wildlife Refuge System Improvement Act; Public Law 105-57)

Policy on the National Wildlife Refuge System Mission, Goals, and Purposes

This policy (601 FW 1) sets forth the Refuge System mission noted above, how it relates to the Service mission, and explains the relationship of the Refuge System mission and goals, and the purpose(s) of each unit in the Refuge System. In addition, it identifies the following Refuge System goals:

- Conserve a diversity of fish, wildlife, and plants;
- Develop and maintain a network of habitats;
- Conserve those ecosystems, plant communities, and wetlands that are unique within the United States (U.S.);
- Provide and enhance opportunities to participate in compatible, wildlife-dependent recreation; and
- Help to foster public understanding and appreciation of the diversity of fish, wildlife, and plants and their habitats.

This policy also establishes management priorities for the Refuge System:

- Conserve fish, wildlife, and plants and their habitats;
- Facilitate compatible wildlife-dependent recreational uses; and
- Consider other appropriate and compatible uses.

Policy on Maintaining Biological Integrity, Diversity, and Environmental Health

This policy (601 FW 3) provides guidance on maintaining or restoring the biological integrity, diversity, and environmental health of the Refuge System, including the protection of a broad spectrum of fish, wildlife, and habitat resources in refuge ecosystems. It provides refuge managers with a process for evaluating the best management direction to prevent the additional degradation of environmental conditions and restore lost or severely degraded components of the environment. It also provides guidelines for dealing with external threats to the biological integrity, diversity, and environmental health of a refuge and its ecosystem.

Policy on Coordination and Cooperative Work with State Fish and Wildlife Agencies

This policy (601 FW 7) establishes procedures for coordinating and working cooperatively with state fish and wildlife agency representatives on management of units of the Refuge System. Effective conservation of fish, wildlife, plants, and their habitats depends on the professional relationship between managers at the state and Federal level. We acknowledge the unique expertise and role of state fish and wildlife agencies in the management of fish and wildlife. It encourages refuge managers to invite, coordinate, cooperate, and collaborate with state fish and wildlife agencies in a timely and meaningful opportunities to participate in the development and implementation of programs conducted under this policy. This opportunity will most commonly occur through state fish and wildlife agency representation on the CCP planning team.

Policy on Refuge System Planning

This policy (602 FW 1, 2, 3) establishes the requirements and guidance for Refuge System planning, including CCP/EAs and step-down management plans. It states that the Service will manage all refuges in accordance with an approved CCP/EA that, when implemented, will help:

- Achieve refuge purposes;
- Fulfill the Refuge System mission;
- Maintain and, where appropriate, restore the ecological integrity of each refuge and the Refuge System;
- Achieve the goals of the National Wilderness Preservation System and the National Wild and Scenic Rivers System; and
- Conform to other applicable laws, mandates, and policies.

That planning policy provides step-by-step directions and identifies the minimum requirements for developing all CCP/EAs. Among them, the Service is to review any existing special designation areas such as wilderness and wild and scenic rivers, specifically address the potential for any new special designations, conduct a wilderness review, and incorporate a summary of that review into each CCP/EA (602 FW 3).

Policy on the Appropriateness of Refuge Uses

Federal law and Service policy provide the direction and planning framework for protecting the Refuge System from inappropriate, incompatible, or harmful human activities and ensuring that visitors can enjoy its lands and waters. This policy (603 FW 1) provides a national framework for determining appropriate refuge uses to prevent or eliminate those that should not occur in the Refuge System. It describes the initial decision process the refuge manager follows when first considering whether to allow a proposed use on a refuge. An appropriate use must meet at least one of the following four conditions:

- 1) The use is a wildlife-dependent recreational use as identified in the Refuge Improvement Act.
- 2) The use contributes to fulfilling the refuge purpose(s), the Refuge System mission, or goals or objectives described in a refuge management plan approved after October 9, 1997, the date the Refuge Improvement Act became law.
- 3) The use is within the boundaries set by State regulations for the take of fish and wildlife.
- 4) The use has been found to be appropriate after concluding a specified findings process using 10 criteria.

Findings of appropriateness for specific public uses at Presquile NWR can be reviewed in appendix B.

Policy on Compatibility

This policy (603 FW 2) complements the appropriateness policy. Once a refuge manager finds a use appropriate, they conduct a further evaluation through a compatibility determination assessment. Compatibility determinations completed for those public uses determined to be appropriate are included in appendix B as part of this draft CCP/EA.

The direction in 603 FW 2 provides guidelines for determining compatibility of uses and procedures for documentation and periodic review of existing uses. Highlights of the guidance in that chapter follows:

- The Refuge Improvement Act and its regulations require an affirmative finding by the refuge manager on the compatibility of a public use before the Service allows it on a refuge.
- A compatible use is one “that will not materially interfere with or detract from the fulfillment of the mission of the Refuge System or the purposes of the refuge.”
- The act defines six wildlife-dependent uses that are to receive enhanced consideration on refuges: “hunting, fishing, wildlife observation and photography, and environmental education and interpretation.”
- The refuge manager may authorize those priority uses on a refuge when they are compatible and consistent with public safety.
- When the refuge manager publishes a compatibility determination, it will stipulate the required maximum reevaluation dates: 15 years for wildlife-dependent recreational uses or 10 years for other uses.
- However, the refuge manager may reevaluate the compatibility of a use at any time: for example, sooner than its mandatory date, or even before the Service completes the CCP/EA process, if new information reveals unacceptable impacts or incompatibility with refuge purposes (603 FW 2.11, 2.12).
- The refuge manager may allow or deny any use, even one that is compatible, based on other considerations such as public safety, policy, or available funding.

Policy on Wildlife-dependent Public Uses

This policy (605 FW 1) of the Service manual presents specific guidance on implementing management of the priority public uses, including the following criteria for a quality, wildlife-dependent recreation program that:

- Promotes safety of participants, other visitors, and facilities;
- Promotes compliance with applicable laws and regulations and responsible behavior;
- Minimizes or eliminates conflict with fish and wildlife population or habitat goals or objectives in an approved plan;
- Minimizes or eliminates conflicts with other compatible wildlife-dependent recreation;
- Minimizes conflicts with neighboring landowners;

- Promotes accessibility and availability to a broad spectrum of the American people;
- Promotes resource stewardship and conservation;
- Promotes public understanding and increases public appreciation of America's natural resources and our role in managing and conserving these resources;
- Provides reliable and reasonable opportunities to experience wildlife;
- Uses facilities that are accessible to people and blend into the natural setting; and
- Uses visitor satisfaction to help to define and evaluate programs.

**Refuge System
Vision—Conserving the
Future (2011)**

In July 2011, the Refuge System convened the “Conserving the Future—Wildlife Refuges and the Next Generation” conference to renew and update its 1999 vision document, originally called “Fulfilling the Promise.” After the conference and an extensive public engagement process, a renewed vision document was finalized in October 2011 (USFWS 2011). The document has 20 recommendations, covering a variety of topics from habitat and species management, visitor services, refuge planning, land conservation, communications, building partnerships, and urban refuges. Currently, implementation teams are developing strategies to help us accomplish the vision. We will incorporate implementation strategies as appropriate, in our step-down plans and refuge programs.

Other Mandates

Federal laws require the Service to identify and preserve its important historic structures, archaeological sites, and artifacts. NEPA mandates our consideration of cultural resources in planning Federal actions. The Refuge Improvement Act requires that the CCP identify the refuge's archaeological and cultural values. In addition, we consult with the State Historic Preservation Officer (SHPO) on the draft and final CCPs. The following four Federal laws also cover historic and archaeological resources on national wildlife refuges:

- The Archaeological Resources Protection Act (16 U.S.C. § 470aa–470ll; Pub.L. 96–95), approved October 31, 1979 (93 Stat. 721). The Archaeological Resources Protection Act establishes detailed requirements for issuance of permits for any excavation for, or removal of, archaeological resources from Federal or Native American lands. It also establishes civil and criminal penalties for the unauthorized excavation, removal, or damage of those resources; for any trafficking of those resources removed from Federal or Native American land in violation of any provision of Federal law; and for interstate and foreign commerce in such resources acquired, transported, or received in violation of any state or local law.
- The Archaeological and Historic Preservation Act (16 U.S.C. § 469–469c; Pub.L. 86–523), approved June 27, 1960 (74 Stat. 220), as amended by Pub.L. 93–291 approved May 24, 1974 (88 Stat. 174). The Archaeological and Historic Preservation Act carries out the policy established by the Historic Sites Act (see below). It directs Federal agencies to notify the Secretary of the Interior whenever they find that a Federal or federally assisted licensed or permitted project may cause the loss or destruction of significant scientific, prehistoric, or archaeological data. The act authorizes the use of appropriated, donated, or transferred funds for the recovery, protection, and preservation of that data.

- The Historic Sites, Buildings, and Antiquities Act (16 U.S.C. § 461–462, 464–467; 49 Stat. 666) of August 21, 1935, popularly known as the Historic Sites Act, as amended by Pub.L. 89–249, approved October 9, 1965 (79 Stat. 971). This Historic Sites Act declares it a national policy to preserve historic sites and objects of national significance, including those located on refuges. It provides procedures for designating, acquiring, administering, and protecting these sites and objects. Among other things, National Historic and Natural Landmarks are designated under the authority of this act. The remains of the Presquile House Site and Cemetery at Presquile NWR have a historic structure designation.



Meghan Carfoglio/USFWS

Cemetery at Presquile National Wildlife Refuge

- The National Historic Preservation Act of 1966 (16 U.S.C. § 470–470b, 470c–470n), Pub.L. 89–665, approved October 15, 1966 (80 Stat. 915), and repeatedly amended. The National Historic Preservation Act provides for the preservation of significant historical features (buildings, objects, and sites) through a grant-in-aid program to the states. It establishes the National Register of Historic Places (National Register) and a program of matching grants under the existing National Trust for Historic Preservation (16 U.S.C. § 468–468d). This act establishes an Advisory Council on Historic Preservation, which became a permanent, independent agency in Pub.L. 94–422, approved September 28, 1976 (90 Stat. 1319). The act created the Historic Preservation Fund. It directs Federal agencies to take into account the effects of their actions on items or sites listed or eligible for listing on the National Register. One previously documented archaeological site (Site 44CF120) at Presquile NWR may be eligible for listing in the National Register of Historic Places.
- The Service also owns and cares for museum properties. The most common are archaeological, zoological, and botanical collections, and historical photographs, objects, and art. Each refuge maintains an inventory of its museum property. Our Regional museum property coordinator in Hadley, Massachusetts, guides the refuges in caring for that property, and helps us comply with the Native American Grave Protection and Repatriation Act and Federal regulations governing Federal archaeological collections. Our program ensures that those collections will remain available to the public for learning and research.

Other Federal resource laws are also important to highlight as they are integral to developing a CCP/EA.

- The Wilderness Act of 1964 (16 U.S.C. 1131–1136; P.L. 88–577) establishes a National Wilderness Preservation System that is composed of federally owned areas designated by Congress as “wilderness areas.” The act directs each agency administering designated wilderness to preserve the wilderness character of areas within the National Wilderness Preservation System, and to administer the National Wilderness Preservation System for the use and enjoyment of the American people in a way that will leave those areas unimpaired for future use and enjoyment as wilderness. The act also directs the Secretary of the Interior, within 10 years, to review every roadless area of 5,000 acres or more and every roadless island (regardless of size) within National Wildlife Refuge and National Park Systems for inclusion in the National Wilderness Preservation System. Service planning policy requires that the Service evaluate the potential for wilderness on refuge lands, as appropriate, during the CCP/EA development process. Our wilderness review is included in this CCP/EA as appendix D.
- The Wild and Scenic Rivers Act of 1968, as amended, selects certain rivers of the Nation possessing remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values, preserves them in a free-flowing condition, and protects their local environments. Service planning policy requires that the Service evaluate the potential for wild and scenic rivers designation on refuge lands, as appropriate, during the CCP/EA development process. There are no rivers or segments of rivers that qualify for review within the boundary of the refuge; therefore, a wild and scenic river review was not conducted for this draft CCP/EA.

Our mandates also include orders and initiatives by the President, Secretary of the Interior, or Director of the Service. We highlight four of those below.

- Presidential Initiative America’s Great Outdoors—was issued on April 16, 2010. President Obama launched the America’s Great Outdoors (AGO) Initiative as a conservation and recreation effort that would help increase connections with American citizens and the outdoors. AGO takes as its premise that lasting conservation solutions should come from citizens who share in the responsibility to conserve, restore, and provide better access to our lands and waters.

In February 2011, a report was generated to lay the foundation for implementing this initiative. It can be accessed at: <http://americasgreatoutdoors.gov/> (accessed July 2012). This report identifies 10 major goals and 75 action items to advance this initiative, from expanding youth programs to increasing public awareness about conservation to better managing our public lands. Among these are three major place-based goals to focus the collective conservation and recreation efforts of the Federal government: create and enhance urban parks and greenspaces, renew and restore rivers, and conserves large, rural landscapes.

During the spring and summer of 2011, the Secretary sought recommendations for two specific projects in each state that would highlight opportunities to support the three place-based goals of the America’s Great Outdoors Initiative. In Virginia, the two projects identified are: 1) Fort Monroe National Historical Park, in Hampton, Virginia; and 2) Captain John Smith Chesapeake National Historic Trail. The Captain John Smith trail crosses much of eastern tidal Virginia, including Presquile NWR. Additional details on the trail are provided below in section 1.4. We also discuss more on our efforts to cooperate on this project in chapter 2, section 2.9.

- Presidential Executive Order 13443–Facilitation of Hunting Heritage and Wildlife Conservation was issued on August 16, 2007. The purpose of this order is to direct Federal agencies that have programs and activities affecting public land management, outdoor recreation, and wildlife management, including the Department of the Interior and the Department of Agriculture, to facilitate the expansion and enhancement of hunting opportunities and the management of game species and their habitat. Federal agencies are directed to pursue certain activities listed in the order, consistent with their missions. Those activities include managing wildlife and wildlife habitats on public lands in a manner that expands and enhances hunting opportunities, and working with state and tribal governments to manage wildlife and habitats to foster healthy and productive populations and provide appropriate opportunities for the public to hunt those species.
- Presidential Executive Order 13508–Chesapeake Bay Protection and Restoration, was issued on May 12, 2009. This order furthers the purpose of the Clean Water Act of 1972, as amended (33 U.S.C. 1251 et seq.), and other laws “...to protect and restore the health, heritage, natural resources, and social and economic value of the Nation’s largest estuarine ecosystem and the natural sustainability of its watershed.” It recognizes the Chesapeake Bay as “a national treasure constituting the largest estuary in the United States and one of the largest and most biologically productive estuaries in the world.”

It directs the establishment of a Federal Leadership Committee chaired by the Administrator of the U.S. Environmental Protection Agency (EPA), or their designee, with participation by all Federal agencies with jurisdiction in the bay. The Committee’s purpose is to lead the effort to restore the health of the Chesapeake Bay under a renewed commitment to control pollution from all sources as well as protect and restore habitat and living resources, conserve lands, and improve management of natural resources, all of which contribute to improved water quality and ecosystem health.

This order also develops a strategy for coordinated implementation of existing programs and projects, and an annual action plan and accomplishment reports. It also requires collaboration with state partners. The focus of the coordinated implementation plan will be to address: (1) water quality; (2) sources of pollution from agricultural lands and Federal lands and facilities; (3) protecting the bay’s resources as the climate changes; (4) expanding opportunities for public access; (5) conserving landscapes and ecosystems; and (6) the monitoring and accountability of activities.

- Secretarial Order 3289–Addressing the Impacts of Climate Change on America’s Water, Land, and Other Natural and Cultural Resources was issued on September 14, 2009. This order establishes a departmentwide, science-based approach to increasing our understanding of climate change and to coordinate an effective response to its impacts on tribes and on the land, water, ocean, fish and wildlife, and cultural heritage resources that the Department manages. The order establishes a “Climate Change Response Council” that will execute a coordinated Departmentwide strategy to increase scientific understanding and the development of adaptive management tools to address the impact of climate change on our natural and cultural resources. The council will help coordinate activities within and among Federal agencies. Land management agencies are directed to pursue appropriate activities to reduce their carbon footprint, adapt water management strategies to address the possibility of a shrinking water supply, and protect and manage land in anticipation of sea level rise, shifting wildlife populations and habitats, increased wildland fire threats, and an increase in invasive and exotic species.

Chapter 4, “Environmental Consequences,” evaluates this plan’s compliance with the acts noted above, and with the Clean Water Act of 1977 as amended (33 U.S.C. 1251, et seq.; Public Law 107–303), the Clean Air Act of 1970 as amended (42 U.S.C. 7401 et seq.), and the Endangered Species Act of 1973 (16 U.S.C. 1531–1544), as amended. Finally, the Service designed this draft CCP/EA to comply with NEPA and the Council on Environmental Quality Regulations for Implementing the Procedural Provisions of NEPA (40 CFR 1500–1508).

Pursuant to the Federal Coastal Zone Management Act, the National Oceanic and Atmospheric Administration approved the Virginia Coastal Zone Management Program in 1986. In accordance with the Virginia Coastal Zone Management Program requirements, a Federal Consistency Determination was prepared for the proposed action and is included in appendix E of this draft CCP/EA. We will share the results of that determination with the Regional Director for consideration while making a final decision regarding this EA.

While Service and Refuge System policies and each refuge’s purpose(s) provide the foundation for management, national wildlife refuges are administered consistent with a variety of other Federal laws, executive orders, treaties, interstate compacts, and regulations on the conservation and protection of natural and cultural resources. The “Digest of Federal Resource Laws of Interest to the U.S. Fish and Wildlife Service” lists them and can be accessed at: <http://www.fws.gov/laws/Lawsdigest.html> (accessed August 2011).

1.4 Conservation Plans and Initiatives Guiding the Proposed Action

National, Regional, and Local Plans and Priorities

Important guidance for habitat management and visitor service management at Presquile NWR has already been provided by a series of plans and their priorities.

Landscape Dynamics: Land Cover and Land Use

North Atlantic Landscape Conservation Cooperative Operations Plan (USFWS 2009a)

The Service is developing a coordinated network of landscape conservation cooperatives across the U.S., in part to address major environmental and human-related factors that limit fish and wildlife populations at the broadest of scales, including developing adaptation strategies in response to climate change. The landscape conservation cooperative is utilizing principles of strategic habitat conservation to develop and communicate landscape-scale scientific information to shape conservation across the northeastern U.S. This initial plan outlines the regional threats to conservation, priority species and habitats, as well as active regional partnerships.

The Nature Conservancy’s Chesapeake Bay Lowlands Ecoregional Plan (Draft) (TNC 2003)

The Chesapeake Bay Lowlands ecoregion is centered on the Chesapeake Bay and includes most of Delaware, all of the coastal plain in Maryland and the District of Columbia, and coastal Virginia south to the James River. Five major types of conservation targets were identified in the Chesapeake Bay Lowlands ecoregion: (1) matrix forest blocks; (2) aquatic ecosystems; (3) “significant conservation areas” in tidal waters (for estuarine, coastal, and marine targets); (4) natural communities; and (5) species. To the extent that some of these conservation targets overlap with the species and habitats found on Presquile NWR, they have been considered as part of this plan development.

The National Park Service’s Captain John Smith Chesapeake National Historic Trail (NPS 2010)

The National Park Service (NPS) administers the Captain John Smith Chesapeake National Historic Trail (NHT), the first national water trail in the U.S. Established in 2006, the trail consists of a series of water routes extending approximately 3,000 miles along the Chesapeake Bay and its tributaries in the

states of Virginia, Maryland, Delaware, and in the District of Columbia, tracing the 1607 to 1609 voyages of Captain John Smith to chart the land and waterways of the Chesapeake Bay. The trail complements the diverse resources of the Chesapeake Bay Gateways Network—a partnership of existing water trails, parks, museums, wildlife refuges, and other sites that provide interpretation and bay access—to make additional opportunities for education, recreation, and heritage tourism. As the Nation’s first national water trail, the Captain John Smith Chesapeake NHT will be most fully experienced by watercraft and at water access sites. However, visitors will also be able to view the trail setting and learn the stories from land. Numerous existing land sites along the voyage routes will interpret Smith’s explorations, native settlements and cultures, and the environment of the early 17th century.

Wildlife and Habitat

Virginia Wildlife Action Plan (VDGIF 2005)

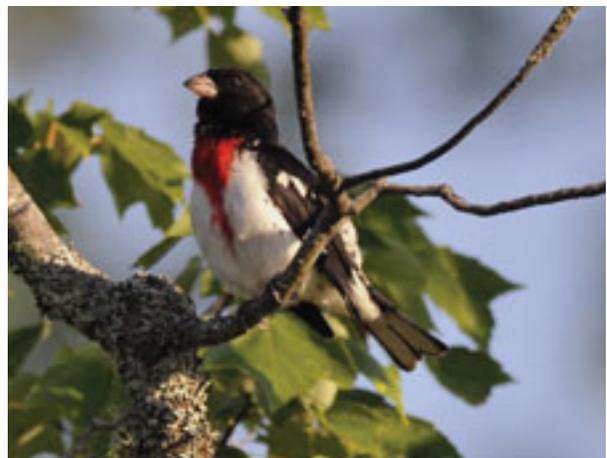
The Virginia Wildlife Action plan was completed in 2005 (VDGIF 2005). While creating a strategic focus for State fish and wildlife management agencies, this plan attempts to provide a Statewide perspective on conservation, presenting geographic, species, and habitat priorities. Presquile NWR protects several habitats that support species determined to be of conservation need by the State of Virginia. As such, species of conservation priority noted in the Wildlife Action Plan were considered in development of the refuge’s resources of concern.

USFWS Birds of Conservation Concern (USFWS 2008a)

This report identifies the migratory and non-migratory bird species (beyond those already designated as federally threatened or endangered) that represent the Service’s highest conservation priorities and draws attention to species in need of conservation action. The geographic scope includes the U.S. in its entirety, including island territories in the Pacific and Caribbean. Bird species considered for inclusion on lists in this report include nongame birds, gamebirds without hunting seasons, subsistence-hunted nongame birds in Alaska; and Endangered Species Act candidate, proposed endangered or threatened, and recently delisted species. Assessment scores are based on several factors, including population trends, threats, distribution, abundance, and area importance.

USFWS Migratory Bird Program Strategic Plan (USFWS 2004b)

The Migratory Bird Program Strategic Plan provides direction for the Service’s migratory bird management over the next decade (2004 to 2014). The plan contains a vision and recommendations for the Refuge System’s place in bird conservation. It defines strategies for the Service, including the Refuge System, to actively support bird conservation through



Rose-breasted grosbeak

Bill Thompson

monitoring, conservation, consultation, and recreation. Considerations for, to the extent it is practical, standard monitoring protocols, habitat assessment and management, and promoting nature-based recreation and education to forward the vision of the Migratory Bird Program Strategic Plan have been incorporated into this plan.

North American Waterfowl Management Plan (NAWMP 2004) and Joint Venture Plans

Originally written in 1986, the North American Waterfowl Management Plan describes a 15-year strategy for the U.S., Canada, and Mexico to restore and sustain waterfowl populations by protecting, restoring, and enhancing habitat. The plan committee, including representatives from all three countries, has modified the 1986 plan twice to account for biological, sociological, and economic changes that influenced the status of waterfowl and to allow cooperative habitat conservation. The most recent modification in 2004 updates the needs, priorities, and strategies for the next 15 years, and guides partners in strengthening the biological foundation of North American waterfowl conservation and stakeholder confidence in the direction of the plan. You may access the report at: <http://www.fws.gov/birdhabitat/NAWMP/files/ImplementationFramework.pdf> (accessed July 2011).

To convey goals, priorities, and strategies more effectively, that 2004 modification comprises two separate documents: Strategic Guidance and Implementation Framework. The former is for agency administrators and policy makers who set the direction and priorities for conservation. The latter includes supporting technical information for use by biologists and land managers.

The plans are implemented at the regional level in 14 habitat joint ventures and 3 species joint ventures (Arctic Goose, Black Duck, and Sea Duck). Presquile NWR lies in the Atlantic Coast Joint Venture, which includes all the Atlantic Flyway states from Maine to Florida and Puerto Rico. The Atlantic Coast Joint Venture Waterfowl Implementation Plan (2005) was completed in June 2005. The refuge lies within the plan's Lower James River Focus Area. You may view the focus area online at: <http://www.acjv.org> (accessed July 2011).

The waterfowl goal for the Atlantic Coast Joint Venture is to, "Protect and manage priority wetland habitats for migration, wintering, and production of waterfowl, with special consideration to black ducks, and to benefit other wildlife in the joint venture area." The Black Duck Joint Venture plan also relates to our CCP. American black ducks use the refuge during the winter and migration, but are less common during their breeding season as their primary breeding grounds are in Canada. The Black Duck Joint Venture Final Draft Strategic Plan (USFWS/CWS 1993) resides online at: <http://www.pwrc.usgs.gov/bd/jv> (accessed July 2011). We referred to both joint venture plans in developing the management objectives and strategies under goals 1 and 2.

Bird Conservation Plan for the Mid-Atlantic Coastal Plain (Physiographic Area 44) (PIF 1999)

Partners in Flight is a partnership of government agencies, private organizations, academic researchers, and private industry throughout North America focused on coordinating voluntary bird conservation efforts to benefit species at risk and their habitats. Bird conservation regions (BCRs) have been developed to guide management on a regional scale. Version 1.0 of the Mid-Atlantic Coastal Plain BCR was completed in 1999. Presquile NWR is located within the Coastal Plain Physiographic Province and thus is considering the conservation priorities of this plan along with other conservation plans.

Mid-Atlantic Coast Bird Conservation Region Implementation Plan (BCR 30) (USFWS 2008b)

The implementation plan for the BCR 30 combines regional plans, assessments, and research completed over the past two decades to develop continental-based bird conservation efforts. Presquile NWR is located within the southern extent of the Mid-Atlantic Coastal Plain. Many of the priority species listed for BCR 30 are also species of concern listed within the Virginia Wildlife Action Plan. These rankings and the recommendations of the inventory have been considered along with other local and regional conservation priorities.

1.5 Refuge Establishment Authority and Refuge Purpose

Refuge-specific Plans

The purpose of Presquile NWR is “...for use as an inviolate sanctuary, or for any other management purpose, for migratory birds” (Migratory Bird Conservation Act, 16 U.S.C. § 715d).

Existing refuge program-specific plans have been consulted either in their draft or final format to help guide decisionmaking. These plans will also be maintained and updated as necessary to ensure accordance with the recommendations of the final CCP.

Refuge Operational Plans (Step-down Plans)

The chapter Refuge Planning Policy (602 FW 4) identifies more than 25 step-down management plans that may be completed for each refuge, and refuge management determines which of the 25 step-down plans should be completed for their refuge. Those plans provide the details necessary to “step-down” general goals and objectives to specific strategies and implementation schedules. Some require annual revisions; others are revised on a 5- to 10-year schedule. Some require additional NEPA analysis, public involvement, and compatibility determinations before they can be implemented.

The following step-down plans have been completed and will be updated in accordance with the Service’s revision schedule:

- Energy management plan (2003)
- Wildlife disease surveillance and contingency plan (2006)
- Fire management plan (2008)
- Safety plan (2010)
- Public deer hunt plan (2010)
- Hurricane action plan (2012)

The following step-down plans need to be prepared within 2 years of CCP approval:

- Inventory and monitoring plan
- Visitor services plan
- Habitat management plan
- Law enforcement plan

Refuge Vision

The planning team developed the following vision statement to provide a guiding philosophy and sense of purpose in the CCP/EA:

Presquile National Wildlife Refuge exemplifies the majesty of our natural world and the significance of the Lower James River as a major tributary of the Chesapeake Bay watershed. Throughout the year, bald eagles perch on the island’s forested shores and survey the rich assemblage of wildlife: the wake of the prehistoric sturgeon heading to spawn each spring, basking turtles in the warm spring sun, colorful warblers darting amongst trees all summer, and thousands of wintering waterfowl resting in the quiet waters of the winding river.

This isolated island bridges the modern world to its long and storied history of people connecting to the land. The joyful sound of children learning in the natural classroom echoes through the forest in this gateway to wild places. Stewardship fostered here generates action beyond the river in communities across their watershed.

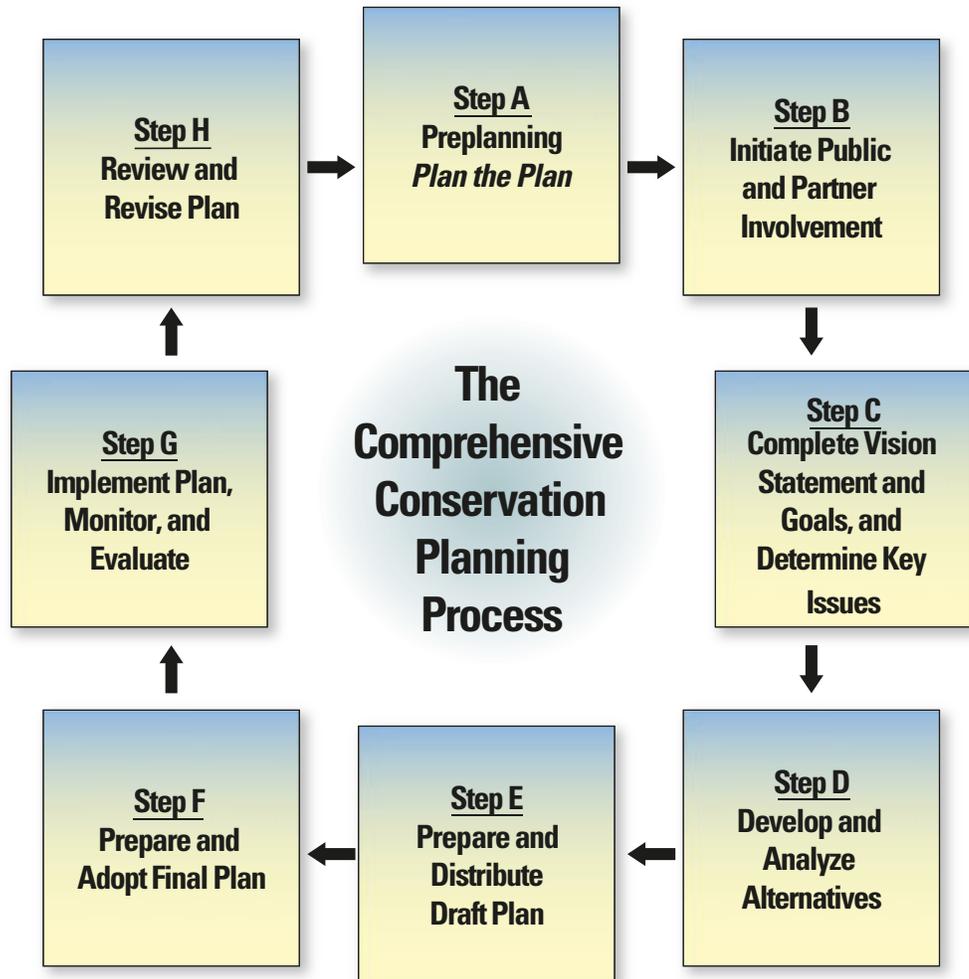
Refuge Goals

The planning team developed refuge goals (see section 1.2) after considering the vision statement, the purposes for establishing the refuge, the missions of the Service and the Refuge System, and the mandates, plans, and conservation initiatives noted above. These goals are intentionally broad, descriptive statements of purpose. They highlight elements that we will emphasize in its future management.

1.6 The Comprehensive Conservation Planning Process

Service policy (602 FW 3) establishes a planning process that also complies with NEPA. The full text of the policy and a detailed description of the planning steps can be viewed at: <http://policy.fws.gov/602fw3.html> (accessed May 2011). We followed the process depicted below in developing this draft CCP/EA. The planning process for the draft CCP/EA involved three primary steps: (1) initial planning, (2) public scoping, and (3) plan development. These steps are described below in more detail and depicted in figure 1.1. Additional information regarding the preparation of this CCP/EA is detailed in chapter 5.

Figure 1.1. The Comprehensive Conservation Planning Process
 (<http://policy.fws.gov/602fw3.html>; accessed May 2012)



Step A: Initial Planning

We began preparing a CCP for Presquile NWR in January 2011. Initially, we focused on collecting information on the refuge’s natural and cultural resources and public use program. The CCP core team of refuge and Regional Office staff and one representative from Virginia’s Department of Game and Inland Fisheries

started meeting to discuss existing information, draft a vision statement, and prepare for the public scoping meeting and a technical meeting of State and Federal partners.

Step B: Public Scoping

We initiated the public scoping process and distributed our first planning newsletter in March 2011. The planning newsletter included location, date, and time information about upcoming public scoping meetings which would serve to inform the public about current refuge management and elicit input on topics of interest to the public. We distributed the newsletter to our mailing list of over 160 parties, including media outlets, and posted announcements on the refuge Web site.

Two public scoping meetings were held on April 19, 2011, in Chester, Virginia, at the Chesterfield Public Library from 2:00 to 4:00 p.m. and another session at 6:30 to 8:30 p.m. These meetings were attended by seven individuals from the surrounding communities. A third public scoping meeting was held in Richmond, Virginia, at the Maymont Park Stone Barn from 6:30 to 8:30 p.m. on April 20, 2011. This meeting was attended by six individuals. Refuge and planning team staff were also in attendance at all three meetings, but not included in the participant attendance noted.

Steps C and D: Vision, Goals, and Alternatives Development

The core team held their agency scoping workshop on April 20, 2011, from 10:00 a.m. to 3:00 p.m. The workshop was attended by 14 representatives from county, State, and Federal agencies. Refuge and planning team staff were also in attendance at this workshop, but not included in the participant attendance noted. The purpose of the meeting was to identify issues, determine the significant resource values attributed to the refuge, and to seek advice from technical experts on what resources of conservation concern in the refuge planning area should be a management priority. We continued to consult with experts throughout 2011 and 2012, and to meet regularly as a core team, as we developed and refined our alternatives.

Step E: Draft CCP and NEPA Document

This draft CCP/EA represents planning step E to prepare a draft plan and NEPA document. We will publish a Notice of Availability in the *Federal Register* announcing our release of this draft for a 30-day period of public review and comment. During the comment period, we will also hold a public meeting to obtain comments directly from individuals. We expect to receive comments by regular mail, e-mail, or at the public meeting. After the comment period ends, we will review and summarize all of the comments received, develop our responses, revise the CCP as warranted based on the comments, and publish the comments and our responses in an appendix to the final CCP.

Step F: Adopt Final Plan

Once we have prepared the final CCP, we will submit it to our Regional Director for approval. The Regional Director will determine whether it warrants a FONSI, and may find its analysis sufficient to simultaneously issue a decision adopting a CCP. If the Regional Director has concerns, we may be required to revise the EA or complete an environmental impact statement (EIS). We will announce the final decision by publishing Notice of Availability in the *Federal Register*, where we will also notify people of the availability of the final CCP. That will complete planning step F to prepare and adopt a final plan.

1.7 Issues, Concerns, and Opportunities

The Service defines an issue as “any unsettled matter requiring a management decision” (USFWS 2012a). Issues can include an “initiative, opportunity, resource management problem, threat to a resource, conflict in use, or a public concern.” Issues arise from many sources, including refuge staff, other Service programs, State agencies, other Federal agencies, our partners, neighbors, user groups, or Congress. One of the distinctions among the proposed management alternatives is how each addresses those issues.

From agency and public meetings and planning team discussions, we developed a list of issues, concerns, opportunities, and other items requiring a management decision. We placed them in two categories: key issues and issues outside the scope of this analysis in this EA.

Key issues—Key issues are those the Service has the jurisdiction and authority to resolve. The key issues, together with refuge goals, form the basis for developing and comparing the different management alternatives we analyze in chapter 3. The varying alternatives were generated by the wide-ranging opinions on how to address key issues and conform with the goals and objectives. We describe them in detail below.

Issues and concerns outside the scope of this analysis—These topics fall outside the jurisdiction and authority of the Service or were deemed impractical. We discuss them after “Key Issues,” below, but this plan does not address them further.

The following summary provides a context for the issues that arose during the scoping process.

Key Issues

We derived the following key issues from public and partner meetings and further team discussions. How they are addressed and how well they support refuge goals primarily distinguishes the three management alternatives in chapter 3.

Biological Management

For national wildlife refuges, the conservation of wildlife and habitats is the highest priority, and serves as the foundation for all that the Service does. Many refuges were established for a very specific purpose, such as protecting a particular species or habitat. Presquile NWR’s purpose is broader in its scope as an inviolate sanctuary for migratory birds. As such, consideration of management alternatives will be made in light of conservation priorities and other management goals.

Protection and restoration of refuge habitat is an important issue addressed in this draft plan. The planning team received many opinions on specific actions or techniques to accomplish that endeavor. Some suggestions and actions fall outside Service jurisdiction. Some are best accomplished in partnership with other Federal or State agencies, or non-governmental organizations.

Specific questions asked regarding the topic of biological management, include:

1) *How will the refuge respond to potential impacts of climate change on existing refuge habitats?*

Climate change and its corresponding effects on sea level rise, species migrations or range distributions, extreme shifts in temperature and precipitation, and invasive species introductions may potentially pose dramatic threats and alterations to the habitats encompassed within the refuge. The ability to adapt or

address these ever-changing concerns requires a comprehensive understanding of the refuge's landscape context, individual habitats, species utilization, and their resilience.

Presquile NWR is located at or near sea level and is subject to tidal hydrology across a large portion of the refuge. Being located near the transition between the coastal and inland plant communities as well as the upper extent of the James River's tidal range, the refuge is located in a transitional zone for many plant, fish, and wildlife species. Many of the refuge habitats have developed under the coastal conditions present over the past 10,000 years. Given the projections for shifts in mean temperature and precipitation for the region, new introductions or altered distributions of both native and nonnative species are possible results of climate change.

The refuge is also evaluating potential habitat changes caused by rising sea levels. We have analyzed the affect of sea level rise on refuge habitats through the use of a Sea Level Affecting Marshes Model (SLAMM) analysis originally completed in 2009. Its results are discussed in chapter 2 and how the refuge will respond to its implications is noted in goal 1 for each alternative discussed in chapter 3.

2) *How will the refuge improve its biological integrity in light of landscape-level ecological concerns such as biological connectivity with other nearby habitats or impacts from air and noise pollution from surrounding industry?*

Fragmentation of both terrestrial and aquatic habitats can have adverse effects on many plant, fish, and wildlife species: reducing biodiversity, limiting genetic diversity, and increasing susceptibility to species invasion and other stressors. Agriculture, as well as commercial or residential development, isolates a patchwork of forest, wetland, and grassland habitats. Dams, dikes, and other water control structures fragment the available aquatic habitat in a similar manner. The refuge is a physical island, as well as a biological island, amidst a developing landscape.

As a result, few opportunities remain for improving biological connections on the refuge itself. Improving regional connectivity with nearby wildlife habitat corridors and promoting connectivity would likely benefit species that utilize the refuge. Most lands providing optimal connection to adjacent habitats are located on non-refuge lands and require extensive landowner or partner coordination. Even though connectivity is important to the protection and conservation of biodiversity found on refuge lands, there are limited opportunities within the jurisdiction of the Service outside of the refuge in surrounding lands and waters.

The refuge is also located in close proximity to several industrial and commercial areas along the James River. Four industrial plants are within one mile (1.6 km) of Presquile NWR. As described in chapter 2, several pollutants monitored in surrounding areas for human health and safety have repeatedly been recorded above the air quality standards set by either the EPA or Virginia Department of Environmental Quality. Since sources of air quality are generated outside of the refuge, the Service cannot directly control levels of emissions. As such, consideration of management alternatives will be made to ensure compliance with existing Federal, State, and local air quality regulations.

We envision utilizing a variety of partnerships with Federal, State, and non-governmental organizations to address these landscape-level concerns on the refuge. How the refuge will respond to connectivity needs is noted in goals 1 and 2 for each alternative discussed in chapter 3.

3) How will the refuge address erosion and sediment deposition issues on and adjacent to the refuge?

Erosion along the Turkey Island Cutoff poses a threat to loss of land and associated resources at Presquile NWR. The Turkey Island Cutoff, completed in the 1934, allows more efficient transport of commercial shipping along the James River. However, erosion of the southern boundary of the refuge has resulted in large losses of land in recent decades. Hurricane Camille in 1969 also resulted in a land loss. Based on a review of current and historic aerial photography, we have estimated that Presquile NWR has lost more than 11 acres of land since 1968.

Sediment deposition in other portions of the James River poses potential concerns related to waterfowl protection at the refuge. Sedimentation in the oxbow has resulted in the mean low water line moving into the former channel. Without dredging and other mitigation, this increased sedimentation could eventually result in a complete stop of water flow. Some concerns have been expressed that this sediment deposition may pose a threat to waterfowl habitat in the oxbow.

Addressing erosion to protect against further loss of land, as well as providing habitat for waterfowl, are primary concerns to refuge staff. How the refuge will respond to concerns related to tidal freshwater marsh conservation and restoration needs is noted in goals 2 and 5 for each alternative discussed in chapter 3.



Cyrus Brame/USFWS

Shoreline erosion

4) How will the refuge manage invasive, nonnative, and overabundant species?

Invasive plant species (such as Johnsongrass and Canada thistle) threaten refuge habitats by displacing native plant and animal species, degrading natural communities, and reducing natural diversity and wildlife habitat values. They out-compete native species by dominating light, water, and nutrient resources, and are particularly menacing when they dominate and overtake native habitats.

There are additional concerns that other invasive species (such as exotic insects, fish, and other animals) should be considered and managed as well. Climate change estimates may also result in a shift of species distributions or conditions across the region that may allow introduction of additional species in the future. Prioritization and management of invasive species should be put in context with other regional efforts to be most effective, but is compounded by limits on staff and resources available to implement treatments against invasive species.

How we respond to these concerns is discussed in goals 1 and 2 for each alternative discussed in chapter 3.

5) What will the refuge do to manage the 223 acres of grassland habitat?

The 223 acres of grassland habitat on the refuge today is known to have been farmed for over 300 years (Goode et al. 2009), which includes being farmed by the Service from 1953 to 2000. Since 2000, the farm fields have converted to grassland habitat through natural succession. This area provides a small amount of grassland habitat for migratory birds and other wildlife species that utilize open spaces. In a larger landscape context, this amount of habitat is becoming less common as farming practices convert hay fields to row crops and other fields become developed as a part of residential areas. In addition, the patch size of the remaining grassland has been decreasing, which reduces the value to patch-size-dependent wildlife.

The succession of grassland habitats to shrubs and early successional tree species to mid/late successional tree species is a natural process that occurs in the absence of a disturbance that maintains or resets the successional stage. Over time, as the habitat changes, the types of wildlife utilizing the area change due to each individual species' needs and life cycle. Natural disturbances include invasive species infestations, disease, fire, and large weather events such as hurricanes or tornadoes. Habitat management activities such as mowing, herbicide application, and prescribed fire can emulate the natural disturbance process and restore or maintain a desired successional stage.

In many instances in natural areas across the country, including refuges, habitat management activities are effective at restoring missing disturbance processes. The location of Presquile NWR makes several management activities more difficult. Prescribed fire has not been shown to be an effective tool for the refuge due to changing weather conditions, the proximity of roads and industries downwind of prevailing wind directions, and logistical obstacles associated with getting prescribed fire equipment and staff to the refuge. A significant concern with prescribed fire is smoke management and avoidance of negative impacts to local residents and industry. Conducting a prescribed burn that meets the habitat management objectives has been relatively unsuccessful or unpredictable. Mowing is another option for management; however, it requires equipment and labor resources to complete on a regular basis. Without active management, the grassland habitat of Presquile NWR would succeed toward early successional shrub and tree species.

There is concern that allowing the grassland habitat to convert to early successional tree species will negatively impact the wildlife species that are currently using it. There is value in this concern given the low abundance of this habitat on the larger landscape. Additionally, if the area succeeds to pioneer shrub and tree species, would the area be allowed to succeed to the later stages in the absence of a natural disturbance or would habitat management techniques be employed to reset succession to an early stage? Deciding how the current grassland habitat will be managed in the future will consider refuge resource limitations, benefits to wildlife on the landscape level, and maintaining/restoring natural functions of the refuge.

How we respond to these concerns is discussed in goal 2 for each alternative discussed in chapter 3.

Public Use and Interpretation of Environmental and Cultural Resources

Specific questions asked regarding the topic of cultural resources, environmental education, and public refuge use include:

1) *To what extent would the refuge interpret or educate the public about cultural resources, historical landscapes, and American Indian history and culture on or around the refuge?*

The area known today as Presquile NWR is, and was historically, an important location for Virginia Indians due to its location on the James River. The oldest evidence of American Indian presence at present day Presquile NWR dates to 3000 B.C. Virginia Indian tribes are known to have been present when Europeans settled the peninsula in 1613.

Presquile NWR offers the opportunity to educate the public about the cultural resources and landscapes on the refuge. The refuge itself is a relatively undisturbed area with minimal modern structures and limited access. One structure, the Menenak Discovery Center, uses the Algonquin word for island in its name and provides interpretive information about American Indians. This landscape can help provide a living history landscape connecting visitors to the area's natural and cultural history. Present day Presquile NWR includes lands and waters that supported American Indians for centuries, as well as early European settlements. The recent creation of the Captain John Smith Chesapeake NHT is promoting the connection of cultural landscapes along the James River, including Presquile NWR. During the scoping period for this CCP/EA, we received several inquiries from the public comments regarding the extent to which the refuge would educate and interpret the refuge's cultural history.

The refuge received comments during scoping emphasizing the value of the refuge area to American Indians. In particular, it has been recommended that we identify and communicate how natural resources would have been utilized by Virginia Indians, particularly the Appamattuck and Weyanock Tribes, when interpreting various natural resources. It was also emphasized that Presquile NWR provides an ideal place to demonstrate to the public how an appreciation of indigenous values regarding stewardship of land and wildlife relates to our current efforts in conservation and environmental stewardship.

How we respond to these concerns is discussed in goal 3 for each alternative discussed in chapter 3.

2) *What will the refuge do to improve its environmental education, interpretation, wildlife-dependent recreation, and compatible public uses?*

The isolated landscape of the refuge inherently limits public access and use. As a result of this, the refuge also offers unique opportunities for the visitors to experience the natural world. A small boat dock is the designated point of authorized access to the island for individuals and groups. The ability to move people to the refuge is limited due to the decommissioning of the cable ferry for public use. There is concern that the limited access to the refuge is limiting opportunities for environmental interpretation, wildlife-dependent recreation, and other compatible public uses. Management will consider opportunities to enhance public uses on the refuge by upgrading refuge infrastructure as necessary and by working with partners to achieve the refuge's goals for appropriate and compatible uses.

Participants in the refuge's annual deer hunt acquire a special permit. During public scoping, we received inquiries regarding the refuge's intent to offer turkey hunting.

How we respond to these concerns is discussed in goal 4 and 5 for each alternative discussed in chapter 3.

3) *How does the refuge plan to accommodate an increase in visitor population while maintaining protection of sensitive fish and wildlife resources?*

Currently, there is recognition that, as a society, Americans have become increasingly detached from nature due to changing lifestyles, past and current urban migrations, and shifts towards activities that reduce the amount of time individuals spend outside. Presquile NWR and other refuges can play an important role in providing opportunities for the public to reestablish their connection with nature.

During the public scoping period, we received comments noting concerns about the limited public access to this island refuge and concerns that improved refuge access would negatively impact fish and wildlife resources sensitive to even minimal human disturbance, such as walking along a trail or paddling the waters on or around the refuge. Management and development of visitor services will need to balance providing opportunities to the public while not harming the refuge's natural resources.

How we respond to these concerns is discussed in goals 4 and 5 for each alternative discussed in chapter 3.

4) *To what extent will the Service use partnerships with area agencies, businesses, and organizations to achieve the refuge's resource conservation and visitation goals?*

The physical location and role of the refuge in the larger landscape or regional context is strongly considered during the planning process for the refuge. However, there is concern that refuge management activities in several different areas including biological resource management, environmental education, and visitor services will be done independent of the needs and goals of area agencies, business, and organizations. Refuge management is driven by several Service policies and mandates (see earlier sections in chapter 1) along with the legislative acts used to create the refuge. Using these guidelines, management of the refuge will build on existing partnerships and explore additional opportunities in support of resource conservation and visitation at Presquile NWR and the surrounding area.

How we respond to these concerns is discussed in goals 1 through 5 for each alternative discussed in chapter 3.

5) *At what levels does the Service plan to continue staffing and management of the refuge?*

Several existing or proposed management activities such as riparian restoration, visitor services, and maintenance of the existing and proposed refuge infrastructure require a level of staff and financial resources to complete. Presquile NWR is encompassed within the Eastern Virginia Rivers NWR Complex. The complex shares a staff of eight full-time employees; however, no single staff person is solely dedicated to Presquile NWR itself.

There is concern that proposed management activities will not have the appropriate staffing levels or financial resources to be fully utilized. Mobilizing local volunteer groups, emphasizing partnerships, or recruiting summer college students interested in performing research on the biological resources of the refuge may provide opportunities to increase the capacity of the refuge to achieve management activities.

How we respond to these concerns is discussed in goals 4 and 5 for each alternative discussed in chapter 3.