Draft Environmental Assessment

Great Dismal Swamp National Wildlife Refuge Jericho Lane Trailhead Enhancement

August 05, 2024

Prepared by

Great Dismal Swamp National Wildlife Refuge
Suffolk, Virginia

E*stimated Lead Agency Total Costs Associated with Developing and Producing This Environmental Assessment:* $20,000

Jericho Lane Trailhead Enhancement Table of Contents

Environmental Assessment for Jericho Lane Trailhead Enhancement Project

Date: August 5, 2024

This Environmental Assessment (EA) is being prepared to evaluate the effects associated with this proposed action and complies with the National Environmental Policy Act (NEPA) in accordance with Council on Environmental Quality regulations (40 CFR 1500-1509) and Department of the Interior (43 CFR 46; 516 DM 8) and U.S. Fish and Wildlife Service (550 FW 3) regulations and policies. NEPA requires examination of the effects of proposed actions on the natural and human environment. A list of laws and executive orders evaluated through this EA is included at the end of this document.

Proposed Action

The U.S. Fish and Wildlife Service (FWS) Great Dismal Swamp National Wildlife Refuge (NWR, refuge) is proposing to enhance the Jericho Lane Trailhead in accordance with the goals, objectives, and strategy outlined in the refuge's Comprehensive Conservation Plan (CCP) (CCP 2006). The Jericho Lane Trailhead is located on White Marsh Road in Suffolk, Virginia. In cooperation with several local and regional partners, FWS proposes to construct an indoor/outdoor wildlife- and history-oriented recreation and education facility. The project will include acquiring land from willing sellers and construction of a future visitor contact/education facility, habitat enhancement and trail, outdoor restroom, interpretive information, and signage (Figure 1).

A proposed action is often iterative and may evolve during the NEPA process as the agency refines its proposal and gathers feedback from the public, tribes, and other agencies. Therefore, the final proposed action may be different from the original. The proposed action will be finalized at the conclusion of the public comment period for the EA.

Background

National wildlife refuges are guided by the mission and goals of the National Wildlife Refuge System (NWRS, Refuge System), the purposes of an individual refuge, FWS policy, and laws and international treaties. Relevant guidance includes the National Wildlife Refuge System Administration Act (NWRSAA) of 1966, as amended by the National Wildlife Refuge System Improvement Act of 1997, Refuge Recreation Act of 1962, and selected portions of the Code of Federal Regulations and Fish and Wildlife Service Manual.

Great Dismal Swamp NWR was established pursuant to the Dismal Swamp Act of 1974 (Public Law 93-402). The Dismal Swamp Act directs the FWS to: "Manage the area for the primary purpose of protecting and preserving the unique and outstanding ecosystem, as well as protecting and perpetuating the diversity of animal and plant life therein. Management of the Refuge will be directed to stabilize conditions in as wild a character as possible, consistent with achieving the Refuge's stated objectives."

> With a secondary purpose to: "Promote a public use program when not in conflict with the primary objectives of the Refuge."

For more information regarding the refuge, please see the CCP, which is available at the refuge headquarters office.

The mission of the Refuge System, as outlined by the NWRSAA, as amended by the Refuge System Improvement Act (16 U.S.C. 668dd et seq.), is to:

"... 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"

Purpose and Need for the Proposed Action

The NWRSAA mandates the Secretary of the Interior in administering the Refuge System to (16 U.S.C. 668dd(a)(4)):

- Provide for the conservation of fish, wildlife, and plants, and their habitats within the Refuge System;
- Ensure that the biological integrity, diversity, and environmental health of the Refuge System are maintained for the benefit of present and future generations of Americans;
- Ensure that the mission of the Refuge System described at 16 U.S.C. 668dd(a)(2) and the purposes of each refuge are carried out;
- Ensure effective coordination, interaction, and cooperation with owners of land adjoining refuges and the fish and wildlife agency of the States in which the units of the Refuge System are located;
- Recognize compatible wildlife-dependent recreational uses as the priority general public uses of the Refuge System through which the American public can develop an appreciation for fish and wildlife; and,
- Ensure that opportunities are provided within the Refuge System for compatible wildlife-dependent recreational uses.

The proposed action will provide a compatible wildlife-dependent recreational opportunity on Great Dismal Swamp NWR, specifically environmental and cultural education, wildlife observation, wildlife photography, and meet the following objective outlined in the CCP:

Environmental Education Program Objective: Provide a quality comprehensive environmental education program to the Hampton Roads and northeastern North Carolina region that incorporates the Service message, the cultural and natural history of the Great Dismal Swamp, the impact of man on the environment, and the resource management practices used by the refuge staff to protect and preserve the Great Dismal Swamp NWR."

Strategy: Purchase land and develop the Jericho Lane Trailhead

Although the need of the proposed action was identified nearly 20 years ago, it is still relevant today as shown by more recent priorities of the FWS and the Refuge System, including but not limited to, the Urban Wildlife Conservation Program (UWCP). The UWCP puts emphasis on wildlife conservation and education in urban areas, utilizing an innovative community-centered engagement model. To reach the goal of leaving a legacy of abundant and healthy wildlife and wild lands for future generations of Americans to enjoy, FWS must reach new and ethnically diverse audiences, understand these audiences, and work together with them to ensure conservation experiences are both positive and relevant. In addition, recent-past evaluations of the public use program at Great Dismal Swamp NWR have identified the Jericho Lane Trailhead as having great potential to serve as a community asset close to public transportation and schools. The UWCP established eight Standards of Excellence to guide Program activities; including *Be A Community Asset* to improve the quality of life through engaging urban communities. This project site is closest to the urban community and can be an integral asset in conjunction with local efforts to provide opportunities to further engage the local community in wildlife conservation, environmental stewardship, and social justice. The City of Suffolk concurs with the need for such an asset.

Alternatives

Alternative A – Visitor and Education Facility, Habitat Enhancement, Outdoor Restroom, and Trail Network [Proposed Action Alternative]

This action is to expand the strategy to achieve the Environmental Education Program Objective, as outlined in the refuge's CCP (CCP 2006; See Purpose and Need Section above). The project concept, then and today, is to provide a more visible and accessible facility for refuge visitors and local citizens to partake in outdoor recreation and education.

Under the Proposed Action Alternative, FWS proposes to construct an indoor/outdoor wildlife- and history-oriented recreation and education facility, in cooperation with several local and regional partners. The project includes construction of a future visitor facility with an educational classroom (i.e. Discovery Center), pollinator garden and forest demonstration sites along a trail with interpretive kiosks, an outdoor restroom, and new signage (Figure 1).

In addition, as adjacent lands are acquired, the trail network and interpretive information would be expanded. Under FWS authority and policy, two of three private parcels are under purchase agreements from the current landowners. Acquisition of these lands help meet the mission and purpose of the refuge by protecting and preserving the great dismal swamp ecosystem, supporting a public use program, and providing education and stewardship. These acquisitions have completed their own public comment period, according to FWS land acquisition policy.

All Federal, State, and local laws will be adhered to while implementing the action, particularly the National Historical Preservation Act (NHPA) and Endangered Species Act (ESA) to ensure those resources are not impacted by the proposed action. In addition, if/when funding becomes available for the visitor facility (i.e. Discovery Center), the Service will conduct additional NEPA analysis as needed and comply with the agency Compatibility policy to further assess the environmental effects and availability of resources of the proposed action prior to making decisions on the visitor facility.

Visitor Facility

As funding allows, a facility would be constructed to greet visitors and provide information, education, and orientation about the dismal swamp. As many visitors approach the refuge from the northern boundary, the Jericho Lane Trailhead is often the first visible entrance. This new facility would provide a more visible and "early" point of contact for visitors entering the refuge from the greater Hampton Roads region. See below for an example of the FWS' standard design for a stand-alone visitor facility, which would be approximately 7,700 square feet and approximately 30 feet high with an education classroom, exhibit area, bookstore, three offices, and restrooms (Figure 2).

The education classroom would host programs for school and civic groups. The classroom would be able to host 30 to 50 individuals on a regular and recurring basis due to its location, size, and amenities of electricity, water, and restrooms. Staff, partners, and volunteers would staff the facility and host scheduled programs.

Parking would be sufficient to hold buses and large groups, including available public transportation. In addition to the visitor facility for indoor visitation and programs, the adjacent proposed trail network and existing outdoor education pavilion would complement the facility (Figure 1).

If/When funding becomes available for the visitor facility (i.e. Discovery Center), the Service will conduct additional NEPA analysis as needed and comply with the agency Compatibility policy to further assess the environmental effects and availability of resources of the proposed action prior to making decisions on the visitor facility.

Habitat Enhancement and Outdoor Trail Network

A Nature Trail would be developed to connect the future visitor facility, existing pavilion, and parking (Figure 1). An interpretive kiosk would be installed at the trailhead. A 2-acre pollinator garden and forest demonstration sites would be created along the Nature Trail to serve as habitat enhancement for wildlife and wildlife observation, photography, and education for visitors. Forest demonstration sites consist of a suite of trees and shrubs planted in a small area to replicate the natural forest community located deeper in the swamp. Sites are proposed along the trail to represent each of the Atlantic white cedar, pond pine pocosin, long-leaf pine, and mesic mixed pine-hardwood forest communities.

The Woodland Trail (Figure 1) would also be built out from the Nature Trail and continue meandering through a newly acquired parcel that has been previously restored to native forest habitat. The majority of the Woodland Trail would utilize existing footpaths on the property, with the addition of two trail connections; one coming off the Nature Trail, and one connecting to Jericho Lane Road to the east, making it a looped trail. If the installation of boardwalks is needed in sensitive or wet areas, the refuge would adhere to all appropriate State and Federal agency coordination. The Woodland Trail would provide access to additional forested area to conduct outdoor environmental education. Throughout the trail there would be interpretive signage about the restoration, biological, and cultural significance of the area. The trail would also connect to the future adjacent City of Suffolk Park to create a one-stop location for users of all comfort levels for outdoor spaces (Figure 1).

Outdoor Restroom

An outdoor restroom facility would be located along the trail for visitor use. Depending on funding availability, the facility would either be a vault style restroom, or rehabilitation of an

existing house if acquired in the future by the refuge or a project partner. The prospective house has water and septic in place.

Entrance Signs

The project area would be showcased with new entrance signs along Whitemarsh Road and along the trail as coming from the city park.

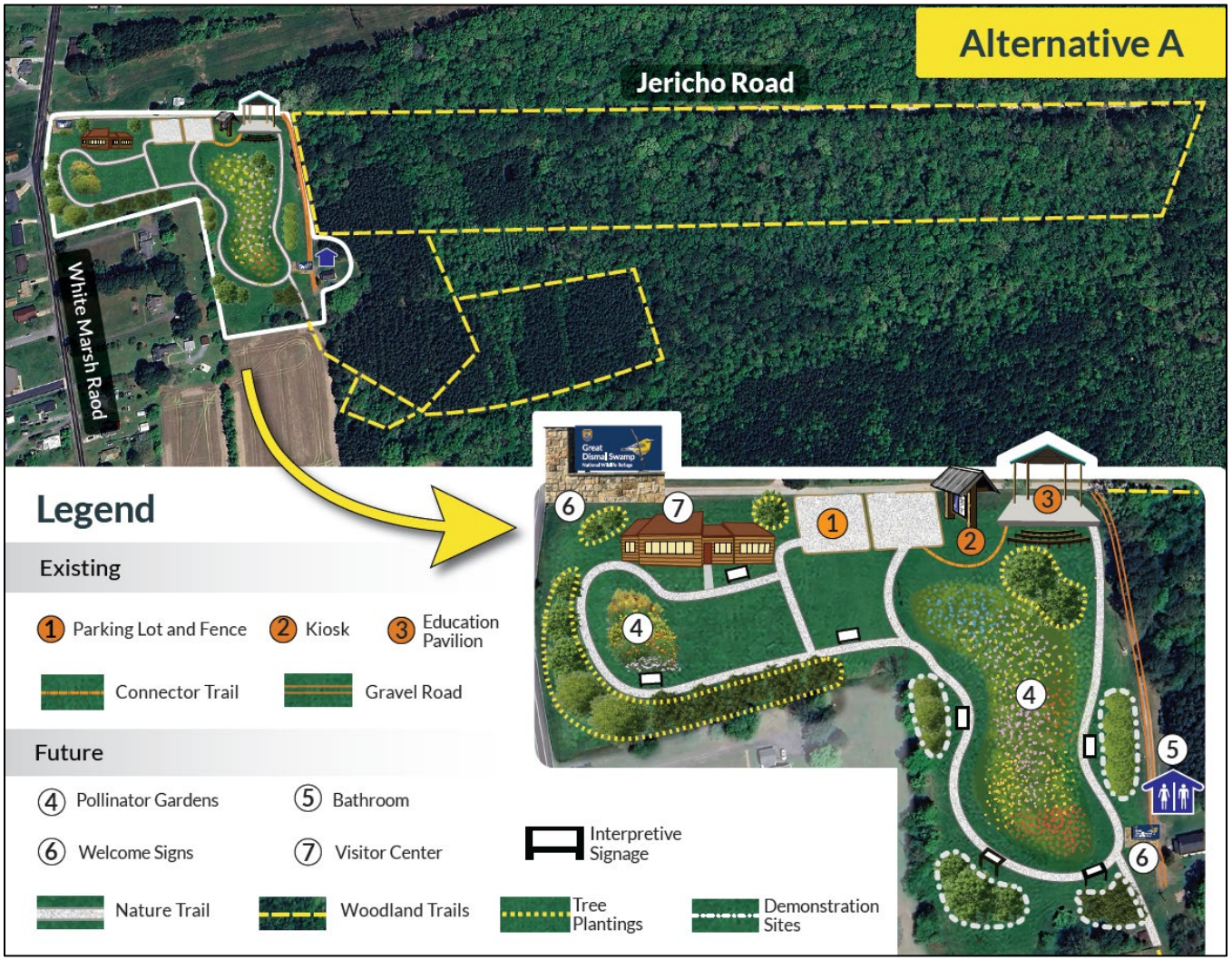

Figure 1. Site concept for the proposed action; not to scale.

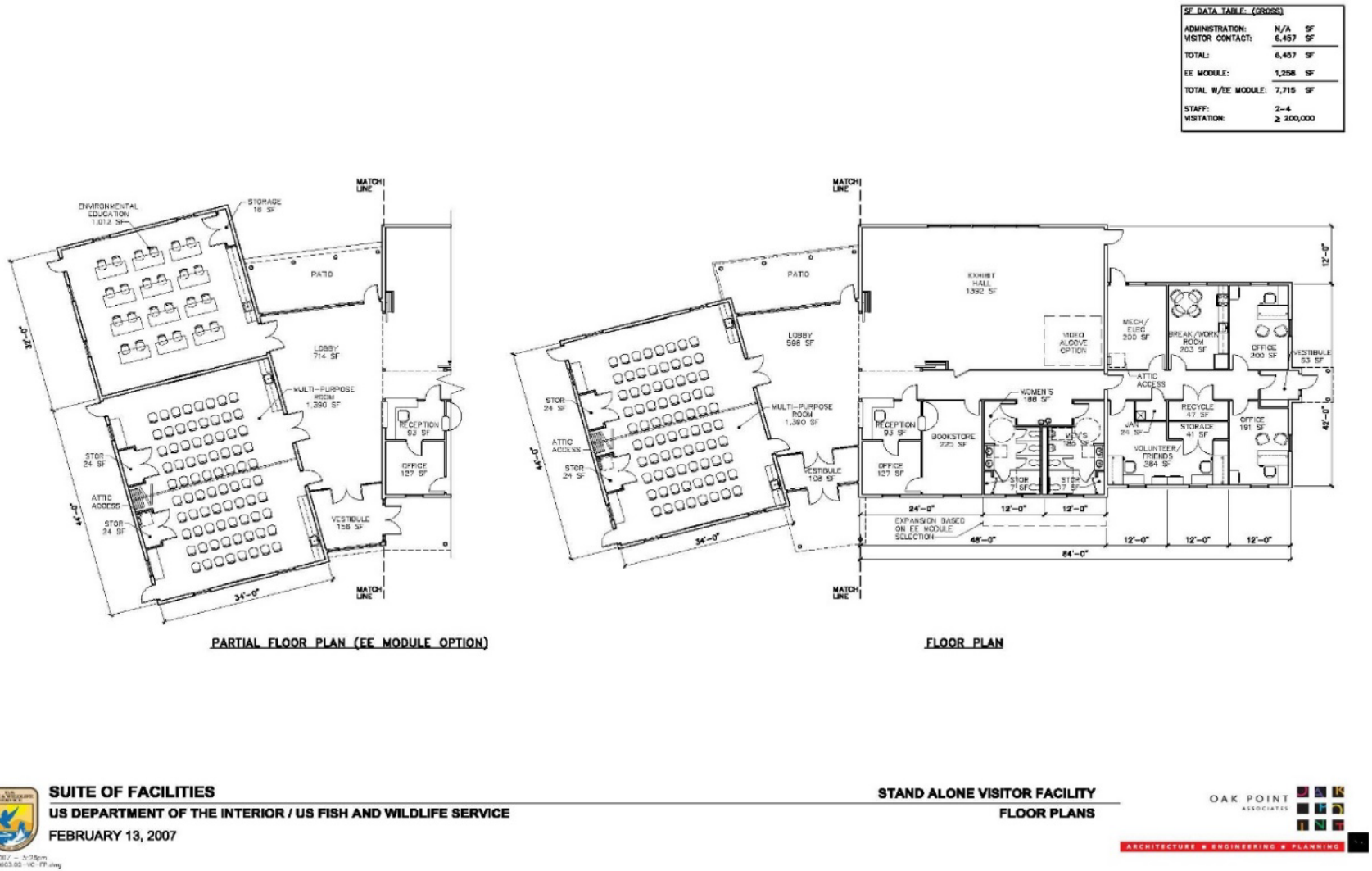

Figure 2. Conceptual floor plan for visitor facility

Alternative B – Habitat Enhancement, Outdoor Restroom, and Shortened Trail Network (no Visitor Facility)

This action is to expand, albeit to a lesser extent than Alternative A, the strategy to achieve the Environmental Education Program Objective, as outlined in the refuge's CCP (CCP 2006; See Purpose and Need Section above). The project concept is to provide a more visible and accessible facility for refuge visitors and local citizens to partake in outdoor recreation and environmental education (Figure 3).

Under this alternative, FWS would not construct a visitor and education facility (i.e. Discovery Center), nor the expanded trail network to adjacent parcels acquired in the future. This alternative would include the development of the 2-acre pollinator garden and forest demonstration sites along a new Nature Trail with interpretive kiosks, an outdoor restroom (as stated in Alternative A), and new signage on existing land owned by the government. Educational programs would be minimized to smaller groups, less frequently, and only when suitable outdoor conditions allow. No staff, partners, or volunteers would be present on a regular and recurring basis. Visitors would have to continue further south to the current headquarters office to reach personnel for assistance and information.

Acquisition of three parcels will continue; however, without improvements, to help meet the mission and purpose of the refuge by protecting and preserving the great dismal swamp ecosystem.

All Federal, State, and local laws will be adhered to while implementing this alternative, particularly the NHPA and ESA to ensure those resources are not impacted by the proposed action.

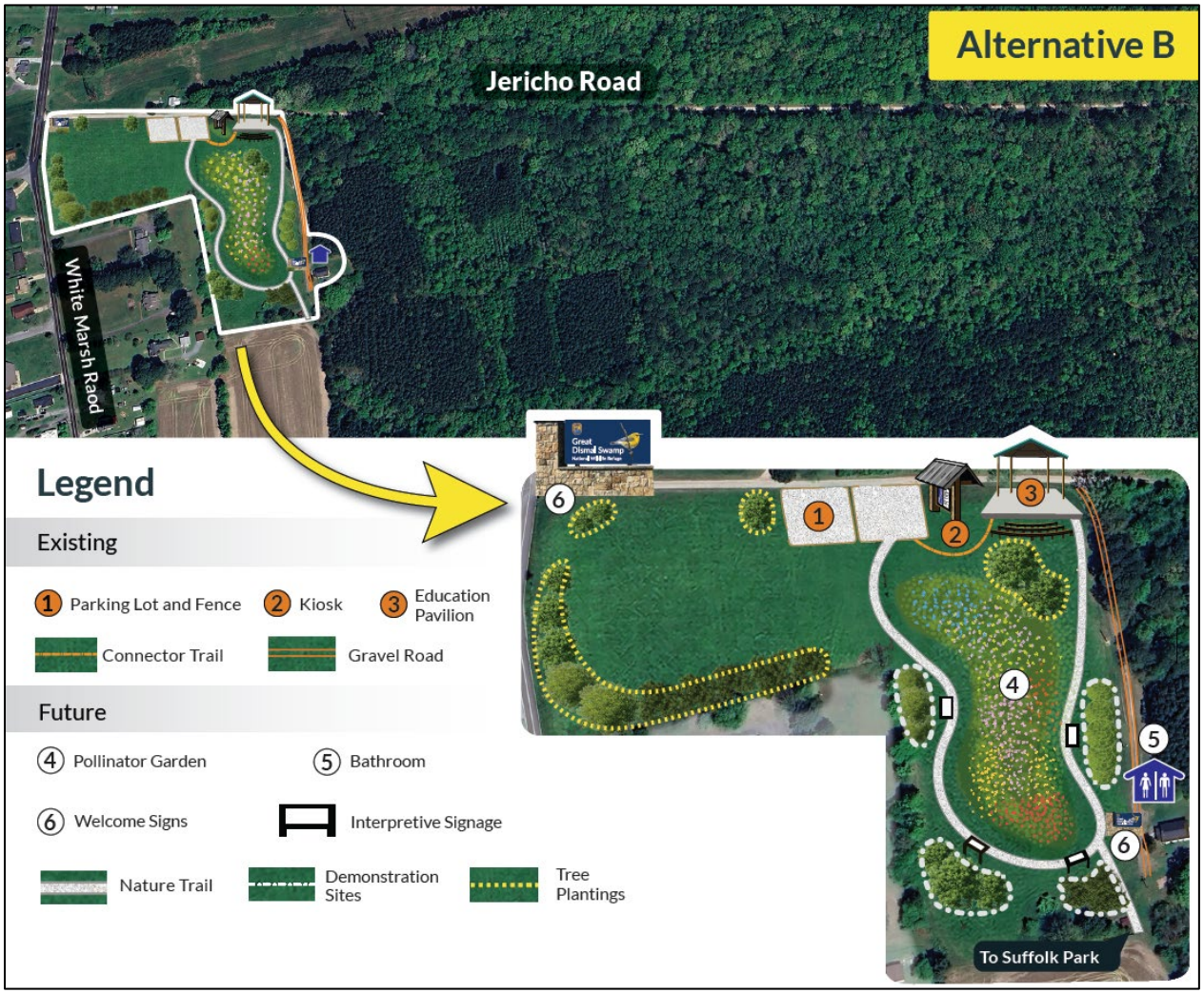

Figure 3. Site concept for the Alternative B; not to scale.

Alternative C – Current Management Strategies [No Action Alternative]

In this alternative, FWS would not implement any major enhancements to the Jericho Lane Trailhead as described in Alternatives A and B and would not significantly expand education opportunities at the site beyond those currently offered. FWS would continue to maintain the existing assets along the trailhead including the welcome signage, outdoor pavilion and parking area (Figure 4). No visitor facility nor trails would be constructed. If and when the City of Suffolk develops their park to the south, visitors will have access to an existing gravel road to go between the existing pavilion and the City park. For wildlife observation and photography, visitors would continue to travel 2 miles down Jericho Lane to the existing parking area, with limited capacity. Educational programs at the existing pavilion would be minimized to smaller groups, less frequently, and only when suitable outdoor conditions allow. No staff, partners, or volunteers would be present on a regular and recurring basis. Visitors would have to continue further south to the current headquarters office to reach personnel for assistance and information.

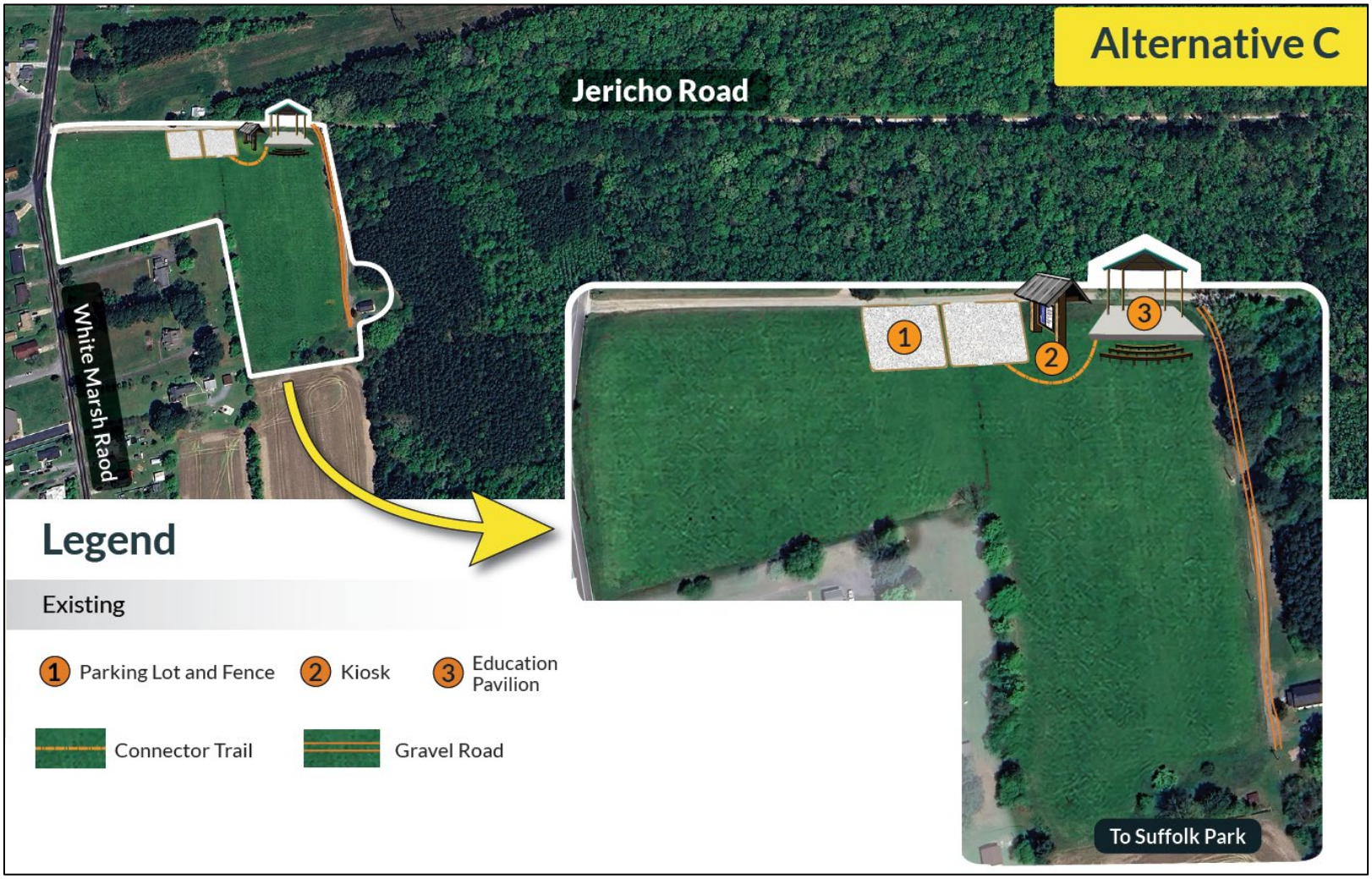

Figure 4. Site concept for the Alternative C (No Action); not to scale.

Affected Environment and Environmental Consequences

Great Dismal Swamp NWR protects 113,000 acres, a remnant of a once vast forested peatland on the Atlantic Coastal Plain in southeast Virginia and northeast North Carolina (Figure 5). The refuge currently occupies lands in Chesapeake and Suffolk, Virginia and Gates, Pasquotank and Camden Counties in North Carolina. It is located approximately 30 miles from the Atlantic Ocean and is delineated on the south by U.S. Highway 158 in North Carolina, east by the Dismal Swamp Canal, north by Route 58 in Virginia, and on the west by the Suffolk Scarp. The refuge is primarily a forested wetland, with 3,100-acre Lake Drummond in its center.

The proposed site is located in the northwest corner of the refuge, in Suffolk, VA. Most of the area is forested upland, with one, 8-acre grassland field (formerly agriculture) where the site improvements would be located (Figure 1). Currently, there is one trailhead sign and one information sign located on the 8-acre parcel. There are two resident homes adjacent to the site, which FWS is in the process of acquiring to meet the vision and purpose of this Trailhead Enhancement Project.

This section is organized by affected resource categories and for each affected resource discusses both (1) the existing environmental and socioeconomic baseline in the action area for each resource and (2) the direct, indirect, and cumulative effects and impacts of the proposed action and any alternatives on each resource. The effects and impacts of the proposed action considered here are changes to the human environment, whether adverse or beneficial, that are reasonably foreseeable and have a reasonably close causal relationship to the proposed action or alternatives. Cumulative impacts are defined as the impact on the environment which results from the incremental impact of 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.

This EA focuses on written analyses of the environmental consequences on a resource only when the impacts on that resource could be more than negligible and therefore considered an "affected resource." Any resources that would not be more than negligibly impacted by the action may be dismissed from further analyses. We determine significance by considering the degree of effects to that environment, and connected actions are used to assist in determining significance.

Impact Types:

- *Direct effects* are those which are caused by the action and occur at the same time and place.

- *Indirect effects* are those which are caused by the action and are later in time or farther removed in distance but are still reasonably foreseeable.
- *Cumulative impacts* result from the incremental impact of 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.

The following resources either (1) do not exist within the project area or (2) would either not be affected or only negligibly affected by the proposed action:

Floodplains - The project does not affect water flows or other factors relevant to flooding and floodplain landscapes. The project sits on higher elevation of the Suffolk Escarpment. Flow paths are slightly downhill into the adjacent refuge lands. Therefore, no effects to floodplains are expected as a result of the proposed action.

Wilderness - The refuge does not have any designated wilderness areas per the Wilderness Act, 16 U.S.C. 1131 et seq. nor does the refuge have any waterways that fall under the Wild and Scenic Rivers Act, 16 U.S.C. 1271 et seq. Given this, no effect to wilderness or wild and scenic rivers are expected. The proposed action complies with the Wilderness Act, 16 U.S.C. 1131 et seq. and the Wild and Scenic Rivers Act, 16 U.S.C. 1271 et seq.

As such, these resources are not further analyzed in this EA. As stated above, this section predicts the foreseeable impacts of implementing the proposals in each of the alternatives. When detailed information may be deficient or unavailable, we base our comparisons on professional judgment and experience. We usually identify potential impacts within a long-range timeframe (i.e., 15 years); beyond that timeframe, they become more speculative.

Please keep in mind the relatively small total land mass of the project area (approximately 8 acres), in comparison with the rest of the refuge (113,000 acres), the entire flyway or the breeding ranges of the many birds and wildlife that use it. Nevertheless, many of the actions we propose conform to other regional landscape plans, and provide positive, incremental contributions to those larger landscape goals.

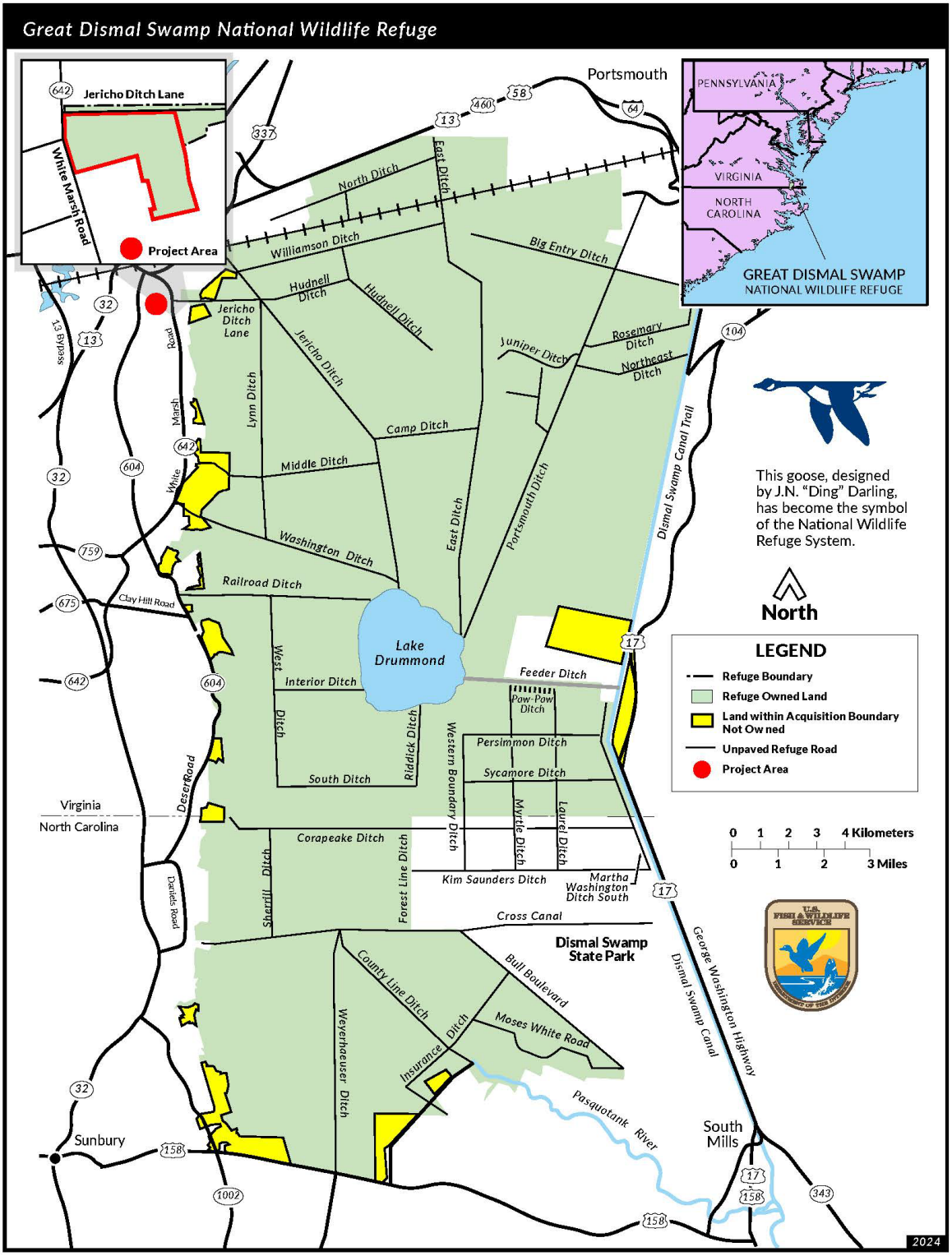

Figure 5. Boundary of Great Dismal Swamp National Wildlife Refuge

Natural Resources

Wildlife

Affected Environment

Description of Affected Environment for the Affected Resource

The refuge is home to many resident and migratory wildlife species. Over 500 species of birds, insects, fish, reptiles, amphibians, and mammals exist or migrate through the unique habitats of the swamp (CCP 2006; Appendix B). At the proposed site, neotropical migratory birds, deer, bear, snakes, and turtles inhabit the area.

Description of Cumulative Impacts, Environmental Trends, and Planned Actions

The project area is at the urban-rural interface in Suffolk, Virginia. To the immediate north and west is residential communities, and to the immediate south is agriculture and forested lands. Housing developments and additional single-family homes are a constant threat to the rural area surrounding the project site. It is expected to increase in the foreseeable future.

As part of the overall goal for the joint project, the City of Suffolk is planning to construct a traditional community park directly adjacent to the project site. As described above, these improvements will reduce available wildlife habitat for deer and birds.

The proposed action combined with additional development will reduce habitat availability for wildlife; however, it is expected to be minor. Most developable land is currently agriculture and generally provides artificial feeding habitat for wildlife. Directly east of the project area is thousands of acres of natural forested wetland habitat for wildlife.

Impacts on Affected Resource

Alternative A

Short-term impacts to wildlife can include temporary displacement from the area during daytime construction periods. Long-term impacts could also include disturbance due to increased noise and motion from vehicles and pedestrians in the area. Under alternative A, it is anticipated there will be a 50 percent increase in visitation, or 5,000 additional visitors to the area annually, sunrise to sunset, due to the new visitor and education facilities. In addition, approximately 3 acres of low grass habitat would be permanently lost for wildlife from constructing the proposed facility. If/When funding becomes available for the visitor facility (i.e. Discovery Center), the Service will conduct additional NEPA analysis as needed and comply with the agency Compatibility policy to further assess the environmental effects and availability of resources of the proposed action prior to making decisions on the visitor facility.

Public use can have negative effects on wildlife. Human disturbances can be particularly detrimental during certain critical periods of an animal's life or during times of the year when animals are in poor condition or more vulnerable to injury (Kuss et al., 1990). Research has shown that human presence associated with roads and trails can result in a simplification of

avian communities (fewer specialists and more generalists), reduced nest success, and reduced habitat quality (Hamann et al. 1999; Johnson and Temple 1990). Many species are more likely to flee, or flush with increased human presence, resulting in less time spent foraging, with a potentially adverse effect on building suitable energy reserves for egg laying and migration, food delivery rates to young, territory establishment and defense, and mate attraction. Research has shown that various activities result in differing levels of disturbance. For example, humans on foot typically cause greater disturbance than humans on bicycles, horses, or in cars (Stankowich 2008). Trails and roads create habitat edges, which lead to increased predation, parasitism, and displacement of interior-sensitive birds. Trails and roads can also restrict animal movement and dispersal.

The activities proposed under Alternative A are expected to have minimal impacts on local wildlife because of the small project footprint on a parcel that is currently mowed on a regular basis and the large acreage of adjacent refuge habitat available for wildlife. The pollinator garden and forest demonstration sites would increase and diversify habitat for butterflies, bees, bats, neotropical migratory birds, and deer.

Noise and light pollution impacts would be minimized by limiting construction activity to daylight hours and by requiring properly muffled equipment. Construction is anticipated to be conducted in phases, over several years, as funding becomes available for the improvements. Proper timing of construction activities can reduce these impacts. The majority of impacts are considered minor, but mortality of some individuals cannot be completely dismissed, particularly for ground dwelling species.

If adjacent lands are acquired, the additional trails would increase public use in a forested environment. The trails will follow existing trails maintained by the current landowner, except where connector trails need to be created to the various site amenities. All publicly accessible trails will avoid sensitive wildlife habitat.

Alternative B

Similar to Alternative A, wildlife may be temporarily displaced from the site during periods of public use and construction of trail with interpretive kiosks, an outdoor restroom, and new signage. Without construction of a visitor facility or an extended trail network, impacts to wildlife under Alternative B would be negligible when compared to the Alternative A. It is expected there would be a 10 percent increase in public use in the area (compared to Alternative A's 50% increase) because all use would be scheduled and not open sunrise to sunset. The pollinator garden and forest demonstration sites would increase and diversify habitat for butterflies, bees, bats, neotropical migratory birds, and deer.

Alternative C

Under the No Action Alternative, impacts to wildlife species would not change from current management activities.

Threatened and Endangered Species, and Other Special Status Species

Affected Environment

Description of Affected Environment for the Affected Resource

Great Dismal Swamp NWR uses IPaC (Information for Planning and Consultation) to identify threatened and endangered species, including for purposes of this evaluation. IPaC is a project planning tool that helps identify and address the impacts of projects on FWS-managed resources, such as species, habitat, and wetlands. In order to ensure a thorough review, this evaluation considers all threatened and endangered species identified by both the IPaC and ECOS databases. Note, however, that these databases are updated regularly, approximately every 90 days, and, thus, it is possible that the specific threatened and endangered species identified as present on or near the refuge may change between the finalization of this evaluation and your reading this document.

Staff present on the refuge and conducting this evaluation may have the best available information about the presence of fish and wildlife species. Thus, where species are identified by either database, but the refuge has information that the species is not actually present within the "action area," we have explained that as the basis for our determination that any construction or visitor activities will have no effect on or are not likely to adversely affect the species.

Two species are identified that could potentially occur within or near the proposed area: red-cockaded woodpecker (RCW) (*Picoides borealis*) and Northern long-eared bat (NLEB) (*Myotis septentrionalis*). RCW is a federally listed threatened species, which FWS reintroduced on the refuge within the pine-pocosin area southeast of Lake Drummond and 8 miles from the project area. There is no knowledge of RCW being in the project area and is not the preferred habitat.

NLEB is federally listed as an endangered species under the ESA. The bats typically spend winter hibernating in caves and mines, called hibernacula. They use areas in various sized caves or mines with constant temperatures, high humidity, and no air currents. During the summer, NLEBs roost singly or in colonies underneath bark, in cavities or in crevices of both live trees and snags (dead trees). These bats seem to be flexible in selecting roosts, choosing roost trees based on suitability to retain bark or provide cavities or crevices. They rarely roost in human structures like barns and sheds. No summer maternity roosts are known to occur on the refuge currently.

The highest concentrations of Virginia least trillium *(Trilium pusillum var. virginianus)* [globally rare] occur in areas near Jericho Ditch and Jericho Lane. It is also possible spotted turtles (at-

risk[1]) live in the ditches adjacent to the project area; the preferred habitat are shallow, slow-moving waters with aquatic vegetation. These species would not occur on currently owned land, where the infrastructure would be constructed. However, they likely occur in the forested wetlands planned to be acquired in the future where the extended trail network would be created (as described in Alternative A).

Description of Cumulative Impacts, Environmental Trends, and Planned Actions

The project area is at the urban-rural interface in Suffolk, Virginia. To the immediate north and west is residential communities, and to the immediate south is agriculture and forested lands. Housing developments and additional single-family homes are a constant threat to the rural area surrounding the project site. It is expected to increase in the foreseeable future.

As part of the overall goal for the joint project, the City of Suffolk is planning to construct a traditional community park directly adjacent to the project site. As described above, these improvements will reduce available wildlife habitat for deer and birds.

The proposed action combined with additional development will not reduce habitat availability, nor impact threatened and endangered species because most developable land is currently agriculture with no trees for the aforementioned species located in the project area. Directly east of the project area are thousands of acres of natural forested wetland habitat for the aforementioned species.

Impacts on Affected Resource

Alternative A

RCWs do not populate the project location, and it is not preferred habitat. Therefore, no effects are expected.

There are no standing trees that will be affected by the proposed action; therefore, no direct impact to Northern long-eared bat habitat. If NLEB reside in the area, they may be temporarily displaced from the site during construction periods and disturbed due to increased vehicles and pedestrians in the area. These activities are not likely to adversely affect bats. No known roost sites are located near the project site.

[1] The U.S. Fish and Wildlife Service's Policy Regarding Voluntary Prelisting Conservation Actions (735 FW 1, Page 34 of 64, Appendix 1) defines at-risk species as species that are currently unlisted but are declining and are at risk of becoming candidates for listing under the ESA (Service 2018). At-risk species may include, but are not limited to State-listed species, species identified by states as species of greatest conservation need, or species with state heritage ranks of G1 or G2.

As adjacent lands are acquired and the trails opened, Virginia least trillium may be disturbed if visitors stray from the designated trail. Trails would not be developed in high density areas. Also, interpretive signage would be installed to educate visitors of its significance and "no touch." The impacts from this alternative are expected to be negligible. Trillium does not exist where facility construction is planned.

Facility construction would occur on upland habitat; not preferred by spotted turtles. Pedestrian use along the (future) wooded trail network may temporarily disturb turtles. In contrast, moving the Jericho trailhead out to the upland, it is expected less vehicles would be travelling 2 miles along Jericho Lane where turtle encounters could be higher due to preferred habitat. Spotted turtle impacts are expected to be negligible because they only inhabit the (aquatic) ditch habitat within the refuge. Although there will be an expected increase in visitor use of the area, ditch access is prohibited. Temporary disturbance by vehicles and pedestrians may occur.

If/When funding becomes available for the visitor facility (i.e. Discovery Center), the Service will conduct additional NEPA analysis as needed and comply with the agency Compatibility policy to further assess the environmental effects and availability of resources of the proposed action prior to making decisions on the visitor facility.

Alternative B

RCWs do not populate the project location, and it is not preferred habitat. Therefore, no impacts are expected.

Similar to Alternative A, NLEB may be temporarily displaced from the site during construction and periods of public use, but on a much smaller scale without construction of the visitor facility and the (future) extended trail network. In addition, there would be less educational programs conducted in the area (see Geology and Soil Section below). Overall, access and public use would be reduced.

Trillium and spotted turtles would not be impacted by this alternative because no improvements or public access would occur in preferred wetland/aquatic habitat of these species. In this alternative, all construction would occur on upland habitat. However, by not moving the Jericho trailhead to the upland under this Alternative, the current disturbance levels would continue at the existing Jericho Lane parking area and trails, where turtle and trillium encounters could be higher due to preferred habitat.

Alternative C

Federally listed and at-risk wildlife impacts would remain unchanged under Alternative C.

Vegetation

Affected Environment

Description of Affected Environment for the Affected Resource

The natural communities and vegetation of Great Dismal Swamp NWR are further described in the refuge's 2006 CCP and the Habitat Management Plan (HMP) (USFWS 2022).

The natural communities present in the project area are classified as mesic pine mixed hardwoods. Mesic (medium-moist site) hardwoods are stands of mixed deciduous tree species occurring at the higher elevations and better-drained mineral soils of the refuge. Tree species in this community include sweet gum (*Liquidambar styraciflua*), yellow poplar (*Liriodendron tulipifera*), beech (*Fagus grandifolia*), willow oak (*Quercus phellos*), water oak (*Q. nigra*), laurel oak (*Q. laurifolia*), white oak (*Q. alba*), swamp chestnut oak (*Q. michauxii*), cherrybark oak *(Q. pagoda)*, southern red oak *(Q. falcata)* on drier sites, blackgum (*Nyssa sylvatica*), ash (*Fraxinus spp.*), elm (*Ulmus spp.*), and red maple *(Acer rubrum)*. Evergreen species found in this community include American holly (*Ilex opaca*), southern magnolia (*Magnolia grandifolia*), sweetbay *(Magnolia virginiana)*, and loblolly pine *(Pinus taeda)*.

The highest concentrations of Virginia least trillium *(Trilium pusillum var. virginianus)* [globally rare] occur in areas of this forest type near Jericho Ditch and Jericho Lane.

Description of Cumulative Impacts, Environmental Trends, and Planned Actions

The project area is at the urban-rural interface in Suffolk, Virginia. To the immediate north and west is residential communities, and to the immediate south is agriculture and forested lands. Housing developments and additional single-family homes are a constant threat to the rural area surrounding the project site. It is expected to increase in the foreseeable future.

As part of the overall goal for the joint project, the City of Suffolk is planning to construct a traditional community park directly adjacent to the project site. Constructing the proposed visitor facilities, combined with additional development is expected to have minor impacts on vegetation because most developable land surrounding the refuge is currently agriculture and generally provides artificial vegetation for feeding and cover by wildlife. This project is only 0.003 percent of the land base in Suffolk, VA.

The forested wetland to the east is refuge property; therefore, vegetation there will not be affected by potential development projects to the west.

Warming, whether it results from anthropogenic or natural sources, is expected to affect a variety of natural processes and associated resources. However, the complexity of ecological systems means that there is a tremendous amount of uncertainty about the actual impact of climate change.

It is possible the distribution of plant species will change due to warming temperatures and changes in rainfall and/or storm patterns. Species more abundant in southern regions may

begin to prosper further north, with warming temperatures. Unfortunately, it is difficult to predict these changes. Regardless of the alternative, the refuge continues to monitor both biological and public use metrics and will adapt and mitigate as necessary to meet refuge objectives.

Impacts on Affected Resource

Alternative A

The additional parcel (once acquired) for the trail network already has existing trails; therefore, minimal tree and brush clearing would be needed. Trampling of vegetation from increased use of the new trail system is expected under this alternative. Boardwalks will be installed as necessary in sensitive or wet areas, which will reduce trampling of ground vegetation. In addition, the increase in visitation to this area could lead to the incidental spread of invasive plant species.

Approximately 3 acres of successional grasses would be lost with construction of the visitor facility. Removal will have negligible environmental impact, as the grasses are regularly mowed. The addition of a 2-acre pollinator garden and forest demonstration sites would increase and diversify vegetative habitat.

Construction equipment presents a risk of wildfire occurring within the area, leaving adverse long-term effects to vegetative communities. Potential for fires within the refuge necessitates thorough fire prevention with the construction of trails and facilities.

If/When funding becomes available for the visitor facility (i.e. Discovery Center), the Service will conduct additional NEPA analysis as needed and comply with the agency Compatibility policy to further assess the environmental effects and availability of resources of the proposed action prior to making decisions on the visitor facility.

Alternative B

Similar to Alternative A, successional grasses would be lost; however, on a much smaller scale without construction of the visitor facility and reduced access (pavilion only). No tree or brush clearing will occur in this alternative. Vegetation would not be impacted on future acquired lands, as the trail network will not be extended onto these lands.

Alternative C

Vegetation disturbance under the no action alternative would not increase when compared with existing conditions. The existing parcel would continue to be mowed for wildfire safety.

Geology and Soils

Affected Environment

Description of Affected Resource

The soils of Great Dismal Swamp NWR play a critical role in supporting its wetland communities. Organic soils predominate, with mineral soils confined to the toe of the Suffolk Scarp and to historic outflows. The project area for construction sits on the higher elevation of the Suffolk Scarp, which is upland with better-drained mineral soils. However, wetland area with organic soil exists as the project develops to future acquired parcels, off the Suffolk Scarp. Organic soils are more sensitive to compaction and disturbance and due to their saturation and high organic matter content, they are generally unsuitable for building site development, recreational development, and trails (USFWS 2006). The project area receives some runoff from the urban area of Suffolk, Virginia.

Description of Cumulative Impacts, Environmental Trends, and Planned Actions

The project area is at the urban-rural interface in Suffolk, Virginia. To the immediate north and west is residential communities, and to the immediate south is agriculture and forested lands. Housing developments and additional single-family homes are a constant threat to the rural area surrounding the project site. It is expected to increase in the foreseeable future.

As part of the overall goal for the joint project, the City of Suffolk is planning to construct a traditional community park directly adjacent to the project site.

Many soil properties would be affected by the changes in temperature, precipitation regime, and extreme weather events associated with climate change. For example, increases in temperature may contribute to increasing the rates of soil biogeochemical property changes (e.g., organic matter decomposition, denitrification, methanogenesis). There is high uncertainty with downscaled predictions of precipitation change; however, changes in precipitation regime and extreme weather events may affect water table level and the frequency and duration of saturated soils, which would affect biogeochemical processes (Trettin et al. 2019). Climate change may also have indirect impacts to soil processes through changing plant community composition (Janousek and Folger 2017). The complexity of ecological systems means that there is a tremendous amount of uncertainty about the actual impact of climate change.

Impacts on Affected Resource

Alternative A

Construction of the visitor and education facility, and bathroom will require grading and the addition of soil fill for foundations. Construction of facilities will occur on upland areas, increasing the amount of impervious surface within the project area. If/When funding becomes available for the visitor facility (i.e. Discovery Center), the Service will conduct additional NEPA analysis as needed and comply with the agency Compatibility policy to further assess the

environmental effects and availability of resources of the proposed action prior to making decisions on the visitor facility.

Trails would be built on upland and (future acquired) forested wetland area. Pedestrian use along trails could compact soil, particularly where organic soil, which contains a significant amount of material derived from plant, exists. Impacts are expected to be negligible, as most foot traffic will be on the upland, mineral soil that will be layered with a fine "stone dust" trail base to keep visitors on the trail and reduces soil erosion. Also, in wetland areas with organic soil, boardwalks can be constructed where more than negligible impacts may occur. Digging the soil for anchoring boardwalks can have negative impacts on soil; however, also reduces trampling of vegetation, soil compaction, and erosion by pedestrians, and allows vegetation to grow under the boardwalk, which provides long-term habitat and soil stabilization.

Alternative B

Similar to Alternative A, construction and clearing may negatively impact soils; however, all facilities would be placed on upland, mineral soil. Under this alternative, no trail would be located on organic soil, eliminating wetland soil impacts. Since a visitor facility would not be constructed under this alternative, negative impacts from all sources would be minimized due to less impervious surfaces.

Alternative C

Impacts to soils and geology under this alternative would remain consistent with existing conditions.

Transportation and Traffic

Affected Environment

Description of Affected Resource

The project area of Suffolk is located at the urban-rural interface. Most traffic along White Marsh Road at the trailhead entrance is single family homeowners heading to the rural part of Suffolk. On the refuge, we currently estimate 60 vehicles per week utilize the Jericho Lane Trailhead, with an estimated visitation of 6,360 individuals. It is the first trailhead that most visitors encounter; however, is believed to be underutilized. There is no public transportation directly to the Trailhead; however, a stop is located 0.25 miles up the road.

Description of Cumulative Impacts, Environmental Trends, and Planned Actions

The project area is at the urban-rural interface in Suffolk, Virginia. To the immediate north and west is residential communities, and to the immediate south and east is agriculture and forested lands. Housing developments and additional single-family homes are a constant threat to the rural area surrounding the project site. It is expected to increase in the foreseeable future.

As part of the overall goal for the joint project, the City of Suffolk is planning to construct a traditional community park directly adjacent to the project site,

Enhancing the accessibility under the proposed alternative, combined with additional development is expected to increase traffic and public transportation in the area to a moderate degree; however, no major adverse impacts are expected. The City of Suffolk is a partner on the overall project and is very mindful of the local traffic conditions and concerns surrounding the project area.

Impacts on Affected Resource

Alternative A

The purpose and goal of this Alternative is to increase visitation to the site for wildlife-dependent recreation and education. It is expected to generate a 50 percent increase in visitor use (5,000 individuals per year) of this area.

Under the proposed alternative, only minor, short-term increases in traffic during construction will occur. As the population increases in Suffolk, open space will become more limited and may result in greater visitation pressure on the refuge. Once completed, the site is expected to increase traffic to the area; however, no major adverse traffic impacts to adjacent county and state roads are anticipated. There is a turn lane into the trailhead entrance. Beneficial impacts with additional directional signage will be installed to provide better directions to the facility. If/When funding becomes available for the visitor facility (i.e. Discovery Center), the Service will conduct additional NEPA analysis as needed and comply with the agency Compatibility policy to further assess the environmental effects and availability of resources of the proposed action prior to making decisions on the visitor facility.

Alternative B

Similar to Alternative A, transportation and traffic impacts may increase; however, on a much smaller scale without construction of the visitor facility and reduced access. No major adverse traffic impacts to adjacent county and state roads are anticipated.

Alternative C

Transportation and traffic impacts could increase due to the continued community engagement efforts by the refuge and its partners; however, this Alternative would create negligible increased change of all Alternatives.

Air Quality

Affected Environment

Description of Affected Resource

Based on Virginia Department of Environmental Quality (VDEQ) air monitoring data, the U.S. Environmental Protection Agency (EPA) designates "nonattainment" and "attainment" areas in Virginia. Nonattainment areas have air pollution levels that exceed the federal standard of air quality. When this occurs, VDEQ must submit state implementation plans to EPA, outlining programs that will improve their air quality. Attainment areas meet the federal standard, but some are required to adhere to an EPA-approved maintenance plan and work continuously to keep pollution below the standard.

Great Dismal Swamp NWR, and the City of Suffolk, are in the Hampton Roads Attainment/Maintenance Area. The Air quality index is used to describe how clean the air is, and what health effects might be expected. The Air Quality Index Level for the City of Suffolk is "Good" which is considered satisfactory, and air pollution poses little or no risk (VDEQ 2024).

Description of Cumulative Impacts, Environmental Trends, and Planned Actions

No known environmental trends or planned actions by nearby municipalities, state government, tribal government, other federal agencies, or other parties are likely to cause significant adverse effects to air quality relevant to the proposed project area.

Impacts on Affected Resource

Alternative A

During the development of the proposed project, emissions from internal combustion engines and generation of dust from the vehicles involved with earthmoving activities could temporarily increase levels of some pollutants. Operations at the refuge site are not considered to be a source of air emissions and no air quality permits are required for the proposed development of the project area. The implementation of appropriate best management practices (BMPs) to control soil erosion and dust should minimize releases of fugitive emissions to the atmosphere. It is expected that FWS and construction contractors will properly maintain their fleet of vehicles/equipment so that carbon monoxide, ozone-producing chemicals, and other emissions are kept to a minimum. Impacts to air quality are expected to be short-term and minor.

Under Alternative A, greater vehicle traffic may increase the carbon emissions within the area to a negligible degree. Emissions resulting from construction equipment usage would leave a negligible impact.

If/When funding becomes available for the visitor facility (i.e. Discovery Center), the Service will conduct additional NEPA analysis as needed and comply with the agency Compatibility policy to further assess the environmental effects and availability of resources of the proposed action prior to making decisions on the visitor facility.

Alternative B

Similar to Alternative A, combustion engines and dust could negatively affect air quality; however, on a much smaller scale without construction of the visitor facility where most heavy machinery would be utilized. There would not be impacts to air quality under either alternative and the project is consistent with National Ambient Air Quality Standards.

Alternative C

No measurable changes to air quality would occur under Alternative C.

Visitor Use and Experience

Affected Environment

Description of Affected Resource

Great Dismal Swamp NWR is open to all six priority public uses (hunting, fishing, wildlife observation, photography, environmental education, and interpretation), via four trailheads, and one water access trailhead provided by a partner agency (Figure 6). An average of 65,000 people visit the refuge annually, with 6,360 visiting the Jericho Lane Trailhead.

The immediate project area allows wildlife observation and photography, via hiking, biking and vehicular access along Jericho Lane, which is the trailhead off White Marsh Road. Jericho Lane is a gravel road, for 2 miles, to a parking area and a 16+-mile trail network.

Environmental education is typically conducted at the current headquarters office building, located approximately 7 miles away on Desert Road. In 2023, 219 individuals participated in on--site educational programs.

Description of Cumulative Impacts, Environmental Trends, and Planned Actions

The project area is at the urban-rural interface in Suffolk, Virginia. To the immediate north and west is residential communities. Housing developments and additional single-family homes are a constant threat to the rural area surrounding the project site. It is expected to increase in the foreseeable future. This will increase the local population of the area, and potential pressure for use at the project site.

The proposed project is in partnership with the City of Suffolk, where they plan to develop an adjacent city park, which is not evaluated in the direct impacts of these alternatives. The City of Suffolk Housing and Redevelopment Authority recently reconstructed a subsidized housing development within 0.25 miles of the project area. In addition, single-family homes continue to increase in the rural area. This will increase the local population of the area, and potential pressure for use at the project site.

Enhancing the accessibility and visitor use under the proposed alternative, combined with additional development, particularly the city park, is expected to increase visitor use and community engagement to connect people to nature and the natural world (see below Impacts on Affected Resources).

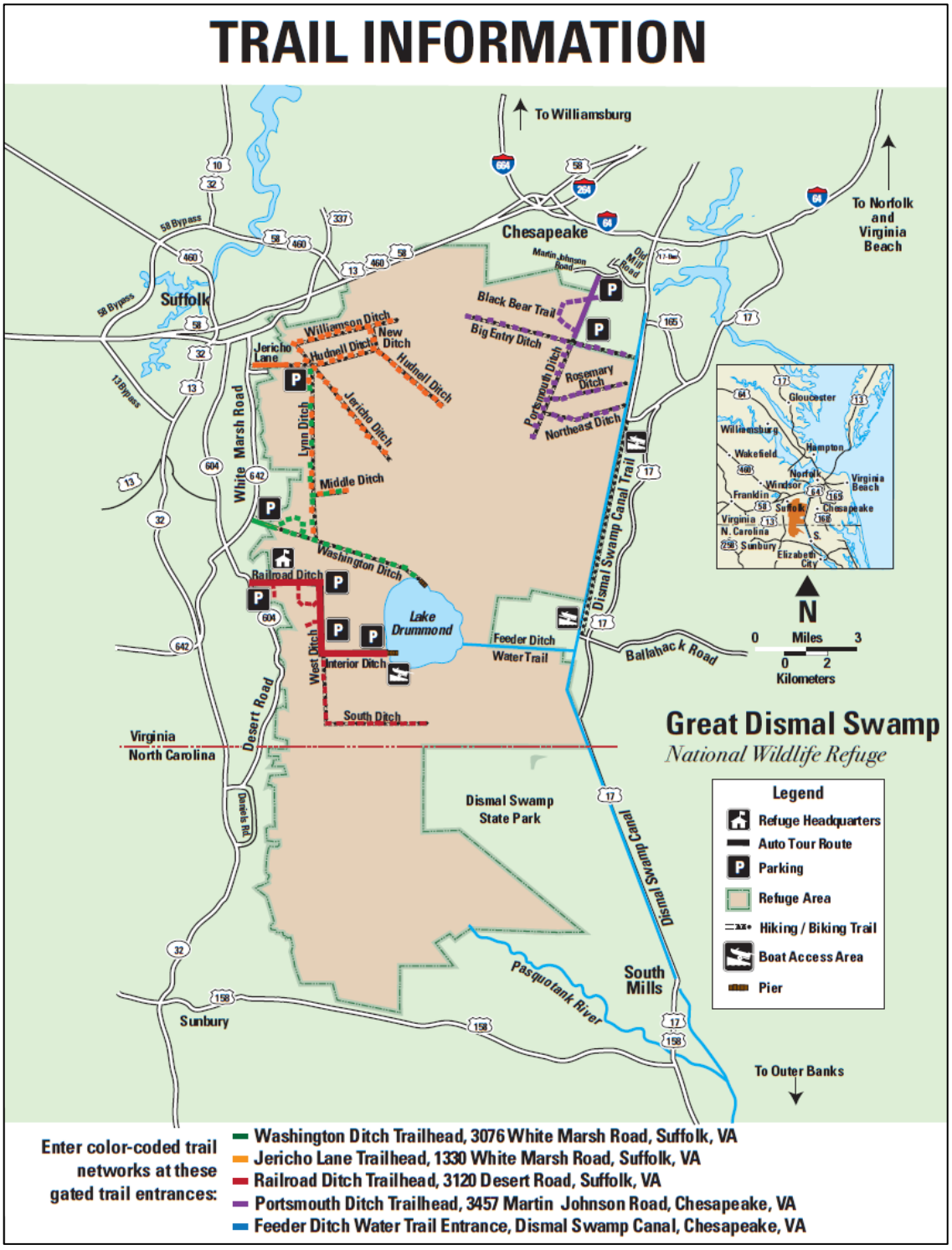

Figure 6. Great Dismal Swamp NWR Trail Map

Impacts on Affected Resource

Alternative A

Providing a more welcoming and accessible entrance, with additional parking spaces closer to Jericho Lane entrance improves the user experience, potential for larger group experiences, and encourages wildlife observation, photography, and education. The visitor and education facility and nature trail would attract new audiences and encourage engagement in hiking, wildlife observation, photography, environmental education, and interpretation. It is expected to increase visitation by 50 percent, or approximately 5,000 visitors annually. Education and interpretation materials would provide thorough and accurate historical information regarding use of the dismal swamp by Indigenous Americans, African Americans and the Underground Railroad, and the timber industries. In addition, interpretive materials will highlight the significant natural resource and ecosystem attributes. This alternative would likely benefit the visitor experience.

Infrastructure development may fragment habitats within affected areas by including new trails, creating an unnatural barrier between/within habitats. Trail development may provide additional opportunities to view wildlife. Educational opportunities provided by information within the facilities may lead to increased interest in wildlife photography, viewing wildlife, and exploring other areas of the refuge. A reduction in the natural landscape found within the grassland field at the project site may cause a negligible reduction in opportunities to view wildlife. In contrast, the pollinator garden and forest demonstration sites may increase wildlife viewing opportunities.

If/When funding becomes available for the visitor facility (i.e. Discovery Center), the Service will conduct additional NEPA analysis as needed and comply with the agency Compatibility policy to further assess the environmental effects and availability of resources of the proposed action prior to making decisions on the visitor facility.

Alternative B

This alternative will also enhance the visitor experience; however, on a much smaller scale without construction of the visitor facility, the extended trail network, and reduced overall access and education programs. There will not be an indoor visitor and education facility. No trail network would be installed on future acquired parcels, and visitor activities will be confined to the existing pavilion area and road trails. Education programs would be limited to the pavilion during adequate weather and seasons. This alternative would only slightly enhance the visitor experience.

Alternative C

Visitor usage and experience would remain the same. Limited environmental education and interpretation opportunities will remain. Limited cultural education, interpretation, and appreciation regarding the history and natural resources would remain.

Cultural Resources and Indian Trust Resources

Affected Environment

Description of Affected Resource

FWS, as the lead Federal agency, has chosen to use the NEPA substitution process to fulfill obligations under the NHPA of 1966, as amended. While obligations under NHPA and NEPA are independent, the regulations implementing NHPA allow for the use of NEPA review to substitute for various aspects of the NHPA section 106 (54 U.S.C. §300101) review to improve efficiency, promote transparency and accountability, and support a broadened discussion of potential effects that a project may have on the human environment (36 CFR 800.3 through 800.6). During preparation of the EA, FWS will ensure that the NEPA substitution process will meet any NHPA obligations.

In May 2023, the William and Mary Center for Archaeological Research (WMCAR) authored the, *Initial Statewide Selective Survey of Underground Railroad Resources in* Virginia. WMCAR determined through documentary evidence that the Great Dismal Swamp NWR is sensitive for archaeological sites relating to escaped enslaved people. No field surveys were conducted, and WMCAR recommended further surveys to the Virginia Department of Historic Resources (VDHR).

WMCAR's current research, highlights the significance of the Great Dismal Swamp NWR for its role in the attempts of enslaved people to flee bondage. The refuge is currently included in the nationwide Network to Freedom, administered by the National Park Service (NPS), consisting of "sites, facilities, and programs with a verifiable connection to the Underground Railroad." The NPS summarized as follows the property's historical associations relevant to the Network:

"Since the 17th century, historians, surveyors, and newspaper ads have identified the swamp and canal as a refuge and a route to freedom for thousands of runaway enslaved Africans. For some, the swamp offered a means to purchase their freedom, through work on the Swamp Canal and in cedar and cypress shingle and timber production. Others found refuge deep within the swamp, living off the land and what they could steal. These 'outlyers' established maroon communities on the higher points of the swamp. Many lived here, raised families, and died here. For others, the swamp was a 'stopping point' to get to Norfolk or Portsmouth, VA, or to the Albemarle Sound and Elizabeth City, NC, where they could secure passage on a ship traveling north. Despite the method or living conditions, the swamp provided the means of freedom which so many sought. During the Civil War, Union regiments of the United States Colored Troops under the leadership of Brigadier General Augustus E. Wild successfully marched down the Swamp Canal bank to liberate and recruit enslaved Africans in NC."

Records also indicate the dismal swamp was an integral part of the history of the Nansemond Indian Tribe, and possibly other Indigenous Nations. Indigenous Americans lived in the swamp and/or used the swamp resources for survival. Beginning in the 18th century, Euro-Americans

established farms on the swamp edge and began to exploit the swamp's cypress and white cedar through logging. Canals were dug deep into the swamp to drain land for farming and to ship out forest products. Enslaved African Americans were the primary labor force for all this work.

Through the Treaty of Middle Plantation (1677), the Nansemond Indian Nation and other Indigenous signatories to the Treaty, retain rights to their native land and natural resources *for oystering, fishing and gathering for their natural support* (Meherrin Indian Tribe webpage 2024). As stated above, the project area primarily hosts neotropical migratory birds, deer, bear, snakes and turtles, and various plants.

All portions of the project area (Tract 219 and future Tracts 91, 92 and 93) were recently evaluated in accordance with agency land acquisition policy. Tract 92 has an architectural structure VDHR ID133-5329 and has been determined by FWS, with concurrence from VDHR as not eligible for the National Register of Historic Places (NRHP); and therefore, it is not considered an historic property. VDHR ID 133-5305 in the Virginia Cultural Resources Information System (VCRIS) and located at 1322 White Marsh Road. This property lies adjacent to the proposed project to the north. Two previous surveys of this structure were conducted in 2008 and 2015. In 2015, the surveyor recommendation 133-5305 as not eligible for listing on the NRHP due to alterations and modifications that have "diminished the integrity of design, materials, and workmanship over time. This resource is not known to be associated with any significant events or persons." FWS agrees with this determination and is seeking concurrence from the VDHR as part of this NEPA document.

The project area is within the boundary of the Siege of Suffolk battlefield area (VDHR VCRIS #133_5039), which is considered eligible as an archaeological resource.

To comply with the NHPA of 1966, a Phase I Archaeological Survey was conducted in March 2023 on the Area of Potential Effect (APE) (Tract 219) prior to construction of the education pavilion. This is where additional improvements (visitor facility, pollinator garden, forest demonstration sites, and possibly the outdoor restroom) are being proposed in the proposed alternative. During the course of the survey, three new archaeological sites were identified and recorded (44SK0669-44SK0671 inclusive). Site 44SK0669 consists of a late 19th- to mid-20th century artifact scatter. Site 44SK0670 consists of an early to mid-20th century artifact scatter. Site 44SK0671 consists of a late 19th- to mid-20th century artifact scatter associated with a circa 1940s house. The house is a documented architectural resource DHR ID # 133-5328; however, the survey confirmed that the house is no longer extant. The VDHR concurred with FWS' determination that sites 44SK0669-44SK0671 are not eligible for listing in the NRHP and no additional archaeological work was recommended.

VDHR did express concern regarding the potential visual impacts of the pavilion to adjacent architectural resources and the Siege of Suffolk Battlefield (Figure 7). While there are no

architectural resources located within the direct APE, 14 were identified within the indirect APE of the project and 2 are adjacent and lie within the Siege of Suffolk area. VDHR further concurred that the adjacent historic properties will not be adversely affected by construction of the pavilion. As stated above, FWS has chosen to use this EA as the NEPA substitution process to fulfill obligations under NHPA. VDHR will receive this document for review and provide their determination regarding the visual impacts of the proposed alternative in order to comply with NHPA.

If/When funding becomes available for the visitor facility (i.e. Discovery Center), the Service will conduct additional NEPA and NHPA analysis as needed and comply with the agency Compatibility policy to further assess the environmental effects and availability of resources of the proposed action prior to making decisions on the visitor facility.

In addition, there is a small cemetery on FWS land within the project area, on Tract 105. It currently is in the forest and likely goes unnoticed because there is no public access to the area and cannot be seen from Jericho Lane.

Description of Cumulative Impacts, Environmental Trends, and Planned Actions

The area of the planned city park is not within the Siege of Suffolk Battlefield (Figure 7); however, approximately five architectural structures are located adjacent to the planned park location (Figure 8). The city park is not part of this analysis; however, based on the findings stated above, it is expected there will be no impact on those structures.

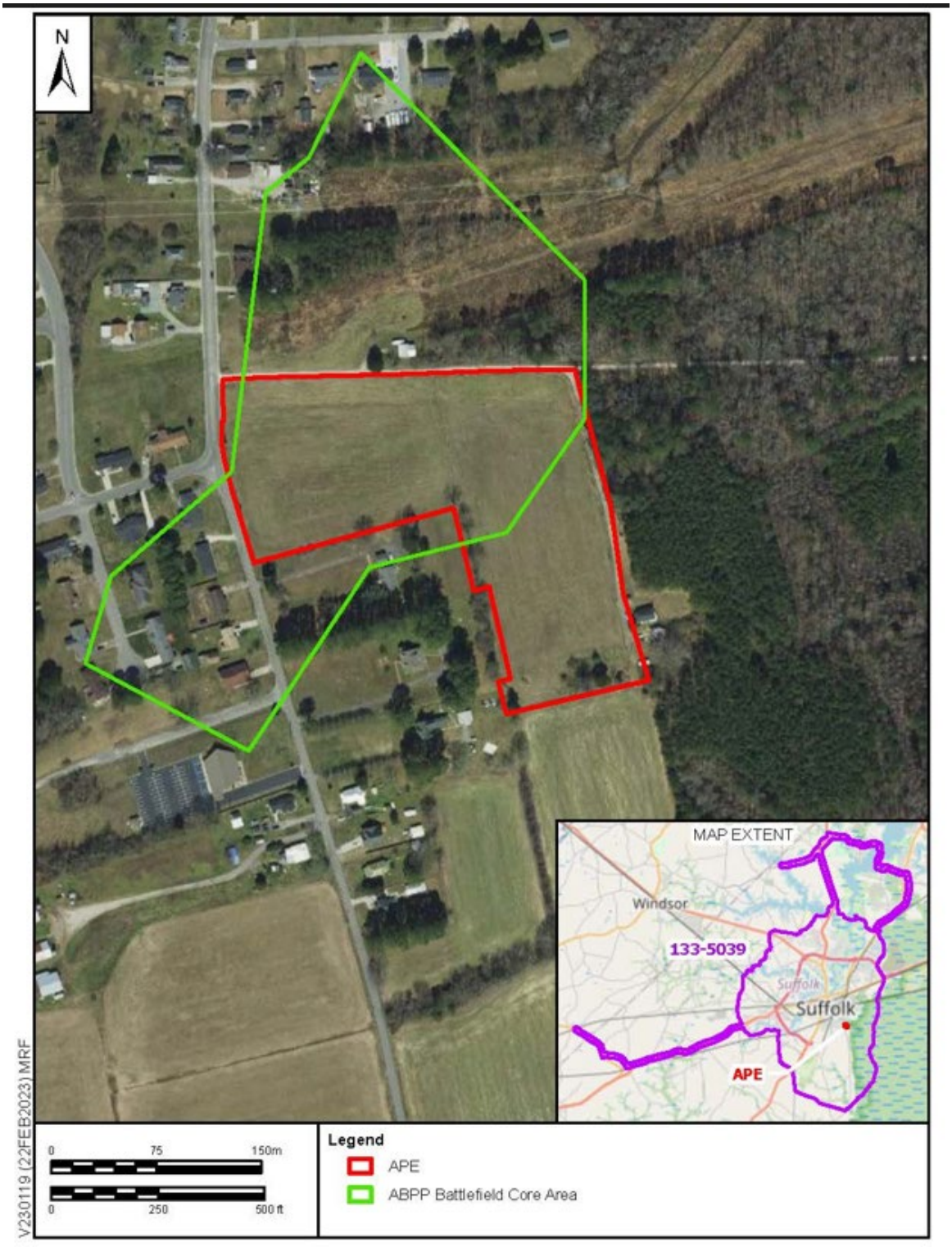

Figure 7. Area of Potential Effect (APE) and National Park Service's American Battlefield Protection Program (ABPP), Siege of Suffolk core area

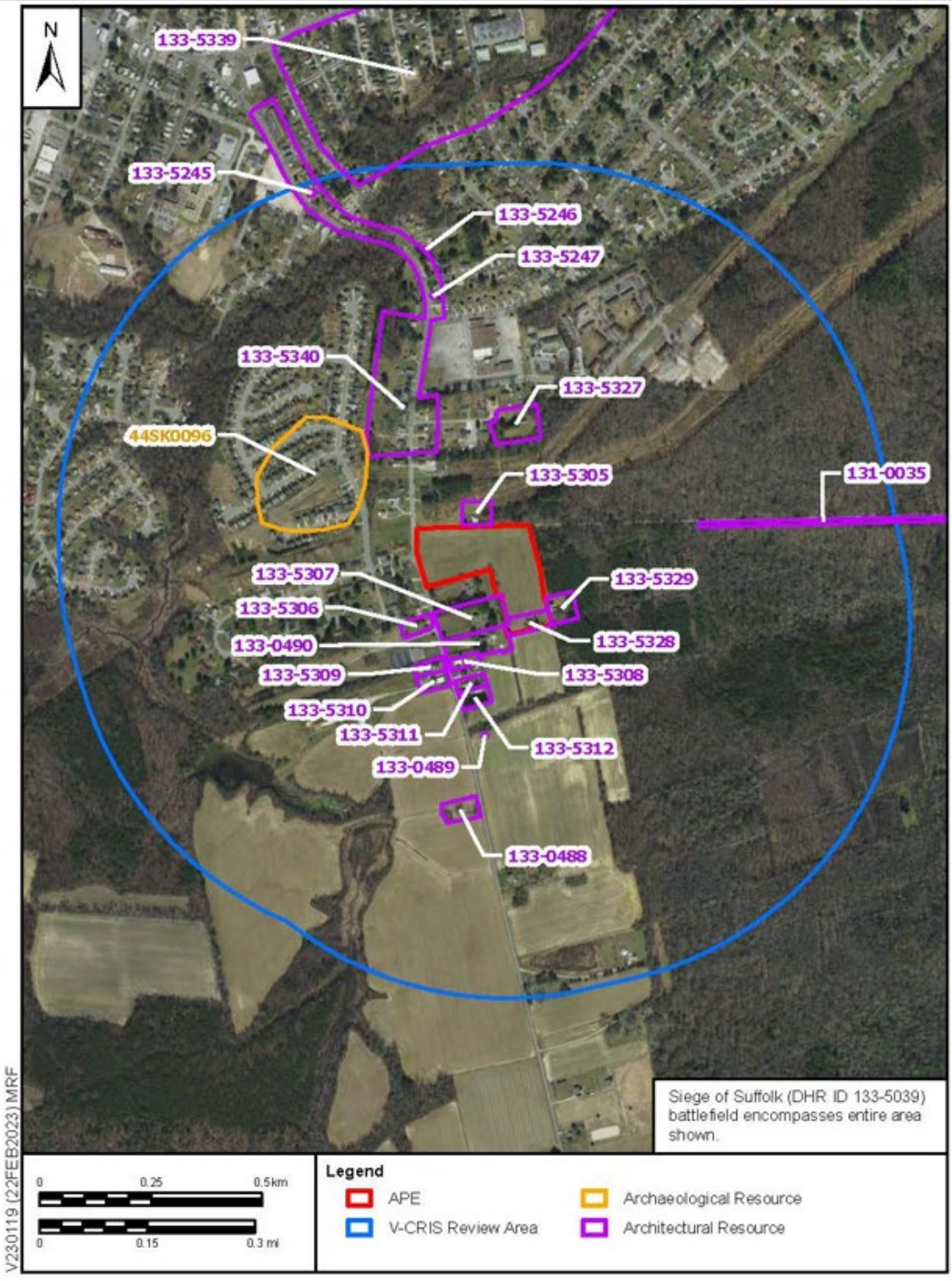

Figure 8. Cultural resources adjacent to the APE.

Impacts on Affected Resource

Alternative A

As described above, construction in the area may visually affect cultural resources; however, will not impact below ground resources. The Siege of Suffolk Battlefield occurred in this area, and therefore a Phase I archaeological survey was conducted in March 2023 in the APE (Tract 219) where improvements are being proposed. The VDHR concurred with the FWS' determination that newly recorded sites are not eligible for listing in the NRHP and no additional archaeological work is needed at the ground level.

Construction of the visitor facility will likely not have an impact on the visual integrity of adjacent architectural resources and the Siege of Suffolk Battlefield Area. Two adjacent structures within the Siege of Suffolk Battlefield (133-5305 and 133-5329) are expected to be acquired by the Federal government as described above. The facades of the remaining structures do not face the proposed facility and most have visual buffers such as trees and shrubs already in place. Furthermore, if/when structure 133-5329 is acquired and possibly rehabilitated into a restroom facility, VDHR has determined it is not a historic property eligible for the NRHP. If/When funding becomes available for the visitor facility (i.e. Discovery Center), the Service will conduct additional NEPA and NHPA analysis as needed and comply with the agency Compatibility policy to further assess the environmental effects and availability of resources of the proposed action prior to making decisions on the visitor facility.

Although this alternative does not intend to have new trails created directly in the vicinity of the existing cemetery on Tract 105, it may be at risk of mischief and vandalism due to additional public use in the area. As necessary, the cemetery will be protected from public disturbance using all means necessary (i.e. fencing, signage, enforcement). In addition, FWS will consult with VDHR regarding registering the cemetery for future, long-term protection.

As stated in more detail above, and below in the summary, the proposed alternative will slightly impact wildlife and habitat through the construction of a trail network and visitor facility and increased wildlife-dependent recreation. However, these activities are expected to have negligible impact on the natural and human environment, including Indian Trust Resources. There may be a positive impact due to habitat enhancement with the pollinator gardens and forest demonstration sites. The Nansemond Indian Tribe is a partner on the proposed project and will continue to be consulted on any actions taken in the project area.

The visitor and education facility will provide thorough and accurate historical information and interpretation regarding use of the dismal swamp by Indigenous Americans, African Americans and the Underground Railroad, and the timber industries. Refuge staff will consult with the Tribes, African American descendants, historians, and other subject matter experts to ensure accurate information and messaging. This will increase insight and interpretation into the swamp's important cultural past.

Alternative B

Construction in the area may visually affect cultural resources; however, on a smaller scale than Alternative A without construction of the visitor facility and extended trail network.

The Siege of Suffolk Battlefield occurred in this area, and therefore a Phase I archaeological survey was conducted in March 2023 in the APE (Tract 219) where improvements are being proposed. The VDHR concurred with FWS' determination that newly recorded sites are not eligible for listing in the NRHP and no additional archaeological work is needed at the ground level. The construction of vegetated wildlife habitat areas under this alternative, will likely not have an impact on the visual integrity of adjacent architectural resources and the Siege of Suffolk Battlefield Area. Two adjacent structures within the Siege of Suffolk Battlefield (133-5305 and 133-5329) are expected to be acquired by the Federal government as described above. The facades of the remaining structures do not face the proposed facility and most have visual buffers such as trees and shrubs already in place. Furthermore, if/when structure 133-5329 is acquired and possibly rehabilitated into a restroom facility, VDHR has determined it will not be adversely affected if demolished or modified.

Although this alternative will not have the extended trail network in the vicinity of the existing cemetery on Tract 105, it may be at risk of mischief and vandalism due to additional public use in the area. As necessary, the cemetery will be protected from public disturbance using all means necessary (i.e. fencing, signage, enforcement). In addition, FWS will consult with VDHR regarding registering the cemetery for future, long-term protection.

This alternative will have minimal, if any negative impact on Indian Trust Resources due to limited construction and visitor use. There may be a positive impact due to habitat enhancement with the pollinator gardens and forest demonstration sites. The Nansemond Indian Tribe is a partner on the proposed project and will continue to be consulted on any actions taken in the project area.

Interpretation regarding use of the dismal swamp by Indigenous Americans, African Americans and the Underground Railroad, and the timber industries would be limited with no visitor facility.

Alternative C

No cultural resources would be impacted by this alternative. Minimal cultural education, interpretation, and appreciation regarding the historic use of the dismal swamp will remain. Impacts to the cemetery will be unchanged.

Refuge Management and Operations

Affected Environment

Description of Affected Resource

On the refuge, infrastructure includes the refuge headquarters office and visitor contact station, fire and maintenance buildings, one refuge bunkhouse, and five outbuildings. The refuge also maintains approximately 12 kiosks, 5 boardwalks, and 2 piers. Current non-refuge land use in the project area is primarily residential, with some adjacent farming. Other refuge infrastructure includes signage, electronic gates, and 150 miles of dirt or gravel roads.

There are currently nine full-time employee positions at Great Dismal Swamp NWR, including management, administration, biology, maintenance, and fire functions.

Description of Environmental Trends and Planned Actions

No known planned actions by nearby municipalities, state government, tribal government, other federal agencies, or other parties are likely to cause significant adverse effects to refuge management and operations relevant to the proposed Jericho Trailhead Enhancement project area. If there were any effect, it would be increased capacity to manage the project site with cooperating City staff.

Impacts on Affected Resource

Alternative A

Construction of the visitor and education facility, habitat enhancements, and trail network will change existing refuge land use from a maintained grassland to more impervious surface. Future acquired lands will change from non-public use, residential and forested to passive recreational use. Jericho Lane will receive additional vehicle traffic; however, the type of land use would not change. Jericho Lane is currently open for public use.

The visitor and education facility would increase operations and maintenance costs as well as increase staff time to manage volunteers and a larger education program.

Law enforcement issues may arise with increased visitation and visibility of refuge assets. Construction of new landmarks may attract unwanted or illegal activities. Alternatively, having the trailhead closer to the road and urban community, with additional lighting, could reduce the occurrence of illegal activity. The refuge will work closely with the local police department to manage any increase in illegal activity. The impact on refuge operations, including potential law enforcement needs, will be significant due to the increased assets and visitation. Aside from the desire to increase staffing levels to support the project, the refuge intends to minimize these impacts through increased education, volunteerism, and stewardship to assist with operations and protection of this important community asset.

Combined with the proposed City Park, to be located on current agriculture land, activities proposed under this alternative would support public uses on previous agriculture land.

However, negative impacts to agricultural land use under this alternative would be negligible due to the size of the project area (8 acres) compared to the surrounding agriculture land base. The conversion of a portion of the field at the Jericho project site into a parking lot and facility reduces the amount of available habitat for local bird populations and deer to forage, causing a negligible impact on the wildlife which may temporarily reduce wildlife-viewing opportunities.

Estimated start-up costs to implement this alternative are $1.5 million. Annual operations will increase by approximately $5,000 in utilities and upkeep. In addition, once staffed, this will require 25 percent of a refuge park ranger's time for managing visitors, volunteers, and educational programs. It will also result in 5 percent each of the refuge manager biologist, and maintenance staff for overseeing and implementing the proposed action on the refuge. While this would impact the administration of the refuge, it would not be significant because the refuge would still be able to carry out its other priority actions and obligations in meeting the purpose of the refuge and the mission of the Refuge System.

If/When funding becomes available for the visitor facility (i.e. Discovery Center), the Service will conduct additional NEPA analysis as needed and comply with the agency Compatibility policy to further assess the environmental effects and availability of resources of the proposed action prior to making decisions on the visitor facility.

Alternative B

Similar to Alternative A, construction of the habitat enhancements and limited trail would slightly change existing refuge land use; however, to a much smaller extent without construction of the visitor facility. This alternative would have less impact on refuge management and operations than Alternative A without the construction of the visitor facility.

Combined with the proposed City Park, to be located on current agriculture land, wildlife habitat and public uses on previous agriculture land; albeit negligible. This alternative would not have a significant impact on agriculture land use in the area.

Estimated start-up costs to implement this alternative would be approximately $100,000. Annual operations would not increase, other than routine maintenance of approximately $1,000 per year. In addition, this would require an approximate 5 percent of the refuge's park ranger time, 5 percent of the biologist's time, as well as 1 percent of maintenance time. It would also require approximately 5 percent of the refuge manager's time for overseeing and implementing the alternative. This would result in a negligible impact on refuge staff and budget and would not result in the refuge having to give up other priority actions.

Alternative C

No measurable changes to refuge land use, refuge operations, management, or infrastructure would occur.

Socioeconomics

Local and Regional Economies

Affected Environment

Description of Affected Resource

Census estimates place the population surrounding the Great Dismal Swamp NWR (Hampton Roads, Virginia, and adjacent North Carolina counties) at more than 1.5 million people. Furthermore, the region is continuing to develop rapidly. The Cities of Chesapeake and Suffolk, where most of the refuge is located, have the highest growth rates in the region. The base economy within the refuge's service area is generally dominated by military bases and defense-related activities and extensive manufacturing in the Hampton Roads area. Agriculture and forestry are primary industries in the outlying rural areas. The major agricultural products are cotton, soybeans, corn, livestock, and poultry. The number of farms has declined, as is the case nationwide.

The Cities of Suffolk and Chesapeake Tourism Departments list the refuge as one of the area's main attractions. The refuge averages about 65,000 visitors per year. Total expenditures from visitors were $2,732,200 with non-residents accounting for $2,275,900 or 83 percent of total expenditures (USFWS 2019).

Description of Cumulative Impacts, Environmental Trends, and Planned Actions

Increases in the surrounding population and continued development in the region could increase tourism to the refuge. Implementation of the proposed alternative would likely further contribute to the increase in tourism to the refuge, however, these actions would equip the refuge to better serve an influx of visitors and result in positive impacts to local economies.

No known environmental trends or planned actions by nearby municipalities, state government, tribal government, other federal agencies, or other parties are likely to cause significant adverse effects to local and regional economies relevant to the proposed project area.

Impacts on Affected Resource

Alternative A

New landmarks such as the education pavilion attract larger amounts of traffic, leading to more economic stimuli within the local communities. Tour and school groups may gain increased exposure by including the attractions at Jericho, leading to greater participation. Location of the landmarks may lead to increase in standard of living and property values within the proximal communities.

As the population of Suffolk increases, particularly in the rural-urban interface, this project will provide an outdoor recreation and education area. This alternative will help preserve "green space" and reduce residential development to the area. While this alternative would likely bring

more public use to the area, it is not expected to yield significant changes to local or regional populations. The addition of a modern facility may lead to increased attention to properties within the area, leading to negligible increases in population sizes and development within the community.

Alternative B

Like Alternative A, construction of the habitat enhancement and limited trail could benefit the economy of the local area; however, to a much lesser extent. As the population of Suffolk increases, particularly in the rural-urban interface, this project will provide an outdoor recreation and education area. This alternative would help reduce residential development to the area, but less than Alternative A.

Alternative C

Under this alternative, local and regional economies are expected to remain unimpacted, along with property values within local communities.

Environmental Justice

Affected Environment

Description of Affected Resource

Executive Order 12898, Federal Actions to Address Environmental Justice in Underrepresented Populations and Low-Income Populations, requires all federal agencies to incorporate environmental justice into their missions by identifying and addressing disproportionately adverse human health or environmental effects of their programs and policies on minorities and low-income populations and communities.

The City of Suffolk Housing and Redevelopment Authority recently reconstructed a subsidized housing development within 0.25 miles of the project area.

While there is no population within the refuge, there are bordering communities. The project area is located in the City of Suffolk, Census Tract 756.01, where that Tract is primarily a rural community. Directly adjacent to the immediate project area is Census Tract 655, and further outside is Census Tract 654.01. These have a high proportion of Census Block Groups (CBG) with environmental justice indicators for income and race. Most of these bordering CBGs meet the environmental justice threshold for low-income populations and several also meet the environmental justice thresholds for underrepresented populations.

Low-Income Populations

In 2021, the median household income in Census Tract 756.01 (project area) was $60,916, the highest among adjacent Census Tracts (Table 1); however, also has the highest population in poverty. Census Tract 655 and 654.01 is the interface with urban housing communities. Tract 655 has the lowest median and mean income in the area and similar poverty rate (18.9 %).

Table 1. Household Income and Poverty Rate, City of Suffolk, Virginia (US Census Bureau 2021a,b).

US Census Tracts	Tract 756.01 (Project Area)	Tract 655	Tract 654.01
Median Household Income	$60,916	$35,096	$52,198
Mean Household Income	$75,814	$53,617	$52,826
Population in Poverty	19.90%	18.90%	16.90%

Underrepresented Populations

There were eight populations compared in the three Census Tracts that are described in Table 2. In all Tracts, the largest number for a race category was Black or African American, followed by White. Hispanic or Latino (of any race) and Asian (alone) are also of note in the Census Tracts listed in Table 2.

Table 2. Comparison of Race in the Project Area, City of Suffolk, Virginia (US Census Bureau 2020).

Local US Census Tracts	Tract 756.01 (Project Area)	Tract 655	Tract 654.01
White (alone)	338	119	283
Black or African American (alone)	2,621	2,577	1,931
American Indian and Alaska Native	3	2	4
Native Hawaiian & Other Pacific Islander (alone)	0	1	0
Hispanic or Latino (of any race)	55	49	76
Asian (alone)	18	1	13
Two or more races	92	74	72
Other race (alone)	1	7	8

Description of Cumulative Impacts, Environmental Trends, and Planned Actions

The proposed Alternative A would have a positive impact to low income and underrepresented populations through enhanced opportunity for outdoor recreation, environmental education, and community engagement. The project area is within close proximity to the urban

community and can be an integral asset in conjunction with local efforts to provide opportunities to further engage the local community in wildlife conservation, environmental stewardship, and social justice.

No known environmental trends or planned actions by nearby municipalities, state government, tribal government, other federal agencies, or other parties are likely to cause significant adverse effects to environmental justice relevant to the proposed project area.

Impacts on Affected Resource

Alternative A

FWS has not identified any potential significant adverse environmental or human health impacts from this proposed action or any of the alternatives. FWS has identified that the City of Suffolk, Virginia, of which is the primary impact area of the proposed project, is at risk of economic distress based upon employment, household income, poverty rate, no high school diploma and other factors. Racial minorities make up approximately 56.7 percent of the population. The proposed Alternative A would have a positive impact to low income and underrepresented populations through enhanced opportunity for outdoor recreation, environmental education, and community engagement.

Alternative B

Like Alternative A, construction of the habitat enhancement and limited trail could benefit census block groups and underrepresented communities; however, to a much lesser extent due to the limited visitor services activities proposed in this alternative. This alternative will also serve to further establish Great Dismal Swamp NWR as a community asset to residents.

Alternative C

Environmental Justice concerns are expected to remain unimpacted.

Mitigation Measures and Conditions

Under the proposed action Alternative A and Alternative B, we will plan to install vegetative buffers around the perimeter of the project area and adjacent to existing residential homes to reduce any impact of increased noise or reduced visual aesthetics from the actions. In addition, existing homes acquired from willing sellers will be considered for repurposing to meet project objectives or demolished to increase natural scenery surrounding the area. Finally, the native pollinator garden will enhance wildlife habitat in the open spaces (previously farmland).

Monitoring

The Jericho Lane Trailhead has always been and will continue to be a place for public recreation and education at some level. Refuge staff continue to monitor public uses to ensure they remain compatible and not materially interfere with, or detract from, fulfillment of the Refuge System mission nor the purposes of the refuge. For example, law enforcement patrols and surveillance cameras are used to detect inappropriate use or behavior. Cameras are an integral technique for when staff cannot be present on site. Trail cameras are used to monitor visitor numbers.

Summary of Analysis

The purpose of this EA is to briefly provide sufficient evidence and analysis for determining whether to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI).

Alternative A – Visitor and Education Facility, Habitat Enhancement, Outdoor Restroom, and Trail Network

[Proposed Action Alternative]

As described above, the proposed action's potential impacts will primarily effect visitor use and services. Specifically, it would improve the visitor experience, provide potential for larger group experiences, and encourage wildlife observation, photography, and education through habitat enhancement and an expanded trail network. The visitor and education facility and nature trail will attract visitors and encourage engagement in hiking, wildlife observation, photography, environmental education, and interpretation. This alternative will substantially benefit the visitor experience. However, it will increase vehicular use of the area and slightly impact wildlife and habitat through the construction of a trail network and visitor facility, and increased wildlife-dependent recreation. These activities are expected to have negligible impact on the natural and human environment.

This alternative helps meet the purpose and need of FWS as described above, because it would provide a compatible wildlife-dependent recreational opportunity on Great Dismal Swamp NWR; specifically environmental education, to meet the objective outlined in the CCP.

The project will support more recent priorities of FWS and the Refuge System, including but not limited to, the Urban Wildlife Conservation Program (UWCP). The UWCP puts emphasis on wildlife conservation and education in urban areas. This project site is closest to the Hampton Roads (7 Cities) urban region and can be an integral asset in conjunction with local efforts to provide opportunities to further engage the urban communities in wildlife observation and photography and environmental and cultural education, environmental stewardship, and social justice. FWS has determined that the proposed action is compatible with the purposes of the Great Dismal Swamp NWR and the mission of the Refuge System. Applicable Compatibility Determinations are attached in Appendix B.

Alternative B – Habitat Enhancement, Outdoor Restroom, and Shortened Trail Network (No Visitor Facility)

Similar to Alternative A, this alternative primarily effects visitor uses and services. This alternative will also enhance the visitor experience; however, on a much smaller scale. There will not be a visitor facility. Vehicular use, hiking, and wildlife-dependent recreation would be at a reduced capacity. This alternative will only slightly enhance the visitor experience. No extended trail network would be installed, and visitor activities would be confined to the pavilion area and existing ditch road trails, which have less impact on wildlife and habitat as compared to Alternative A.

This alternative also helps meet the purpose and need of FWS as described above; however, to a much lesser extent than the proposed action to provide a compatible wildlife-dependent recreational opportunity; specifically environmental education. Educational programs would be minimized to smaller groups, less frequently, and only when suitable outdoor conditions allow. No refuge personnel would be present on a regular and recurring basis. Visitors would have to continue further south to the current headquarters office to reach personnel for assistance and information.

Alternative C – Current Management Strategies

[No Action Alternative]

As described above, FWS would not implement any significant enhancements to the Jericho Lane Trailhead and not expand education opportunities. FWS would continue to maintain the existing assets along the trailhead. Visitors and educational groups would continue to travel further to the headquarters facility, with limited capacity and facilities. Educational programs would continue to occur as requested with current resources. As visitor use would not change under this alternative, impacts to wildlife and other refuge resources would remain consistent with current conditions.

List of Sources, Agencies and Persons Consulted

- Congresswoman Kiggin's Office; VA-2
- Senator Kaine's Office, Virginia
- Senator Warner's Office, Virginia
- Nansemond Indian Tribe
- City of Suffolk
- City of Chesapeake
- Friends of Great Dismal Swamp National Wildlife Refuge
- The Nature Conservancy
- The Virginia Outdoor Foundation
- The Great Dismal Swamp Stakeholders Collaborative
- Dominion Energy
- Adjacent landowners and civic groups

List of Preparers

- Melanie Willard, (former) Wildlife Refuge Specialist, Great Dismal Swamp NWR
- Chris Lowie, Wildlife Refuge Manager, Great Dismal Swamp NWR
- Kathryn Minczuk, Conservation Planner, FWS Northeast Regional Office

State Coordination

The refuge has contacted the Virginia Department of Wildlife Resources and Department of Conservation and Recreation to inform them of our intent to acquire land for this project. A support letter was received from the Department of Wildlife Resources. The agencies will receive notification of the Draft EA to solicit formal review and comment.

Tribal Consultation

The refuge has contacted the Nansemond Indian Tribe to inform them of our intent to acquire land for this project. The Tribe is also on the Board of the Friends of Great Dismal Swamp NWR and serve on the planning committee for this project. This Draft EA was provided to the Tribe on January 3, 2024 for their review and comment. Comments were received on February 7, 2024 and incorporated into this Draft. The Tribe will receive the final Draft EA to solicit additional comments.

Public Outreach

A virtual public scoping meeting was held on February 9, 2022, where the refuge presented the proposed enhancements to Jericho Lane Trailhead including visitor and education facility, pavilion, trail network, and an adjacent Suffolk city park. The public was made aware of this meeting via the refuge's website and Facebook page. Additionally, adjacent landowners received letters informing them of this public meeting. Five participants joined the meeting. No substantive comments or questions were provided. Up to two public meetings will be held during the review period, either at a local library, refuge office, or on site. In addition, the Draft document will be available on our web page and at the headquarters. Notice of its availability will be posted at kiosks, on the web page, and Facebook for the review period.

Determination

This section will be filled out upon completion of any public comment period and at the time of finalization of the Environmental Assessment.

☐ FWS' action will not result in a significant impact on the quality of the human environment. See the attached **"Finding of No Significant Impact".**

☐ FWS' action **may significantly affect** the quality of the human environment and FWS will prepare an Environmental Impact Statement.

Signatures

Submitted By:

Project Leader Signature:

Date:

Concurrence:

Refuge Supervisor Signature:

Date:

Approved:

Regional Chief, National Wildlife Refuge System Signature:

Date:

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Appendix A

OTHER APPLICABLE STATUTES, EXECUTIVE ORDERS & REGULATIONS

Cultural Resources

American Indian Religious Freedom Act, as amended, 42 U.S.C. 1996 – 1996a; 43 CFR Part 7

Antiquities Act of 1906, 16 U.S.C. 431-433; 43 CFR Part 3

Archaeological Resources Protection Act of 1979, 16 U.S.C. 470aa – 470mm; 18 CFR Part 1312; 32 CFR Part 229; 36 CFR Part 296; 43 CFR Part 7

National Historic Preservation Act of 1966, as amended, 54 U.S.C. 300101 et seq; 36 CFR Parts 60, 63, 78, 79, 800, 801, and 810

Paleontological Resources Protection Act, 16 U.S.C. 470aaa – 470aaa-11

Native American Graves Protection and Repatriation Act, 25 U.S.C. 3001-3013; 43 CFR Part 10

Executive Order 11593 – Protection and Enhancement of the Cultural Environment, 36 Fed. Reg. 8921 (1971)

Executive Order 13007 – Indian Sacred Sites, 61 Fed. Reg. 26771 (1996)

Fish and Wildlife

Bald and Golden Eagle Protection Act, as amended, 16 U.S.C. 668-668c, 50 CFR 22

Endangered Species Act of 1973, as amended, 16 U.S.C. 1531-1544; 36 CFR Part 13; 50 CFR Parts 10, 17, 23, 81, 217, 222, 225, 402, and 450

Fish and Wildlife Act of 1956, 16 U.S.C. 742 a-m

Lacey Act, as amended, 16 U.S.C. 3371 et seq.; 15 CFR Parts 10, 11, 12, 14, 300, and 904

Migratory Bird Treaty Act, as amended, 16 U.S.C. 703-712; 50 CFR Parts 10, 12, 20, and 21

Executive Order 13186 – Responsibilities of Federal Agencies to Protect Migratory Birds, 66 Fed. Reg. 3853 (2001)

Natural Resources

Clean Air Act, as amended, 42 U.S.C. 7401-7671q; 40 CFR Parts 23, 50, 51, 52, 58, 60, 61, 82, and 93; 48 CFR Part 23

Wilderness Act, 16 U.S.C. 1131 et seq.

Wild and Scenic Rivers Act, 16 U.S.C. 1271 et seq.

Executive Order 13112 – Invasive Species, 64 Fed. Reg. 6183 (1999)

Water Resources

Coastal Zone Management Act of 1972, 16 U.S.C.

1451 et seq.; 15 CFR Parts 923, 930, 933

Federal Water Pollution Control Act of 1972 (commonly referred to as Clean Water Act), 33 U.S.C. 1251 et seq.; 33 CFR Parts 320-330; 40 CFR Parts 110, 112, 116, 117, 230-232, 323, and 328

Rivers and Harbors Act of 1899, as amended, 33 U.S.C. 401 et seq.; 33 CFR Parts 114, 115, 116, 321, 322, and 333

Safe Drinking Water Act of 1974, 42 U.S.C. 300f et seq.; 40 CFR Parts 141-148

Executive Order 11988 – Floodplain Management, 42 Fed. Reg. 26951 (1977)

Executive Order 11990 – Protection of Wetlands, 42 Fed. Reg. 26961 (1977)

Appendix B

2016 COMPATIBILITY DETERMINATION

in SUPPORT OF THE PROPOSED ACTION

1. Environmental Education, Interpretation, Wildlife Observation, and Wildlife Photography

COMPATIBILITY DETERMINATION

USE: Environmental Education, Interpretation, Wildlife Observation, and Wildlife Photography

REFUGE NAME: Great Dismal Swamp National Wildlife Refuge

DATE ESTABLISHED: August 30, 1974

ESTABLISHING AND ACQUISITION AUTHORITIES:
Dismal Swamp Study Act of 1972 (P.L. 92-478)
Dismal Swamp Act of 1974 (P.L. 93-402)
Authorizing the Transfer of Certain Real Property for Wildlife, 16 U.S.C. 667b
Fish and Wildlife Act of 1956, 16 U.S.C. 742f(a)(4), 16 U.S.C. 742f(b)(1)
Migratory Bird Conservation Act, 16 U.S.C. 715-715d, 715e, 715f-715r

PURPOSE FOR WHICH ESTABLISHED:
Subject to such restriction, conditions, and reservations as are specified in deeds [granted to the United States by The Nature Conservancy] … the Secretary shall administer the lands and waters and interests therein in accordance with the provisions of the National Wildlife Refuge System Administration Act … the Secretary may utilize such additional statutory authority as may be available to him for the conservation and management of wildlife and natural resources, the development of outdoor recreation opportunities, and interpretive education as appropriate to carry out the purposes of this Act … the Secretary may not acquire any such lands and waters and interests therein by purchase or exchange without first taking into account such recommendations as may result from the study required under Public Law 92-478. (Dismal Swamp Act of 1974, P.L. 93-402)

… particular value in carrying out the national migratory bird management program. (Authorizing the Transfer of Certain Real Property for Wildlife, 16 U.S.C. 667b)

… for the development, advancement, management, conservation, and protection of fish and wildlife resources. (16 U.S.C. 742f(a)(4);… for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition servitude. (16 U.S.C. 742f(b)(1), Fish and Wildlife Act of 1956)

…for use as an inviolate sanctuary, or for any other management purpose, for migratory birds. (16 U.S.C. Migratory Bird Conservation Act)

NATIONAL WILDLIFE REFUGE SYSTEM MISSION:

The mission of the National Wildlife 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.

DESCRIPTION OF USE:

(a) What is the use? Is the use a priority use?

Wildlife observation, wildlife photography, environmental education, and interpretation are often referred to as non-consumptive wildlife-dependent recreational uses. These are four of the six priority public uses of the National Wildlife Refuge System under 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 (Improvement Act).

(b) Where would the use be conducted?

Wildlife observation, wildlife photography, environmental education, and interpretation uses occur on all existing ditch roads, trails, the piers on Lake Drummond and the lake itself, at the refuge headquarters, and at other locations designated for public uses. The activities will also occur at all new trails, observation platforms and blinds, designated outdoor classroom sites, and at the future visitor center complex. Access to the refuge will continue to be focused at the primary public use entrances of Jericho Lane, Washington Ditch Road, Railroad Ditch Road, Feeder Ditch, Portsmouth Ditch Road, the refuge headquarters, and at the future visitor center complex.

(c) When would the use be conducted?

Hiking and biking for wildlife observation, wildlife photography, environmental education, and interpretation are allowed on the refuge trails and ditch roads daily, sunrise to sunset. There is no fee to enter the refuge for hiking or biking.

Vehicle access through to Lake Drummond for wildlife observation, wildlife photography, environmental education, and interpretation is allowed daily on the auto tour route through the Railroad Ditch entrance. Auto tour access hours are seasonal; April 1 through September 30, 7 a.m. to 7 p.m., and October 1 through March 31, 7:30 a.m. to 5 p.m.

Access to the other primary public use entrances, Washington Ditch Road, Jericho Lane, and Portsmouth Ditch Road for wildlife observation, wildlife photography, environmental education, and interpretation is controlled by electronically programed gates to allow entry to the parking areas daily, sunrise to sunset.

Staff- led programs and special events featuring these priority uses are scheduled based upon staff availability and public request.

Temporary closures may occur on any trail or ditch road due to conflicts with a management activities or extenuating circumstances necessitating a change from the normal schedule. Closures for management activities, scheduled hunt and scouting days, extensive flooding, downed trees, ice storms, wildfires, or other events affecting human safety are examples that would require these uses or access to be temporarily suspended.

(d) How would the use be conducted?

Wildlife observation, wildlife photography, environmental education, and interpretation uses occur on established and newly developed roads, trails, boardwalks, observation decks, piers, parking areas, on Lake Drummond, and in buildings that have been designed to accommodate such uses. The general public and organized groups are allowed to participate in these uses.

Interpretation programs are delivered by staff, volunteers, Refuge Friends, contracted and guest presenters, teachers, and other youth leaders on designated trails and education sites on the refuge. Programs are also presented at special events and at displays, both on and off the refuge. Educational and interpretive information is provided by signage, kiosks, printed information, exhibits, audiovisual presentations, web-based information, podcasts, radio messages, staff and volunteer contacts, and lecture programs.

Non-staff program leaders are required to obtain a special use permit.

Wildlife observation and wildlife photography are usually self-conducted activities and are facilitated through the access to trails, viewing areas, tours, programs, and related materials. Viewing scopes are provided at appropriate viewing areas. Wildlife observation programs such as birding field trips and other nature walks or photography workshops are advertised and scheduled based on staff availability.

The public are expressly restricted to designated ditch roads, trails, outdoor classroom sites, boardwalks, observation platforms, Lake Drummond, and its piers for these priority uses. Some designated ditch roads and trails are open to the public for hiking or biking only. These roads and trails account for more than 90 percent of the access routes into and through the refuge. The boardwalk trails are limited to hikers only.

Automobile access to the refuge for wildlife observation, wildlife photography, environmental education, and interpretation uses is controlled through the use of electronic gates located at the entrances of Railroad Ditch Road, Portsmouth Ditch Road, Washington Ditch Road, and Jericho Lane. At the Portsmouth Ditch Road, Washington Ditch Road, and the Jericho Lane entrances, vehicle access is allowed only to the designated parking areas, daily, sunrise to sunset. Vehicles

are allowed passage to Lake Drummond through the Railroad Ditch Road entrance, including those with authorized boats, by terms of a self-serve fee permit, refuge annual pass, or permit and Duck Stamp. Conditions of the permit or pass are defined and include required compliance to all refuge rules and regulations, to the stated tour hours, and by payment of the self-serve fee of $5.00 or annual pass or Duck Stamp fee of $25.00. The self-serve fee is deposited at the entrance gate and the annual pass and Duck Stamps can be purchased from the refuge headquarters. Auto tour access will be daily, with seasonal hours of April 1 through September 30, 7 a.m. to 7 p.m. and October 1 through March 31, 7:30 a.m. to 5 p.m. Education groups may request a special use permit allowing automobile access through other gated areas to designated outdoor classroom sites when necessary for permitted, site-specific, learning-based activities.

Water access for wildlife observation, wildlife photography, environmental education, and interpretation uses is limited to Lake Drummond. Boating access to Lake Drummond from the east is through the Feeder Ditch and is allowed daily, from sunrise to sunset with no required access permit. However, to access the lake from the east, boaters must portage their craft or use the electric railway tram to cross around the spillway at the Lake Drummond Reservation. The U.S. Army Corps of Engineers manages the reservation and the tram. They impose a craft weight limit of 1,000 pounds for tram use. When access to the lake is from the Railroad Ditch Road entrance, access is regulated by terms of the Railroad Ditch auto tour self-serve fee permit, annual pass, or permit and Duck Stamp. Boats on the lake are limited to 25 horsepower or less. Canoes and kayaks are allowed. Boats are not allowed in the ditches other than in the Feeder Ditch.

During the refuge white-tail deer and black bear hunt, designated days in October and November, most primary entrances are closed to all public activity other than to visitors with refuge hunt permits. The Washington Ditch entrance, Washington Ditch Boardwalk trail, and the Washington Ditch trail to Lake Drummond are set aside as a no hunt zone to allow hikers and bikers a safe area for these uses. The Railroad Ditch auto tour is not open to the general public on hunting and scouting days.

(e) Why are these activities being proposed?

Wildlife observation, wildlife photography, environmental education, and interpretation are priority public uses as defined by the National Wildlife Refuge System Administration Act of 1966, as amended by the National Wildlife Refuge System Improvement Act of 1997 (Public Law 105-57), and if compatible, are to receive enhanced consideration over other general public uses.

These uses are conducted to provide compatible educational and recreational opportunities for visitors to enjoy the resource and to gain understanding and appreciation for fish, wildlife, wildlands ecology, the relationships of plant and animal populations within the ecosystem, and

wildlife management. These uses will provide opportunities for visitors to observe and learn about wildlife and wildlands at their own pace in an unstructured environment and to observe wildlife habitats firsthand. These uses will enhance the public's understanding of natural resource management programs and ecological concepts, to learn about the U.S. Fish and Wildlife Service's role in conservation, to better understand the biological facts upon which management programs are based, and to foster an appreciation for the importance of wildlife and wildlands. It is anticipated that participation in these uses will result in a more informed public, with an enhanced stewardship ethic and enhanced support and advocacy for wildlife conservation.

Priority public uses provide an intrinsic, safe, outdoor recreational opportunity in a scenic setting, with the realization that those who come strictly for recreational enjoyment will be enticed to participate in the more educational facets of the visitor use program, and can then become informed advocates for wildlife conservation.

AVAILABILITY OF RESOURCES:

Allowing the priority uses of wildlife observation, wildlife photography, environmental education, and interpretation is within the resources available to administer our visitor services program with the current level of participation. Facilities or materials needed to support these uses include maintaining access roads, parking areas, roadside pull-offs, boat launch area, kiosks, signs, visitor center exhibits, wayside exhibits, observation platforms, photography blinds, and trails. Funding also provides for refuge programs, special events, publications, social media sites, and the refuge's website, as well as other information sharing venues.

ANTICIPATED IMPACTS OF THE USE:

Wildlife observation, wildlife photography, environmental education, and interpretation can result in varying impacts to wildlife resources. A positive effect of allowing visitors to access the refuge will be the provision of additional wildlife-dependent recreational opportunities and a better appreciation and more complete understanding of the wildlife and habitats associated with the refuge, the National Wildlife Refuge System, and the world at large.

The refuge expects that wildlife observation, wildlife photography, environmental education, and interpretation will continue to have short-term, long-term, and cumulative positive impacts on the economies of the cities and counties in which the refuge lies. While not as significant as the nearby summer beach tourism, visitors participating in these wildlife-oriented, recreational pursuits come in noteworthy numbers, staying and spending in the local communities.

Access for and activities of wildlife observation, wildlife photography, environmental education, and interpretation are expected to have negligible adverse short-term, long-term, or cumulative impacts on soils, vegetation, local or regional air quality, and hydrology or water quality.

Impacts are more often related to access for the uses than for the use itself. Regulations requiring the visitor to enter the refuge through existing entrance gates, dirt or gravel roads, or by limited access for vehicles and boats reduce impacts. These roads and trails constitute less than 1 percent of the total habitat found in the refuge. The dirt roads, which serve as the hiking and biking paths with little exception, were constructed prior to the establishment of the refuge. Their initial impact on the habitat was significant in that they have altered the natural hydrology, interrupted natural wildlife corridors, and brought daylight into the dense canopy. The priority uses occur on these existing roads, trails, and hardened sites where minimal additional impacts will occur. Boardwalks are constructed to limit negative impacts to the habitat such as soil compaction and vegetation trampling but allowing access to more naturalized areas of the forest.

Wildlife disturbances for wildlife observation, wildlife photography, environmental education, and interpretation typically result in indirect short-term adverse impacts, which would be negligible because they would not cause long-term effects on individuals and populations. In general, the presence of humans would disturb most mammals, most bird species, and most reptiles. These types of disturbances more often result in the wildlife avoiding the road, trail, or immediate vicinity. Visitors for wildlife observation, wildlife photography, and interpretation are required to remain on designated roads, trails, piers, and boardwalks further reducing wildlife disturbances. Staff will educate visitors to the importance of remaining on the designated trails and boardwalks to reduce disturbances to both wildlife and to the habitat.

The requirement for visitors to stay on the designated roads and trails is posted and printed in all visitor information. The uses are regulated by signing at refuge trail heads and entrance roads (posting Prohibited/Permitted signing, posting time of day use is authorized, maximum speed limit signing, maps and interpreted information, and distribution of refuge leaflets). Law enforcement patrols and compliance checks by refuge officers are used to enforce the regulations. Staff and volunteers at the refuge office give instructions to visitors on how these uses are to be conducted. Brochures and maps further depicting the roads and trails open for these uses are available at trailheads, on the refuge's website, at the refuge headquarters, and in the future, at the visitor center complex.

Additional anticipated impacts from hiking and biking access for these uses include collecting, poaching, plant removal, littering, vandalism, and conflict with other uses. Refuge law enforcement officer(s) promote compliance with refuge regulations, monitor visitor use patterns and public safety, and document visitor interactions. Refuge law enforcement officer(s) monitor all areas and enforce all applicable State and Federal Regulations. The dirt roads are wide enough to prevent conflicts between bicyclist and hikers. Bicyclists are not allowed to use the boardwalks in order to avoid conflict there.

Vehicle access is restricted to the entrance roads and parking areas or to the auto tour route to Lake Drummond to minimize wildlife conflicts. The Jericho Ditch, Washington Ditch, and Portsmouth Ditch entrances restrict vehicle access by monthly adjustments to sunrise to sunset tables. The auto tour route has seasonally adjusted hours to prevent wildlife disturbances during twilight when some wildlife are more active.

Activities on and around Lake Drummond are restricted to pier or boat use. The dense forest vegetation forms a barrier around the lake rim. There is virtually no accessible bank or shore line, providing physical protection to the habitat and wildlife populations.

Disturbance factors resulting from visitor use are always considered for all state and Federal listed species. Bald eagles may nest in areas visible to the public making for excellent wildlife observation, photography, and interpretative opportunities. At this time these activities are not expected to have any negative impacts on bald eagles.

Environmental education activities occasionally occur off the roads and trails on a limited basis to achieve on-site, hands-on, action-oriented education objectives. These activities may produce short-term impacts on the sites used for the activities. Impacts include trampling of vegetation and temporary disturbance to wildlife species in the immediate use area. Group activities would not be done where impacts would be permanent or long-lasting.

The functioning of these uses as part of the overall public use program will be reviewed annually to ensure that it contributes to refuge objectives in managing quality recreational opportunities and protecting habitats, and is subject to modification if on-site monitoring by refuge personnel or other authorized personnel results in unanticipated negative impacts to natural communities, wildlife species, or their habitats or other refuge uses.

PUBLIC REVIEW AND COMMENT:

This compatibility determination was advertised and released for a public comment period from June 5 to June 30, 2015. Written and verbal comments were accepted and taken under consideration. Following the comment period, the final document was posted on the refuge website and became part of the refuge management plan.

DETERMINATION (CHECK ONE):

_____ Use is NOT compatible

__X__ Use is compatible, with the following stipulations

STIPULATIONS NECESSARY TO ENSURE COMPATIBILITY:

To ensure compatibility with refuge purposes and the mission of the National Wildlife Refuge System wildlife observation, wildlife photography, environmental education, and interpretation can occur on the refuge if the refuge-specific regulations are followed and the following stipulations are met:

- Access for these uses is limited to designated roads, trails, observation decks, the piers on Lake Drummond and the lake itself, and in facilities that are listed on refuge brochures, maps, and signs.
- Opportunities for wildlife observation, wildlife photography, environmental education, and interpretation are available on existing roads and during normal operational hours. Access to closed areas or use during the refuge's closed hours requires a special use permit, which is subject to the refuge manager's approval, unless the activity is in conjunction with a refuge staff or volunteer led program.
- Pets are permitted on the refuge but must be leashed at all times.
- Bicycling is allowed only on designated ditch roads and trails.
- Boating access on Lake Drummond is limited to daylight hours only. Boaters must be out of the water and have exited the refuge by established designated times based on how you accessed the lake. Boaters exiting east by the Feeder Ditch must be off the lake by sunset. Boaters exiting west must observe the seasonal hours of the auto tour permit.
- All boaters would be required to operate their craft and possess all safety equipment in accordance with Commonwealth of Virginia and U.S. Coast Guard Regulations.
- The public use program will be reviewed annually to ensure that it contributes to refuge objectives in managing quality recreational opportunities and protecting habitats, and is subject to modification if on-site monitoring by refuge personnel or other authorized personnel results in unanticipated negative impacts to natural communities, wildlife species, or their habitats or other refuge uses.
- Refuge law enforcement officer(s) promote compliance with refuge regulations, monitor visitor use patterns and public safety, and document visitor interactions. Refuge law enforcement officer(s) monitor all areas and enforce all applicable State and Federal Regulations.
- This use must be conducted in accordance with Federal regulations (50 CFR), and special refuge-specific regulations available from the refuge headquarters, in refuge brochures, or from the refuge website.
- The following activities are prohibited, including, but not limited to: ice skating, camping, rollerblading, traditional geocaching/metal detecting, off-road or off-trail biking, ATVs, operation of kites, model boats and airplanes, soliciting of funds (per 50 CFR 27.97 for Private Operations and per 50 CFR 27.86 for Begging), and other activities identified in 50 CFR Part 27.

JUSTIFICATION:
Wildlife observation, wildlife photography, environmental education, and interpretation are priority wildlife-dependent uses for the National Wildlife Refuge System through which the public can develop an appreciation for fish and wildlife (Executive Order 12996, March 25, 1996 and the National Wildlife Refuge System Administration Act of 1966, as amended by the National Wildlife Refuge System Improvement Act of 1997 (Public Law 105-57)). The U.S. Fish and Wildlife Service's policy is to provide expanded opportunities for wildlife-dependent uses when compatible and consistent with sound fish and wildlife management and ensure that they receive enhanced attention during planning and management.

Specific refuge regulations address equity and quality of opportunities for visitors and help safeguard refuge habitats. Any impacts from this proposal, short-term and long-term, direct, indirect, and cumulative, are expected to be minor and are not expected to diminish the value of the refuge for its stated objectives. Available parking and size of the facilities will typically limit use at any given time, except during special events. Conflicts between visitors are localized and are addressed through law enforcement, visitor education, and continuous review and updating to visitor use regulations.

Stipulations above ensure proper control of the means of use and provide management flexibility should detrimental impacts develop. Allowing these uses also furthers the mission of the National Wildlife Refuge System by providing renewable resources for the benefit of the American public while conserving fish, wildlife, and plant resources on the refuge.

This activity will not materially interfere with or detract from the mission of the National Wildlife Refuge System or the purpose for which the refuge was established.

Signature: Refuge Manager _____ 2/29/16
(Signature and Date)

Concurrence: Regional Chief _____ 2/22/2016
(Signature and Date)

Mandatory 10 year Re-evaluation Date: 2/2026

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