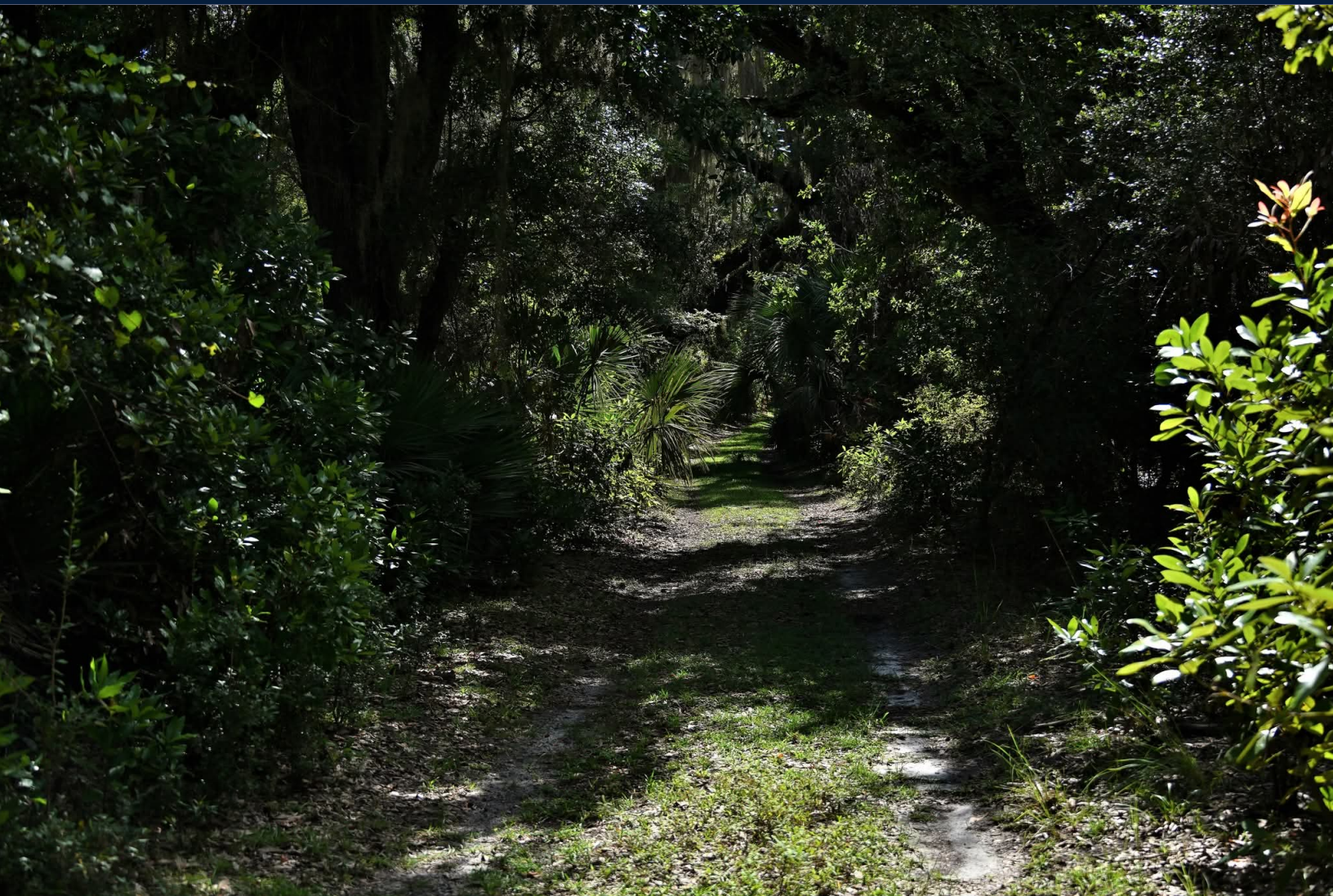


Cumberland Island National Seashore

U.S. Department of the Interior
National Park Service



Voluntary Land Exchange Environmental Assessment



September 2026
DOI-NPS-124458

CONTENTS

CHAPTER 1: PURPOSE AND NEED	1
INTRODUCTION.....	1
SEASHORE LOCATION AND BACKGROUND	1
PURPOSE OF AND NEED FOR PROPOSED ACTION	3
OBJECTIVES IN TAKING ACTION	3
PROJECT AREA	3
CHAPTER 2: ALTERNATIVES	5
INTRODUCTION.....	5
ALTERNATIVE 1: NO ACTION.....	5
ALTERNATIVE 2: PROPOSED ACTION.....	5
Exchange 1.....	6
Exchange 2.....	9
RESOURCE PROTECTION MEASURES.....	12
CHAPTER 3: AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES	13
INTRODUCTION.....	13
ISSUES AND RESOURCE TOPICS.....	13
ANALYSIS METHODS FOR ESTABLISHING IMPACTS.....	13
Reasonably Foreseeable Actions	14
VISITOR USE AND EXPERIENCE.....	14
Affected Environment – Current and Expected Future Conditions of the Environment if No Action is Taken.....	14
Environmental Consequences.....	16
WILDERNESS	16
Affected Environment – Current and Expected Future Conditions of the Environment if No Action is Taken.....	16
Environmental Consequences.....	22
WILDLIFE, INCLUDING THREATENED AND ENDANGERED SPECIES	23
Affected Environment – Current and Expected Future Conditions of the Environment if No Action is Taken.....	23
Environmental Consequences.....	30
VEGETATION	31
Affected Environment – Current and Expected Future Conditions of the Environment if No Action is Taken.....	31
Environmental Consequences.....	39
SOILS	40
Affected Environment – Current and Expected Future Conditions of the Environment if No Action is Taken.....	40
Environmental Consequences.....	46
WATER RESOURCES	47

Affected Environment – Current and Expected Future Conditions of the Environment if No Action is Taken.....	47
Environmental Consequences.....	55
LAND USE.....	56
Affected Environment – Current and Expected Future Conditions of the Environment if No Action is Taken.....	56
Environmental Consequences.....	58
ARCHEOLOGICAL RESOURCES	60
Affected Environment – Current and Expected Future Conditions of the Environment if No Action is Taken.....	60
Environmental Consequences.....	61
CHAPTER 5: REFERENCES.....	62
CHAPTER 6: LIST OF PREPARERS	67

LIST OF FIGURES

Figure 1. Cumberland Island National Seashore Regional Location.....	2
Figure 2. Project Area	4
Figure 3. Exchange 1 Tracts	7
Figure 4. Exchange 1b Conservation and Potential Building Areas.....	8
Figure 5. Exchange 2 Tracts	10
Figure 6. Exchange 2b Conservation and Potential Building Areas.....	11
Figure 7. Cumberland Island Wilderness Boundary.....	18
Figure 8. Vegetation Under Exchange 1a	33
Figure 9. Vegetation Under Exchange 1b.....	34
Figure 10. Vegetation on Privately Owned Parcels Under Exchange 2.....	35
Figure 11. Vegetation on NPS-Owned Parcels Under Exchange 2	36
Figure 12. Soil Types Under Exchange 1a	42
Figure 13. Soil Types Under Exchange 1b	43
Figure 14. Soil Types on Privately Owned Lands Under Exchange.....	44
Figure 15. Soil Types Under Exchange 2	45
Figure 16. Water Resources Under Exchange 1a.....	50
Figure 17. Water Resources Under Exchange 1b	51
Figure 18. Water Resources on Privately Owned Lands Under Exchange 2.....	52
Figure 19. Water Resources on NPS-Owned Lands Under Exchange 2	53

LIST OF TABLES

Table 1. Alternatives Summary	12
Table 2. Federally Listed Species Within or Adjacent to the Project Area	26
Table 3. Acreages of Vegetation Communities at the NPS Federal Land Exchanges.....	37
Table 4. Soil Types at the NPS Federal Land Exchanges.....	41
Table 5. NWI Wetlands in the Project Area	56
Table 6. Land Use and Zoning Descriptions within the NPS Federal Land Exchange Parcels.....	57
Table 7. NPS Federal Land Exchanges to Private Land Ownership.....	59
Table 8. Archeological Sites Within the Project Area	60

APPENDICES

Appendix A—Consultation and Coordination

Appendix B—Alternatives and Issues and Impact Topics Considered but Dismissed

Appendix C—Vegetation Communities

ACRONYMS AND ABBREVIATIONS

CFR	Code of Federal Regulations
EA	Environmental Assessment
EFH	Essential Fish Habitat
FMP	Fire Management Plan
IPaC	USFWS Information for Planning and Consultation
m	meter
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NPS	National Park Service
National Register	National Register of Historic Places
NWI	National Wetlands Inventory
PEPC	Planning, Environment, and Public Comment
PL	Public Law
ppt	parts per thousand
Seashore	Cumberland Island National Seashore
USFWS	US Fish and Wildlife Service
U.S.C.	United States Code

The National Park Service (NPS) has considered the factors mandated by the National Environmental Policy Act (NEPA). This environmental assessment represents the NPS's good-faith effort to fulfill NEPA's requirements by prioritizing documentation of the most important relevant considerations within the statutorily mandated page limits and timeline. This prioritization reflects the NPS's expert judgment; and any considerations addressed briefly or left unaddressed are, in NPS's judgment, comparatively non-substantive and would not meaningfully inform NPS's consideration of environmental effects and the decision to be made. The environmental assessment is substantially complete, considers the factors mandated by NEPA, and, in the decisionmaker's judgment, contains analysis adequate to inform NPS's decision regarding the proposed action.

CHAPTER 1: PURPOSE AND NEED

INTRODUCTION

The National Park Service (NPS) is considering two land exchanges within Cumberland Island National Seashore (the Seashore) to improve resource protection, preserve wilderness character, and enhance the overall manageability of Seashore lands. The proposed project includes two preliminary land exchange agreements between the NPS and private landowners, through which the NPS would acquire privately owned parcels located within core resource areas of the Seashore. In return, the NPS would convey federally owned property of comparable value to the private parties. These exchanges aim to consolidate public ownership, direct development potential toward areas with fewer resource concerns, and promote long-term conservation and natural resource management.

This environmental assessment (EA) has been prepared in accordance with the National Environmental Policy Act of 1969 (NEPA), 516 DM 1, U.S. Department of the Interior, Handbook of National Environmental Policy Act Implementing Procedures, February 2026 (DOI NEPA Handbook; NPS 2026a) and its appendices, along with the National Environmental Policy Act Implementing Regulations at 43 Code of Federal Regulations (CFR) Part 46. The purpose of this EA is to evaluate the potential impacts of the proposed land exchanges on the natural, cultural, and human environment and to inform decision-making regarding the implementation of the project.

Chapter 1 describes the reasons the NPS is proposing the two land exchanges. Specifically, this section describes the purpose of and need for the proposed action; objectives in taking action; the project area and background; and issues and resource topics retained for detailed analysis.

SEASHORE LOCATION AND BACKGROUND

Congress established the Seashore as a unit of the National Park System in the Act of October 23, 1972 (Public Law [PL] 92-536, codified at 16 United States Code [U.S.C.] 459i *et seq.*). Cumberland Island is the largest and southernmost of Georgia's barrier islands, located 1.0 to 3.0 miles off the mainland. Situated in Camden County, Georgia, it lies east of St. Marys, Georgia, and north of Amelia Island, Florida (figure 1). The island is 17.5 miles long, ranging from approximately 0.5 miles to 3.0 miles wide, and encompasses 36,415 acres of which 16,850 are marsh, mud flats, and tidal creeks. The northern portion of the island includes 9,907 acres of designated wilderness, and an additional 10,710 acres are classified as potential wilderness (PL 108-447, sec 145).

Most of the island's uplands are federally owned and managed by the NPS. The remaining portions of the island are state owned, privately owned, or owned by other federal entities, including the Department of Defense. The Seashore includes the island and a small parcel on the mainland in St. Marys, Georgia.

Primary transportation to Cumberland Island is by boat. Island visitation is serviced by a ferry that runs from the NPS Visitor Center in St. Marys to docks on the island at Dungeness and Sea Camp. Recreational opportunities at the Seashore include walking and hiking, camping, beachcombing, swimming, wildlife viewing, hunting, fishing, seeking solitude, and visiting the Seashore's historic sites.

Cumberland Island National Seashore Georgia

National Park Service
U.S. Department of the Interior

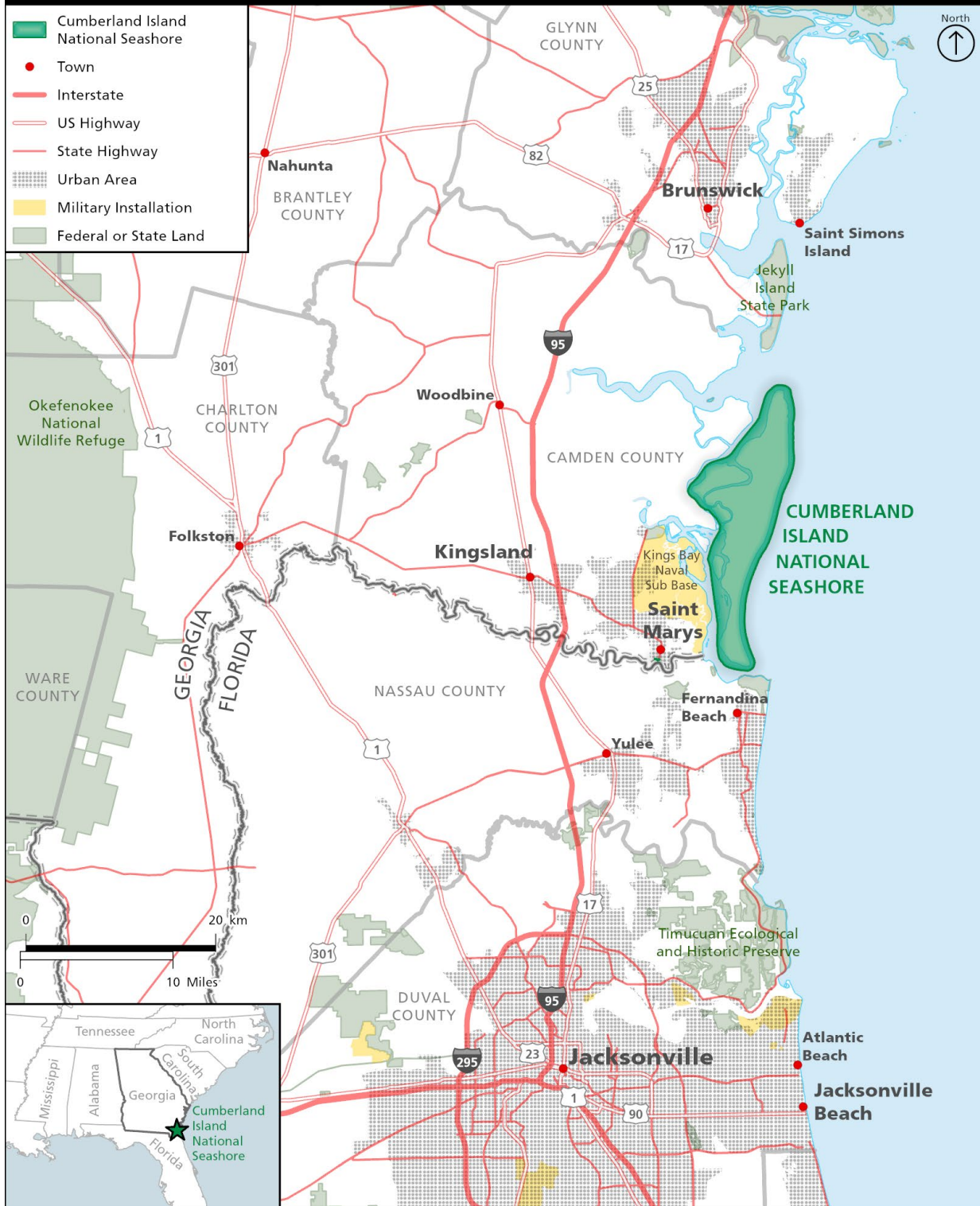


FIGURE 1. CUMBERLAND ISLAND NATIONAL SEASHORE REGIONAL LOCATION

PURPOSE OF AND NEED FOR PROPOSED ACTION

The purpose of the proposed action is to acquire, through voluntary land exchanges with conservation easements, parcels of privately owned land within the authorized boundary of the Seashore.

The proposed action is needed to provide a relatively contiguous corridor of federally owned land within core areas of the Seashore. The acquisitions would improve the manageability of these proposed voluntary exchange lands, preserve important resources, and prevent further development in core areas of the Seashore. Through the proposed voluntary land exchanges, the NPS would seek to relocate private interests to other areas on the island, where private use is more appropriate and less impactful on Seashore visitors.

The privately owned parcels under consideration for NPS acquisition intersect the Seashore's Main Road and key visitor use trails (figure 2). These privately owned parcels also contain important natural and cultural resources that the Seashore seeks to protect and conserve, including live oak maritime forests, archeological resources, an intact barrier island ecosystem, nesting for shorebirds and threatened sea turtles, and lands with a primitive and undeveloped character.

OBJECTIVES IN TAKING ACTION

Objectives are specific statements of purpose; they describe what must be accomplished to a large degree for the project to be considered a success. The proposed land exchanges would support key objectives and desired conditions of the NPS, such as:

- Improving the continuity and connectivity of Seashore land to expand wildlife corridors and increase NPS management efficiency.
- Safeguarding critical habitat for federally protected species such as sea turtles and nesting shorebirds.
- Facilitating additional designation of wilderness.
- Preventing or limiting private development on or near significant cultural and natural resources.

PROJECT AREA

The project area consists of five parcels of land (figure 2) referred to as exchange 1a and 1b and exchange 2a and 2b (2a includes two parcels), located within the authorized boundary of the Seashore. Under these exchanges, privately owned property would be conveyed to the NPS, and NPS property would be transferred to private ownership. Chapter 2 describes the tracts of lands and preliminary land exchange agreements in more detail.

Cumberland Island National Seashore Georgia

National Park Service
U.S. Department of the Interior



FIGURE 2. PROJECT AREA

CHAPTER 2: ALTERNATIVES

INTRODUCTION

This chapter describes the alternatives under consideration for the Seashore land exchange. NEPA requires that federal agencies explore a range of reasonable alternatives, which may include a “no-action alternative.” The description and evaluation of the no-action alternative provides a baseline to which the action alternatives can be compared. A no-action alternative (alternative 1) and one action alternative (alternative 2) are described and evaluated below. The action alternative presents a reasonable and feasible approach that meets the purpose of and need for action. Other alternatives and alternative elements that were initially considered but dismissed from detailed analysis are described in appendix B.

ALTERNATIVE 1: NO ACTION

Under alternative 1, the no-action alternative, the NPS would not proceed with the proposed land exchanges. Existing landownership would remain unchanged, with private landowners continuing to own fee simple private parcels within the Seashore boundary. Some of these private parcels are located in wilderness and other sensitive habitat, while others contain portions of the Seashore’s trail system. The NPS would retain ownership of the parcels proposed for conveyance and continue to manage these lands under existing policies and plans.

Privately owned parcels would remain, and development could occur on those properties. Current zoning imposes restrictions on private land use, including prohibitions on the construction of new residential structures. However, certain private property owners retain historical use rights that predate current zoning and land management regulations. These rights could allow landowners to pursue development or residential or commercial use of their properties, subject to obtaining local variances, rezoning approvals, permits, and other regulatory authorizations. Therefore, under the no-action alternative, privately owned property would remain under existing ownership, and development could occur, in accordance with applicable property rights, county regulations, and permitting requirements. Future development within private parcels has the potential to sever existing visitor trails, fragment habitat, diminish wilderness character, and damage sensitive ecosystems, including maritime forest, salt marsh, and sea turtle nesting beaches. No changes to designated or potential wilderness areas would occur under this alternative.

ALTERNATIVE 2: PROPOSED ACTION

Under alternative 2, the NPS would acquire one or both privately owned parcels based on preliminary land exchange agreements. Preliminary exchange agreements are non-binding agreements that outline the key terms and conditions of the proposed exchange before the parties potentially sign a final, fully binding contract. Once acquired, these parcels would be part of the Seashore and no longer be subject to private development, reducing a potential source of impacts on natural resources, cultural resources, and visitor use in those areas. Acquisition would allow for the lands to be converted to designated wilderness, if applicable, and managed according to the Wilderness Act and NPS policy to preserve the wilderness character of the land for recreational, scenic, scientific, educational, conservation, and historical uses.

For each potential land acquisition, an NPS parcel of comparable value would be conveyed to private ownership as part of the exchange agreement. These agreements would include a conservation easement on lands transferred from the NPS to private landowners to protect important resource values on those lands. However, the exact acreages, locations, and terms of the conservation easements would be part of a negotiation with the private landowners through the land exchange agreement process. Table 1, provided at the end of this section, offers a summary of the land exchanges.

EXCHANGE 1

Parcel Overview

NPS Acquisition. As part of exchange 1, the NPS would acquire approximately 10 acres of unimproved maritime forest (exchange 1a on figure 3) located on the marsh side of the island adjacent to the Old River Trail, which connects to Plum Orchard and serves as an alternative to the Main Road. This property would be converted to designated wilderness after NPS acquisition.

Private Acquisition. Exchange 1 would include the transfer of an approximately 20-acre NPS parcel (exchange 1b on figure 3) to private land ownership. This property has existing access to water, utility lines, and access roads. A potential building area and a conservation easement were developed in support of a preliminary exchange agreement. Allowable uses and restrictions are described below. Figure 4 displays the conservation easement and potential building area. This property is not in an area with high visitor use. The NPS would retain all surface and subsurface oil, gas, and mineral rights.

Permitted Land Uses, Designated Areas, and Restrictions

The parcel transferred to private ownership (exchange 1b on figure 3) would be required to remain intact and could not be divided, subdivided, or partitioned. The NPS would retain the right of first refusal to purchase the parcel, except in cases where a sale or transfer is made to a blood descendant of the parcel's owner.

Through execution of a conservation easement, 80% of the parcel would be designated as conservation area and be limited to conservation purposes and non-commercial, non-industrial, low-impact outdoor recreation in perpetuity. Ground-disturbing activities (including installation of private septic systems or potable water wells) would not be permitted within the conservation area. The placement of fill material would be prohibited without prior written approval from the Superintendent. Likewise, cutting, trimming, or removal of trees, plants, shrubs, or other vegetation would be prohibited without prior written permission. Firewood could be collected from the conservation area only if it consists of material already on the ground or trees that are dead, diseased, or injured and authorized for removal.

The remaining 20% of the parcel would be designated as a potential building area and may be used for non-commercial, non-industrial, single-family residential use. Utilities and roads would be authorized solely within this area. Construction and maintenance of a maximum of two single-family residences would be permitted, together with ancillary structures and a single access road to Old House Road, provided the total building footprint does not exceed a total of 15,000 square feet per residence. Ancillary structures within the potential building area may be constructed, maintained, repaired, and replaced in compliance with applicable local laws, subject to a maximum height restriction of 35 feet. The installation of driveways, outbuildings, patios, septic systems, and potable water wells would also be restricted to the designated potential building area. Dock construction would not be authorized.

Additional restrictions would apply throughout the parcel and would address water protection and waste disposal as agreed upon in the exchange agreements. Development and use of the parcel would be required to adhere to all relevant local laws and regulatory frameworks, including Georgia Department of Natural Resources guidelines, the Coastal Marshlands Protection Act, the Georgia Shore Protection Act, and the Georgia Erosion and Sedimentation Act. The direct discharge of treated or untreated sewage or gray wastewater into fresh waters on the parcel would be prohibited. Solid waste management would be controlled through prohibitions on the accumulation or storage of debris, refuse, abandoned vehicles, or marine equipment, with only limited and screened storage of vegetative debris or temporarily generated waste within designated potential building areas. The application of chemicals, including herbicides, pesticides, fertilizers, and other potentially harmful substances, would be prohibited within conservation lands unless specifically authorized by the Superintendent.

Cumberland Island National Seashore Georgia

National Park Service
U.S. Department of the Interior

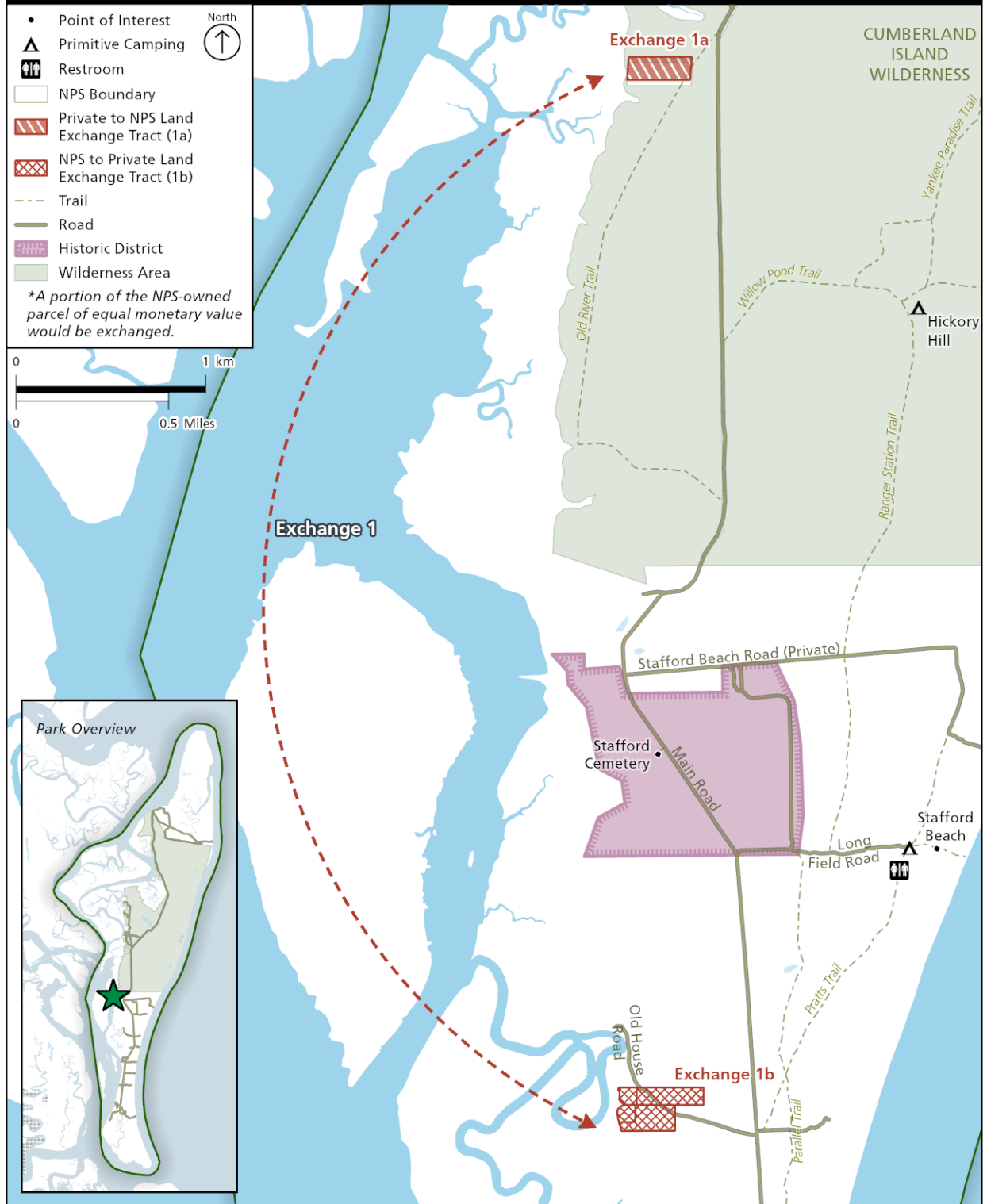


FIGURE 3. EXCHANGE 1 TRACTS

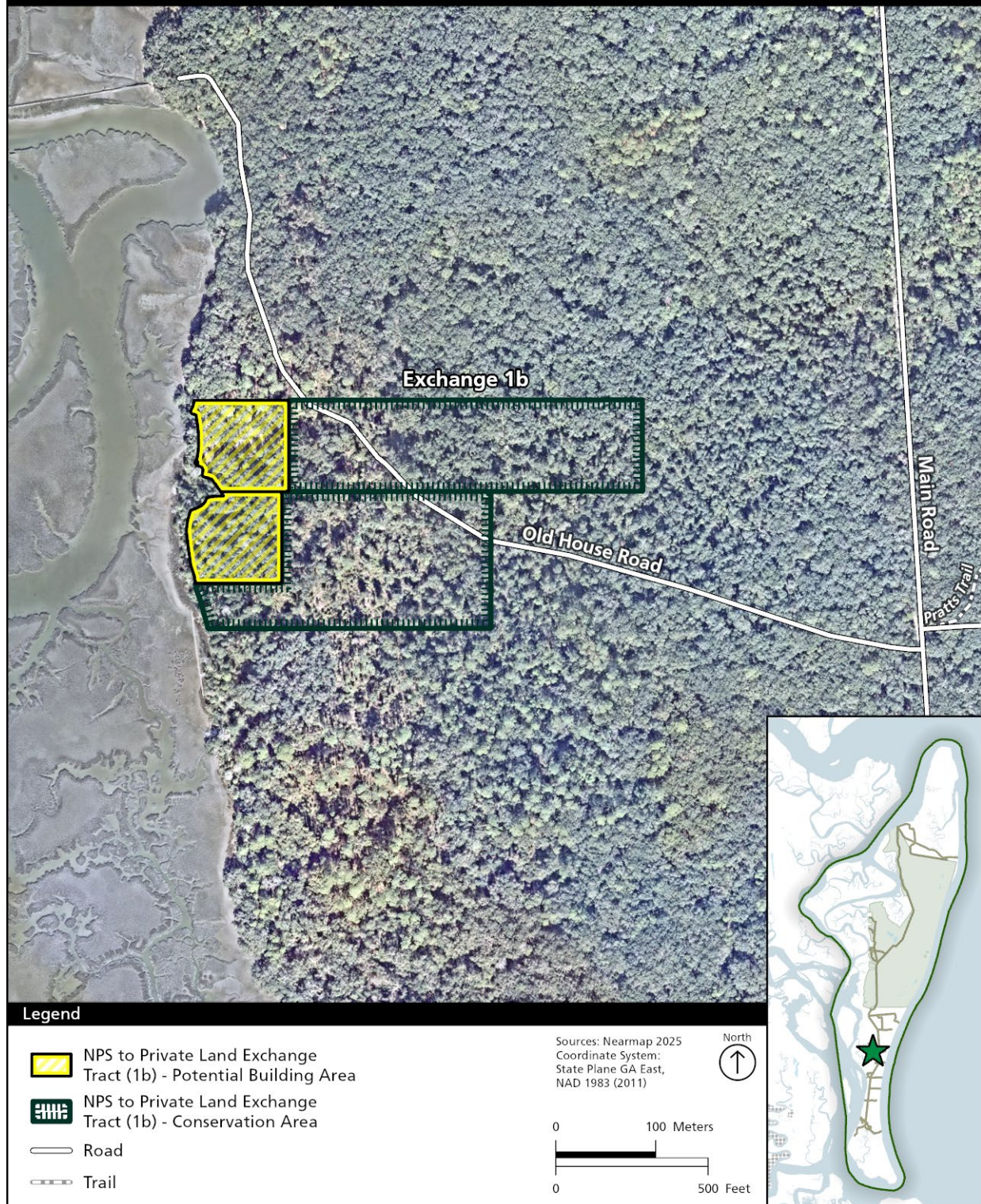


FIGURE 4. EXCHANGE 1B CONSERVATION AND POTENTIAL BUILDING AREAS

EXCHANGE 2

Parcel Overview

NPS Acquisition. Under exchange 2, the NPS would acquire two non-contiguous parcels totaling approximately 119 acres of upland forest, salt marsh, and ocean frontage east of the Main Road (exchange 2a on figure 5) that supports important habitat for shorebirds and federally threatened sea turtles. The parcels also have potential for interpretation and educational outreach in support of the mission of the Seashore. Acquisition of these parcels would maintain a green corridor, east of the Main Road to the beach, where development would not be allowed, which would guarantee continuity of the primary north-south artery for hikers, the Parallel Trail, in this location.

Private Acquisition. Exchange 2 would include the transfer of an approximately 60-acre NPS parcel (exchange 2b on figure 5) to private land ownership. This parcel has existing access to water, utility lines, and access roads. A potential building area and a conservation easement were developed in support of a preliminary exchange agreement. The allowable uses and restrictions are described below. Figure 6 displays the conservation easement and potential building area. This property is not in an area with high visitor use. The NPS would retain all surface and subsurface oil, gas, and mineral rights. Subject to completion of the land exchange, the NPS would remove an existing but defunct dock associated with exchange 2b.

Permitted Land Uses, Designated Areas, and Restrictions

The parcel transferred to private ownership would be required to remain intact and could not be divided, subdivided, or partitioned. The NPS would retain the right of first refusal to purchase the parcel, except in cases where a sale or transfer is made to a blood descendant of the parcel's owner.

Through the execution of a conservation easement, 80% of the property would be designated as conservation area (figure 6) and be limited to conservation purposes and non-commercial, non-industrial, and low-impact outdoor recreation in perpetuity. Ground-disturbing activities (including installation of private septic systems or potable water wells) would not be permitted within the conservation area. The placement of fill material would be prohibited without prior written approval from the Superintendent. Likewise, cutting, trimming, or removal of trees, plants, shrubs, or other vegetation would be prohibited without prior written permission. Firewood could be collected from the conservation area only if it consisted of material already on the ground or trees that are dead, diseased, or injured and authorized for removal.

The remaining 20% of the parcel would be designated as a potential building area (figure 6) and may be used for non-commercial, non-industrial, low-impact outdoor recreation and limited single-family residential use. Utilities and roads would be authorized solely within this area. Construction and maintenance of a maximum of six single-family residences would be permitted, together with ancillary structures and a single access road to Old House Road, provided the total building footprint does not exceed 15,000 square feet per residence. Ancillary structures within the potential building area may be constructed, maintained, repaired, and replaced in accordance with applicable local laws, with a maximum height restriction of 35 feet. The installation of driveways, outbuildings, patios, septic systems, and potable water wells would also be restricted to the designated potential building area. Dock construction would not be authorized.

Additional restrictions would apply throughout the property and would address water protection and waste disposal as specified in the exchange agreements and described in detail under exchange 1.

Cumberland Island National Seashore Georgia

National Park Service
U.S. Department of the Interior

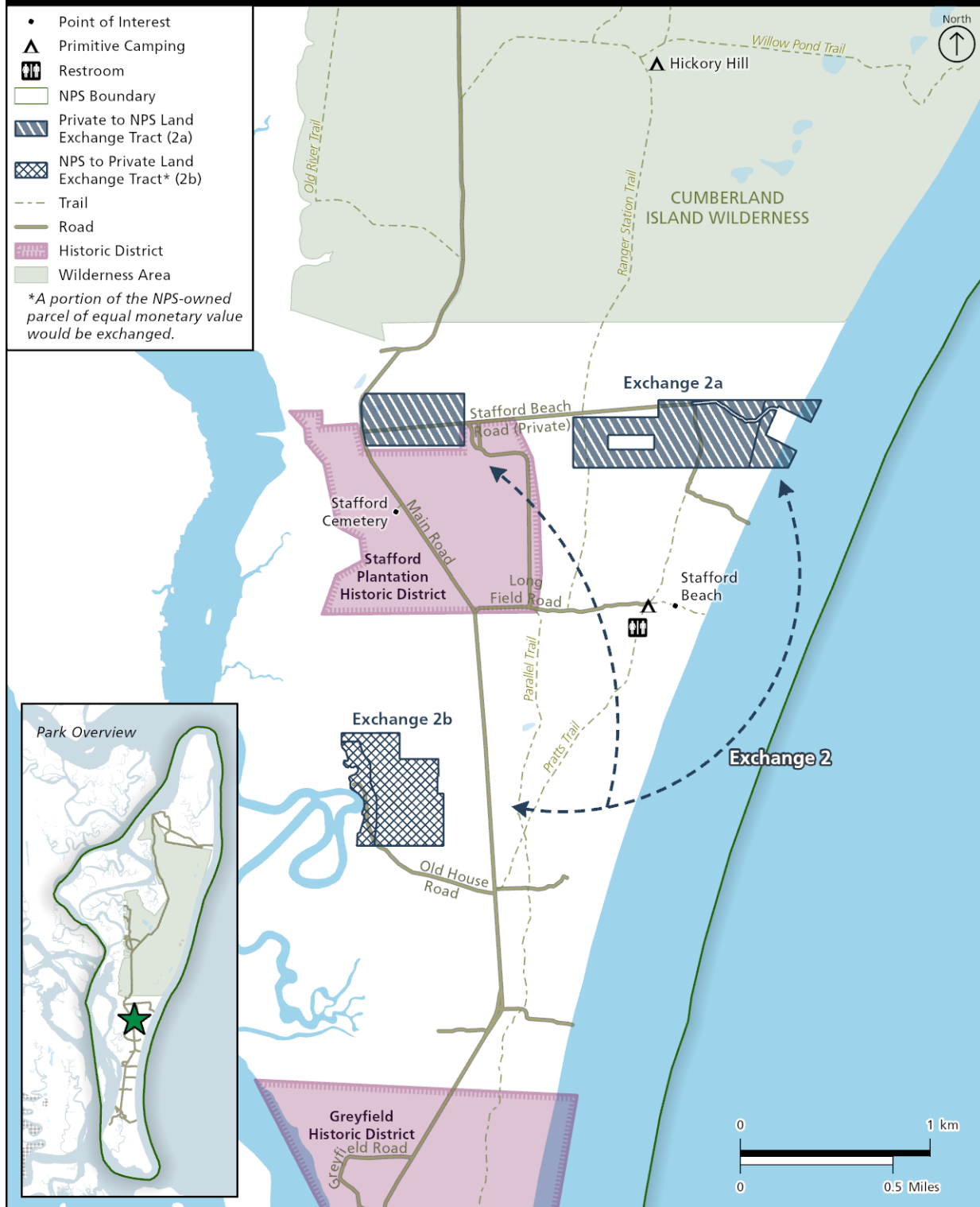


FIGURE 5. EXCHANGE 2 TRACTS

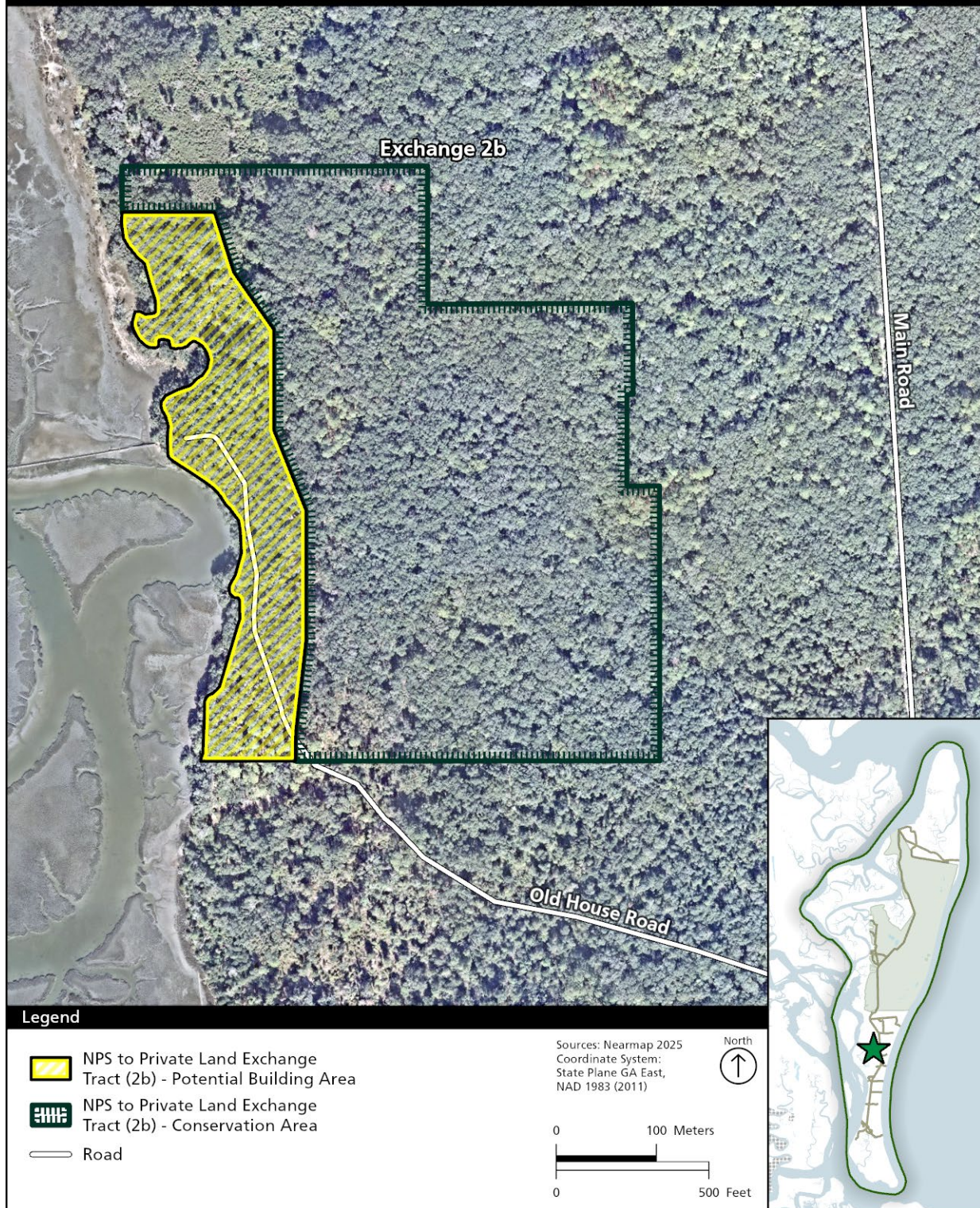


FIGURE 6. EXCHANGE 2B CONSERVATION AND POTENTIAL BUILDING AREAS

TABLE 1. ALTERNATIVES SUMMARY

Exchange 1		Acres
From Privately Owned to NPS (Exchange 1a)		10.0
Land to be Designated as Wilderness		10.0
From NPS to Privately Owned (Exchange 1b)		20.0
Potential Building Area		4.0
Conservation Area		16.0
Exchange 2		Acres
From Privately Owned to NPS (Exchange 2a)		119.3
Land to be Designated as Wilderness		0.0
From NPS to Privately Owned (Exchange 2b)		60.0
Potential Building Area		12.0
Conservation Area		48.0

RESOURCE PROTECTION MEASURES

To minimize resource impacts related to the proposed action, the preliminary land exchange agreements incorporate development restrictions and best management practices. These resource protection measures are considered part of the preferred alternative and are described as part of the exchange actions.

CHAPTER 3: AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

INTRODUCTION

This chapter includes the “affected environment,” which describes existing conditions in the project area for those elements of the natural and cultural environments that could be affected by implementing the alternatives considered in this EA. For each resource, the narrative includes a description of the current condition of the resource, including past actions that have impacted or continue to impact the resource, a description of how the resource is trending under current management, a description of other environmental trends impacting the resources, and identification of reasonably foreseeable planned actions that may impact the resource. This chapter also includes the “environmental consequences,” which analyzes the beneficial and adverse impacts that would result from implementing any of the alternatives.

ISSUES AND RESOURCE TOPICS

An interdisciplinary team of Seashore and regional staff, including natural and cultural resource experts familiar with the project area, identified the resource topics considered in this document through a series of internal meetings and site visits, as well as through an analysis of site conditions, federal laws, regulations, executive orders, and NPS director’s orders. The NPS identified a range of issues and impact topics to evaluate. Issues are problems that the current situation has caused or that will continue to occur if they are not addressed. Impact topics are resources to be analyzed as part of the proposed project.

Issues are retained for consideration and discussed in detail if they meet one or more of the following criteria:

- The environmental impacts associated with the issue are central to the proposal or of critical importance.
- A detailed analysis of environmental impacts related to the issue is necessary to make a reasoned choice between alternatives.
- The environmental impacts associated with the issue are a big point of contention among the public or other agencies.
- There are potentially significant impacts to resources associated with the issue.

If none of the considerations described above apply to an issue, it was dismissed from further consideration. Additional information about issues and impact topics considered but dismissed from consideration is provided in appendix B.

The resources described in this chapter are visitor use and experience, wilderness, wildlife (including threatened and endangered species), vegetation, soils, water resources, land use, and archeological resources.

ANALYSIS METHODS FOR ESTABLISHING IMPACTS

The following analysis evaluates potential impacts on the human environment (i.e., physical, natural, and cultural resources) from implementation of each of the alternatives. The approach focuses the analysis on management changes and associated issues that could have meaningful impacts on the resources or values

being evaluated, to the greatest extent possible, using analysis methods and assumptions from US Department of the Interior regulations and guidance.

REASONABLY FORESEEABLE ACTIONS

Potential reasonably foreseeable actions and land uses were discussed to identify any potential additional impacts near the proposed land exchanges. No applicable reasonably foreseeable actions were identified and are therefore not addressed further in this EA.

VISITOR USE AND EXPERIENCE

AFFECTED ENVIRONMENT – CURRENT AND EXPECTED FUTURE CONDITIONS OF THE ENVIRONMENT IF NO ACTION IS TAKEN

The Seashore is located approximately 1 mile off the southeastern coast of mainland Georgia and is accessible to the public exclusively by water. No bridge or road connections link the island to the mainland. The island is accessed primarily via the concession-operated ferry departing from the NPS Visitor Center in St. Marys, which provides regular service in summer months and limited service in winter (NPS 2026b). Private vessels are permitted to access the island in accordance with Seashore regulations. Sea Camp, Dungeness, and Plum Orchard docks are available on a first-come, first-serve basis (NPS 2026b). Overnight docking is not permitted.

Between 2020 and 2024, annual visitation to the Seashore averaged 63,000 visitors (NPS 2025a). Visitation is seasonal, with peak use occurring during spring and fall. Most visitors originate from the southeastern United States, particularly Georgia and Florida (NPS 2013a). Visitors are able to engage in a range of recreational and interpretive activities. Cultural and historical resources are a major attraction, including Dungeness Ruins, Plum Orchard Mansion, and the First African Baptist Church. Other popular activities include walking and hiking, camping, beachcombing, swimming, wildlife viewing, and seeking solitude, as detailed below.

Campgrounds

The Seashore maintains five designated campgrounds: Sea Camp, Stafford Beach, Brickhill Bluff, Hickory Hill, and Yankee Paradise (NPS 2026c). Sea Camp, Stafford Beach, Hickory Hill, and Yankee Paradise are in the vicinity of the proposed parcel exchanges; visitors in these areas may use trails affected by the parcel exchanges.

Recreational and Interpretive Activities

The Seashore provides opportunities for low-impact, resource-dependent recreation in accordance with the enabling legislation and wilderness character of the island. Activities include hiking, fishing, wildlife observation, beach use, camping, exploration of cultural and historic sites, and photography. Recreational use is largely concentrated near ferry landing areas, established trails, and shoreline zones. The Seashore features approximately 50 miles of trails and unpaved roads, running through maritime forests, freshwater wetlands, open fields, estuarine environments, and 17 miles of undeveloped shoreline (NPS 2026d). Visitor use is concentrated primarily at Sea Camp, Dungeness, and along the southern shoreline. The proximity of some trails and campsites to the Main Road and private residential properties can reduce perceived remoteness due to occasional noise and visual disturbances related to residential development and automobile use.

The proposed exchange parcels are situated within areas of the island that currently support low visitor density and primarily backcountry recreation. The parcel associated with exchange 1 lies adjacent to the Old River Trail, a north-south route that functions as an alternative inland connection between Sea Camp,

Plum Orchard, and interior wilderness areas. Hikers and wilderness campers traveling to destinations such as Hickory Hill, Yankee Paradise, and Brickhill Bluff, use this trail. Because this portion of the island receives fewer visitors overall, encounters with other humans are intermittent.

The parcels that would be acquired under exchange 2 provide uninterrupted access along the Parallel Trail, which is the primary interior north–south backcountry route. The trail provides connectivity between campsites, historical resources, and beaches. This area is less frequently visited than the southern developed district but more regularly used than designated wilderness, serving a mixture of day hikers, backpackers, and visitors accessing remote shoreline segments. The eastern portion of the parcel, near the oceanfront, supports low-impact activities such as walking on the beach and wildlife-related recreation. Because the parcel is free of modern structures, it currently supports both the visual continuity and experiential qualities that characterize backcountry recreation on Cumberland Island.

Environmental Trends Impacting Visitor Use

Environmental trends have the potential to affect visitor use at the Seashore. Cumberland Island is vulnerable to sea level rise, storm surge, and erosion, which are expected to increase flooding frequency and intensify damage from future storms (Peek et al. 2022). These changes are already affecting infrastructure, with recent hurricanes damaging docks and facilities critical for access. Looking ahead, rising sea levels and erosion could adversely affect visitor use by limiting access to key features such as shorelines, trails, boardwalks, campgrounds, docks, and kayak routes by impacting transportation assets and other facilities including bridges, access roads, and docks. Damage to transportation and access infrastructure may disrupt visitation and reduce the quality and reliability of the visitor experience.

Under the current management (no-action alternative), the privately owned parcels associated with the proposed exchanges would remain in private ownership without conservation easements or additional restrictions on future development, and the potential for future residential development on these parcels would remain. Future development on the exchange 1a parcel could include fencing, landscaping, or the placement of residential infrastructure that could limit or sever existing trail connections. Loss of access along portions of the Old River Trail, Parallel Trail, or associated informal connections could reduce route options for hikers and alter the ability of visitors to experience the island’s interior in a continuous manner. Development on the exchange 1a parcel may result in the need for rerouted trail segments as well as additional road or utility corridors through areas currently experienced by visitors as designated wilderness. Residential use, including maintenance activities, vehicle trips, lighting, and routine human presence, could also degrade visitor experiences through increased noise, visual intrusion, and reduced opportunities for solitude.

Similarly, potential development on the exchange 2a parcel, which spans both western marsh edge forest and eastern ocean-facing uplands, could result in visible structural intrusions along the Parallel Trail corridor and indirect effects on shoreline recreation. The Parallel Trail’s role as the primary interior north–south hiking route means that even limited development could reduce the perceived remoteness of the recreational setting, particularly where structures or vegetation clearing become visible from trail segments. Recreational users of shoreline areas may also experience changes in viewsheds if ocean-facing development occurs.

Overall, current management could result in long-term, adverse impacts on recreation quality from the potential for development to fragment trail routes, degrade scenic conditions, and diminish the quality of recreational activities for visitors. While immediate effects would be minimal because no development is proposed at this time, the long-term risk to recreational experience and access would persist as long as the properties remain developable.

ENVIRONMENTAL CONSEQUENCES

Alternative 1: No-Action Alternative

Under alternative 1, current land management and ownership would not change. As a result, impacts on visitor use and experience would resemble those described above in the “Affected Environment” section, which describes the current and expected future conditions of this resource if no action is taken.

Alternative 2: Proposed Action

Under the proposed action, the NPS would acquire the privately owned parcels associated with exchange 1 and exchange 2, while conveying federal lands of comparable value into private ownership, subject to conservation easements as described in chapter 2. NPS acquisition of the exchange 1a and exchange 2a parcels would eliminate the possibility of future residential development on these tracts, thereby preserving existing recreation conditions and preventing long-term impacts on trail continuity, scenic quality, and solitude.

For exchange 1, NPS acquisition would ensure that the portion of the Old River Trail passing adjacent to the parcel remains in its current alignment, which would avoid the rerouting that may be required under the no-action alternative. Opportunities for hiking, wildlife observation, and camping would remain unchanged.

For exchange 2, NPS acquisition would maintain an undeveloped corridor connecting the Main Road, interior forests, and the Parallel Trail. By acquiring the parcel and preventing potential future development, alternative 2 would preserve the conditions that support current recreational opportunities. The continuity of the Parallel Trail would remain intact, maintaining its function as the primary north–south interior route for visitors.

The federal parcels being transferred into private ownership would be subject to conservation easements limiting development to no more than 20% of the property and requiring that 80% of the property remain in conservation as described in chapter 2. As a result, potential impacts on recreation resulting from development of these transferred parcels would be limited, localized to areas outside key visitor use areas, and unlikely to affect major visitor routes or backcountry corridors.

Overall, alternative 2 would result in long-term, beneficial effects on recreation and visitor use. These benefits would stem from maintaining the undeveloped character of the two currently privately owned parcels, preserving the continuity of interior trail networks, preventing the introduction of incompatible land uses along key visitor use areas, and protecting the experiential qualities such as solitude, natural soundscapes, and scenic conditions that visitors seek on Cumberland Island. Any adverse effects associated with future development on parcels conveyed to private ownership would be limited to small portions of the exchanged lands; would occur outside primary visitor use areas; and would not substantially affect visitor access, trail continuity, opportunities for solitude, or overall visitor experience within the Seashore.

WILDERNESS

AFFECTED ENVIRONMENT – CURRENT AND EXPECTED FUTURE CONDITIONS OF THE ENVIRONMENT IF NO ACTION IS TAKEN

The following sections provide information on the wilderness character of designated and potential wilderness at the Seashore. Wilderness character is defined as “a holistic concept based on the interaction of (1) biophysical environments primarily free from modern human manipulation and impact, (2) personal experiences in natural environments relatively free from the encumbrances and signs of modern society,

and (3) symbolic meanings of humility, restraint, and interdependence that inspire human connection with nature” (Landres et al. 2015).

Designated Wilderness

The Wilderness Act of 1964 established a National Wilderness Preservation System composed of federally owned areas designated as wilderness areas. These areas are administered for the use and enjoyment of the American people and the preservation of their wilderness character. Wilderness areas are devoted to the public purposes of recreational, scenic, scientific, educational, conservation, and historical use (16 U.S.C. § 1133(b)). The purposes of the Wilderness Act are within and supplemental to the purposes for which units of the National Park System were established and are administered under the Organic Act of 1916, or park enabling legislation, though wilderness areas must be administered for these purposes so as also to preserve their wilderness character (16 U.S.C. § 1133(a)–(b)). The enabling legislation for the Seashore (PL 92-536) identifies the purposes for which the Seashore was established, including “provid[ing] for public outdoor recreation use and enjoyment of certain significant shoreline lands and waters of the United States [and preserving] related scenic, scientific, and historical values.” This language identifies several key factors behind establishment of the Seashore that are relevant to administration of designated wilderness, including preserving scientific and historical values and providing opportunities for recreation.

PL 97-250, passed on September 8, 1982, designated the Cumberland Island Wilderness. At the time of its designation, the wilderness included 8,840 acres of designated wilderness and 11,718 acres of potential wilderness. In 2004, the Cumberland Island Wilderness Boundary Adjustment Act (PL 108-447, December 8, 2004) revised the wilderness boundary to encompass 9,907 acres of designated wilderness and 10,710 acres of potential wilderness as shown on figure 7 (NPS 2014). Potential wilderness includes areas of non-federal ownership and areas that are in federal ownership but are subject to retained rights (NPS 2014). Potential wilderness areas can be converted to designated wilderness once nonconforming uses of these areas cease. Per *NPS Management Policies 2006*, the NPS manages all categories of wilderness as designated wilderness. Since designation of the Cumberland Island Wilderness, wilderness management at the Seashore has been complicated by retained rights and privately owned properties (also called inholdings) within the wilderness boundary (NPS 1984, 2014). These inholdings include the privately owned property that would be acquired under exchange 1. The privately owned property that would be acquired under exchange 2 is outside the Cumberland Island Wilderness; therefore, the discussion in this section primarily focuses on the privately owned property that would be acquired under exchange 1.

Cumberland Island National Seashore Georgia

National Park Service
U.S. Department of the Interior

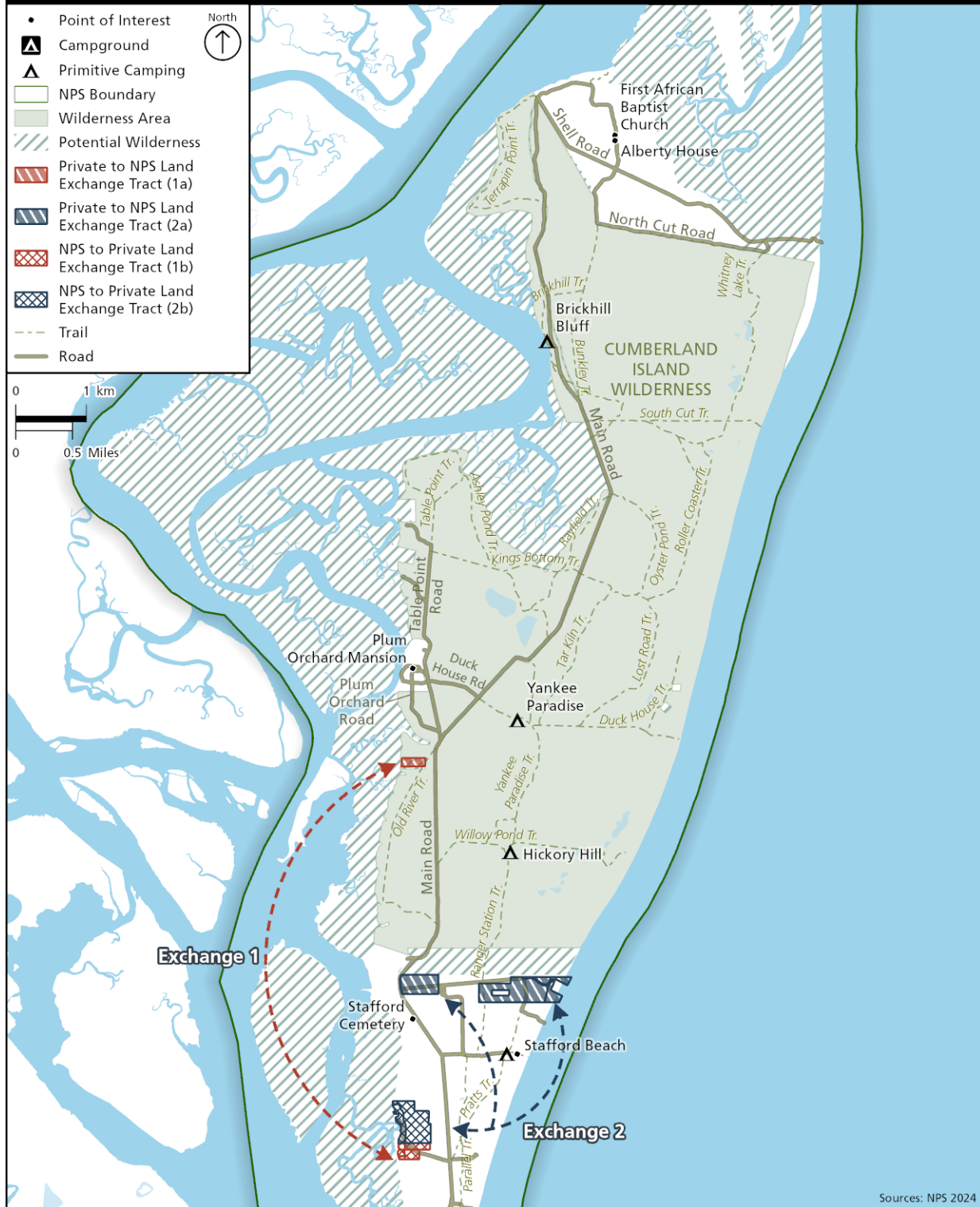


FIGURE 7. CUMBERLAND ISLAND WILDERNESS BOUNDARY

The NPS manages designated and potential wilderness under the guidance of the 1984 *General Management Plan* (NPS 1984), *NPS Management Policies 2006*, Director's Order 41 (NPS 2013), and the *NPS Wilderness Character Monitoring Technical Guide*, as part of NPS Reference Manual 41: *Wilderness Stewardship* (NPS 2023). The NPS manages wilderness areas to preserve five qualities of wilderness character: natural, undeveloped, untrammeled, has opportunities for solitude or primitive and unconfined recreation, and possesses other features of value. These qualities, as well as the current condition of each quality at the Seashore, are described in the sections below.

Natural

The natural quality of wilderness character encompasses all naturally occurring biological and physical elements of wilderness: plant and animal species and communities, soil, air, and water. This quality also includes the interactions among these elements and the resulting ecological processes or functions that occur in wilderness, including naturally occurring disturbance processes, such as fire, flooding, and outbreaks of insects and pathogens (Landres et al. 2015). The natural quality is enhanced when ecological systems are allowed to evolve and change freely without human influence (Landres et al. 2015). This quality is degraded by factors such as removal or degradation of habitat, introduction of invasive species, intentional or unintentional removal of native species, and human-caused changes in the physical environment (e.g., water quality, air quality, soils).

With the Seashore, the natural quality within the Seashore is well-preserved because of the lack of development. The Cumberland Island Wilderness “display[s] the greatest diversity of habitats and biotic communities of any of Georgia’s coastal islands” (NPS 2014). The privately owned parcel that would be acquired under exchange 1 contains maritime forest habitat and borders salt marsh. Wildlife species in wilderness are discussed in detail under “Wildlife, Including Threatened and Endangered Species.”

Undeveloped

The undeveloped quality of wilderness character emphasizes retaining an area’s primeval character and influence, meaning a wilderness area should be preserved without permanent improvements or modern human occupation. This quality of wilderness character is degraded by the presence of nonrecreational structures and installations; inholdings; the landing of aircraft; and use of motor vehicles, motorboats, motorized equipment, or mechanical transport.

Compared to other coastal barrier islands in and outside Georgia, Cumberland Island is relatively undeveloped. According to the Seashore’s Foundation Document, “most of the Cumberland Island Wilderness is undeveloped” (NPS 2014). The most prominent developments degrading this quality of wilderness character include a small number of residential structures on retained rights holdings and private inholdings and the dirt roads that provide access to these properties.

Untrammeled

Wilderness is an area where the earth and its community of life are untrammeled, meaning that the biophysical environment is primarily free from intentional actions of modern human control or manipulation, and people practice humility, respect, and restraint in relating to the natural world. The NPS undertakes a number of actions in the Cumberland Island Wilderness that may negatively affect the untrammeled quality, usually in discrete areas, in an effort to preserve or restore other qualities of wilderness character or in the administration of retained rights.

While the landscape making up the Cumberland Island Wilderness was transformed in the past by periods of logging, agriculture, and development, once these activities ceased, the landscape was and continues to

be allowed to recover “with little direct intervention or restoration” and is generally untrammeled (NPS 2014). Ongoing management actions that degrade the untrammeled quality include the island-wide feral hog eradication program, the relocation of sea turtle nests, and trapping of sea turtle predators (NPS 2014, 2026e). Other occasional management actions that may degrade this quality include scientific investigations and monitoring, invasive plant management, and protection of shorebirds (NPS 2014).

Under the Seashore’s Fire Management Plan (FMP), naturally ignited fires may be suppressed to protect private and retained rights property, infrastructure, and “irreplaceable natural and cultural resources” (NPS 2025b). The FMP allows application of prescribed fire in wilderness to restore historical fire regimes as part of a multi-year fuels treatment plan (NPS 2025b).

Opportunities for Solitude or Primitive and Unconfined Recreation

The Wilderness Act states that wilderness offers “outstanding opportunities for solitude or a primitive and unconfined type of recreation.” These opportunities provide visitors a chance to connect with the natural world, practice traditional skills, and have transformative personal experiences. This quality of wilderness is degraded by conditions that reduce opportunities for solitude or primitive and unconfined recreation, such as encounters with signs of human activity originating inside or outside the wilderness, facilities that decrease self-reliant recreation, and management restrictions on visitor behavior (Landres et al. 2015).

Cumberland Island Wilderness sees limited visitation. Visitors have opportunities to find solitude for days at a time on trails through maritime forests, marshes, dunes, and beaches accessible only by foot, and opportunities for self-reliance in navigating the terrain and meeting challenges posed by the climate and insects (NPS 2014).

Other Features of Value

Wilderness may also contain other features of scientific, educational, scenic, or historical value. Cultural resources, coastal geologic resources, and scenic visual resources have been identified as other features of value within the Cumberland Island Wilderness (NPS 2019, 2024a, 2024b).

The privately owned parcel that would be acquired under exchange 1 has not been surveyed for cultural resources, and there is potential for previously unrecorded cultural materials on this property. This parcel is adjacent to back-barrier salt marsh along the western shoreline of the island. Back-barrier marshes are a coastal geologic feature that provide visitors the opportunity to witness the processes that led to the formation of Cumberland Island’s landscapes (Griffin 1991, NPS 2026e).

Environmental Trends Impacting Wilderness

Past and ongoing trends that influence wilderness character in the Cumberland Island Wilderness are discussed in the subsections above. Wilderness character in designated and potential wilderness areas has been affected by past development and land use activities on the island that removed or altered vegetation and habitats, altered hydrology, and destroyed or degraded geologic and landscape features. When necessary, the NPS would continue to undertake management actions in the Cumberland Island Wilderness to preserve or restore other qualities of wilderness character. Current development in the wilderness, including residential development on privately owned parcels designated as potential wilderness, degrades the natural and undeveloped qualities and opportunities for solitude.

Impacts on each of the qualities of wilderness character under current management are discussed below. If no action is taken, development of the privately owned parcel in the Cumberland Island Wilderness (exchange 1a) for residential use, and potentially for commercial uses that could degrade wilderness quality, could occur. Residential development or commercial use would degrade wilderness character on

this parcel and in surrounding areas of the wilderness. This privately owned parcel would remain designated as potential wilderness.

Natural

Potential development of the exchange 1a parcel within the Cumberland Island Wilderness for residential use would require vegetation clearing and could require infill, grading, or other earthwork. Site preparation and development activities would result in short-term effects on the natural quality by removing vegetation and habitat; degrading soils through disturbance, compaction, and increasing the potential for erosion; and altering drainage patterns on the property. Construction equipment and private vehicles accessing the site could result in short-term effects on the natural quality from impacts on air quality and the potential for invasive plant species to be introduced or spread. Short-term effects on the natural quality could also occur if rerouting the section of the Old River Trail adjacent to the exchange 1a parcel is necessary. This effect would result from removal of vegetation to create the new trail segment.

If developed, residential use of the property could fragment existing habitats and alter wildlife use of the area. Nighttime lighting on the property could affect the movement and behavior of nocturnal wildlife and species sensitive to light disturbance. Potential impacts on wildlife under this alternative are discussed in detail under “Wildlife, Including Threatened and Endangered Species.” Effects on soils and drainage would persist while the parcel is developed, and some of these effects may persist even after all structures and installations are removed, similar to the hydrological effects caused by the remnants of historical linear features in the Cumberland Island Wilderness (e.g., roadbeds, causeways, ditches) that are still present on the landscape.

Undeveloped

Potential development of the exchange 1a parcel within the Cumberland Island Wilderness would degrade the undeveloped quality of the wilderness through an increase in residential structures and associated installations (e.g., electrical infrastructure, installations associated with landscaping). Residential development and use of this parcel would allow additional human occupation in areas of the Cumberland Island Wilderness and increase access to the wilderness via motor vehicles and mechanical transport. The effects on the undeveloped quality would be long term, lasting while any residential structures/installations and the dirt roads accessing this parcel are present on the landscape.

Untrammeled

Activities that may occur on the exchange 1a parcel in the Cumberland Island Wilderness if this property were developed for residential or commercial use could degrade the untrammeled quality of wilderness. This quality would be directly affected by activities that intentionally manipulate ecological systems on the parcel, such as actions taken to control or influence drainage or control the types of plants that grow and where they grow. Impacts on the untrammeled quality would persist while residential use of the property continues but would cease once these activities cease. Potential development of this parcel would indirectly degrade the untrammeled quality in nearby areas of designated wilderness by requiring additional fire suppression to protect privately owned property and structures.

Opportunities for Solitude or Primitive and Unconfined Recreation

The sights and sounds associated with residential development and commercial use of the exchange 1a parcel, including vehicle use and potential encounters with residents would degrade solitude for visitors in nearby areas of wilderness. Visitors that would be affected include those using Old River Trail, which passes adjacent to the parcel. Development of this parcel may require rerouting sections of the trail, which

may result in short-term effects on unconfined recreation if temporary trail closures are needed. If the trail segment adjacent to the parcel were rerouted, effects on unconfined recreation would end once the new trail segment is completed; however, long-term effects on solitude would persist while this parcel is in residential use.

Other Features of Value

Potential development of the exchange 1a parcel in the Cumberland Island Wilderness may result in long-term, adverse impacts on cultural resources if grading and construction activities disturb known and/or previously unrecorded cultural materials. No conservation easements would be placed on the property, and development could occur in accordance with existing property rights and local regulations and zoning.

Effects on the back-barrier salt marsh from potential development of the parcel in wilderness would be limited by federal and local regulations and permitting requirements intended to avoid impacts on water resources (see discussion under “Water Resources”). However, potential development of the parcel could indirectly affect the adjacent marsh. Indirect effects on this feature could include changes in water quality resulting from increased erosion and changes in drainage patterns on the property. Effects from increased erosion would likely be temporary and cease once construction is completed and soils have been revegetated and stabilized; however, some water quality effects could be long term, persisting while the parcel is available to potential development and in residential use.

Development of the exchange 1a parcel would affect scenic visual resources in wilderness, including views of maritime and upland forest and shoreline views from vantage points near these properties within wilderness. If vegetation were cleared and structures constructed at the shoreline, these structures could be visible from a distance of several miles and affect vistas in larger areas of the wilderness or adjacent waters. Visual effects would be long term, persisting while these properties are available for future development and in residential use.

Overall, the trends discussed in this section have resulted and are expected to continue to result in long-term, adverse effects on wilderness character.

ENVIRONMENTAL CONSEQUENCES

Alternative 1: No-Action Alternative

Under alternative 1, current land management and ownership would not change. As a result, impacts on wilderness would resemble those described above in the “Affected Environment” section, which describes the current and expected future conditions of this resource if no action is taken.

Alternative 2: Proposed Action

Under alternative 2, NPS acquisition of the privately owned parcel in the Cumberland Island Wilderness (exchange 1a) and designation of this property as wilderness would preserve and protect wilderness character. The federal lands that would be transferred to private ownership under this alternative are not within or adjacent to the Cumberland Island Wilderness. Transfer and eventual development of the federal lands that would be transferred to private ownership for residential use would not affect wilderness character. Therefore, these properties are not discussed further in this section.

NPS acquisition of the exchange 1a parcel would be managed in accordance with the Wilderness Act and NPS policy to preserve the five qualities of wilderness character. This parcel is unimproved and contains maritime forest habitat. Acquisition of this parcel would protect this habitat and maintain connectivity with adjacent habitats, which would benefit the natural quality. Protection of these lands in their current

undeveloped state would benefit the undeveloped quality by avoiding the potential for this parcel to be developed and an associated increase in motor vehicle, bicycle, or other mechanized equipment use in areas adjacent to wilderness.

Likewise, protecting this parcel and the privately owned parcel being pursued under exchange 2, which is located adjacent to potential wilderness, from private residential development would preserve solitude for visitors to the designated wilderness and potential wilderness in these areas and the scenic qualities of the island's interior forests and coastlines. Alternative 2 also would preserve opportunities for primitive and unconfined recreation. Acquisition of the privately owned parcel that is part of exchange 1 would avoid the potential need to reroute Old River Trail, which would preserve recreational access to and use of this trail and avoid impacts on vegetation and habitats that would result from relocation of the affected trail segment.

The NPS would manage the exchange 1a parcel consistent with the rest of the Cumberland Island Wilderness, and management activities are not expected to substantially degrade the untrammeled quality or opportunities for solitude or primitive and unconfined recreation compared to existing conditions. No new recreational developments or changes in management restrictions are proposed under alternative 2. Alternative 2 is not expected to affect cultural resources or geologic features in wilderness.

Alternative 2 would preserve and enhance wilderness character by eliminating the potential for future development on a currently privately owned parcel within potential wilderness. No actions are proposed that would substantially degrade any of the five qualities of wilderness character. Overall effects would be beneficial, and no notable adverse impacts on designated or potential wilderness would result.

WILDLIFE, INCLUDING THREATENED AND ENDANGERED SPECIES

AFFECTED ENVIRONMENT – CURRENT AND EXPECTED FUTURE CONDITIONS OF THE ENVIRONMENT IF NO ACTION IS TAKEN

Wildlife

The Seashore supports a broad range of wildlife species due to the island's variety of maritime forest, dune, marsh, and beach habitats. Documented wildlife includes approximately 30 species of mammals, 55 species of reptiles and amphibians, and more than 300 birds (NPS 2022a). Wildlife species use the island for a variety of life-history functions, including foraging, breeding, nesting, migration, and seasonal refuge. Both resident and migratory species occur throughout the island, with distribution influenced by habitat availability, seasonal conditions, and natural coastal processes. Several species that occur on Cumberland Island are federally listed under the Endangered Species Act as threatened or endangered and rely on specific habitats present within or adjacent to the project area. The following sections describe existing wildlife conditions in the project area and surrounding landscape, organized by taxonomic group, with emphasis on species and habitats most relevant to the proposed land exchanges.

Mammals

Cumberland Island supports a diverse community of mammals that occupy the island's upland forests, freshwater wetlands, interdunal swales, and extensive marsh edges. Common native mammals documented on the island include white-tailed deer (*Odocoileus virginianus*), armadillo (*Dasypus novemcinctus*), bobcat (*Lynx rufus*), Virginia opossum (*Didelphis virginiana*), raccoon (*Procyon lotor*), North American river otter (*Lontra canadensis*), and American mink (*Neogale vison*). Mammal activity is most concentrated in forested uplands and at transitions between forest and marsh, where dense understory, freshwater availability, and foraging opportunities provide suitable cover and movement corridors.

White-tailed deer are widespread across these areas and are among the most frequently observed native mammals on the island. They rely on forest understory, shrub thickets, and forest-marsh edges for forage and bedding (USFS 2025). The nine-banded armadillo uses similar habitats, commonly associated with upland maritime forests, forest edges, and shrub-dominated areas where well-drained sandy soils support burrowing. Armadillos primarily forage on invertebrates, including insects and larvae, and are often observed rooting in leaf litter and sandy soils (NPS 2020). Bobcats also occur throughout much of the island and use large home ranges that often include both interior forests and marsh margins. They depend on dense vegetation for stalking and denning and prey on small mammals, birds, and occasionally young feral animals (Godbois et al. 2003). Bobcats were reintroduced to Cumberland Island following their earlier extirpation and are now an established native predator within the island's terrestrial ecosystems (Diefenbach et al. 2015). Other native mammals, including raccoons, opossums, river otters, and mink, occur in lower densities but remain closely associated with freshwater features, tidal creeks, and wetland corridors where they forage and travel between habitat patches.

Nonnative, invasive, feral horses and feral hogs are also present, and they influence mammal use patterns in several parts of the island. Horses range widely across open uplands, dunes, and freshwater areas, grazing on grasses and herbaceous plants and concentrating near reliable freshwater sources (NPS 2021). Feral hogs are more often associated with forested uplands, freshwater wetlands, and marsh edges, where rooting and foraging disturb soils and native vegetation, occasionally altering understory conditions used by native wildlife (USFWS 2014).

Overall, the island's mammal community is shaped by the availability of freshwater, dense vegetative cover, and ecotones that provide foraging and movement opportunities. Forested uplands and marsh-forest transition zones support the highest diversity and activity levels, while interior dunes and open sandy areas function primarily as travel routes connecting these preferred habitats.

Birds

Cumberland Island supports one of the most diverse bird communities along the Georgia coast, with more than 300 species occurring seasonally or year-round (NPS 2022a). The island's combination of maritime forests, freshwater wetlands, salt marshes, dune systems, and extensive beachfront provides a range of foraging and nesting opportunities that sustain resident, migratory, and wintering bird populations (Allen et al. 2018). Bird use is especially high in coastal and marsh-adjacent areas where shallow water and abundant prey resources support a variety of waterbirds and raptors.

Shorebirds are a particularly prominent group on the island. The broad beaches and intertidal flats on the eastern shorelines provide important foraging and loafing habitat for plovers (*Charadriinae*), sandpipers (*Scolopacidae*), oystercatchers (*Haematopus*), and other species that rely on exposed sediments and wrack lines for invertebrate prey. Interdunal swales and overwash flats offer additional habitat during migration periods and winter months. On the western side of the island, salt marshes and tidal creeks support substantial numbers of wading birds, including herons (*Ardeidae*), egrets (*Ardea alba*), and ibis (*Threskiornithinae*), which forage along tidal edges and in shallow waters.

Maritime forests and forest edges support a diverse community of passerines and raptors throughout the year. Interior forest structure provides nesting substrate and foraging habitat for resident and migratory songbirds, while forest-marsh transitions attract species that feed on insects, small vertebrates, and seasonal fruit. Raptors such as red-shouldered hawks (*Buteo lineatus*), red-tailed hawks (*Buteo jamaicensis*), and migratory peregrine falcons (*Falco peregrinus*) frequently hunt along open dunes, beaches, and marsh margins, using high points where visibility is best. Freshwater wetlands and ponds scattered across the island also contribute to the diversity observed on the island by supporting waterfowl, wading birds, and species dependent on emergent vegetation (Audubon 2025).

Data from eBird, an online platform that compiles real-time bird observations, also indicate regular use of areas near the properties proposed for the land exchanges. Near the parcel proposed for NPS acquisition under exchange 1, the closest documented hotspot is the Yankee Paradise Wilderness Campground, approximately 1 mile east of the project area. Sightings reported at this location include turkey vultures (*Cathartes aura*), red-winged blackbirds (*Agelaius phoeniceus*), black-crowned night herons (*Nycticorax nycticorax*), Carolina chickadees (*Poecile carolinensis*), and other commonly observed forest and edge-associated species (eBird 2025). Additional eBird identified hotspots are located southeast of the parcels proposed for conveyance under exchange 1 and in proximity to the parcels associated with exchange 2. Observations from these areas include semipalmated plovers (*Charadrius semipalmatus*), sanderlings (*Calidris alba*), brown pelicans (*Pelecanus occidentalis*), great egrets (*Ardea alba*), royal terns (*Thalasseus maximus*), and sandwich terns (*Thalasseus sandvicensis*), reflecting the regular use of adjacent beach, dune, and salt marsh habitats by shorebirds and waterbirds (eBird 2025).

Overall, bird distribution on Cumberland Island reflects the availability of open coastal habitat, shallow water foraging areas, and forest cover. Beaches, dunes, and salt marshes support concentrated use by shorebirds and waterbirds, while forested uplands and freshwater features provide important nesting and foraging habitat for songbirds and raptors throughout the year.

Reptiles and Amphibians

Cumberland Island supports a diverse assemblage of reptiles and amphibians typical of Georgia's barrier islands, with approximately 55 species documented across the Seashore (NPS 2022a). These species occupy a range of terrestrial and aquatic environments, including uplands forests, freshwater wetlands, marsh edges, dune systems, and nearshore waters. Reptile and amphibian distribution on the island is closely tied to the availability of freshwater, nesting substrates, and undisturbed cover. Seasonal patterns in precipitation and temperature strongly influence the breeding activities and habitat use of many reptiles and amphibian species, particularly those that depend on aquatic environments (e.g., effects of rainfall on pond availability and timing of breeding migrations).

Because freshwater availability is a primary driver of reptile and amphibian distribution, wetlands, ponds, and ephemeral pools represent some of the most important habitats on the island. These areas support a variety of amphibian species that depend on standing water for breeding (GDNR 2003). Amphibians such as frogs and salamanders are commonly associated with forested wetlands and low-lying areas where seasonal inundation provides suitable conditions for reproduction and larval development. These habitats also support reptiles such as freshwater turtles and American alligators, which occur in ponds, wetlands, and slow-moving waterways throughout the island.

Beyond freshwater habitats, a variety of reptiles occur across upland maritime forests, shrublands, and dune-adjacent areas. Snakes and lizards, including the northern scarlet snake (*Cemophora coccinea*) and the island glass lizard (*Ophisaurus compressus*), are widely distributed in these environments, where they use leaf litter, fallen woody debris, sandy soils, and burrows for cover, thermoregulation, and foraging. Forest edges and open clearings provide important basking opportunities, while less-disturbed upland habitats support a broader range of terrestrial reptile species (University of Georgia 2025a,b).

In addition to terrestrial and freshwater species, marine reptiles are an important component of the island's wildlife community. Several species of sea turtles use the island's beaches for nesting during the summer, with nest placement concentrated on wide, undisturbed beaches above the high-tide line. These nesting areas represent ecologically important coastal habitat and contribute substantially to the island's role in regional sea turtle conservation (NOAA 2025). Additional information on federally listed sea turtle species is provided in the "Threatened and Endangered Species" section, below.

Overall, reptile and amphibian presence on Cumberland Island reflects the island’s availability of freshwater resources, intact upland habitats, and relatively undisturbed coastal environments. Wetlands and freshwater features support the highest diversity of amphibians and aquatic reptiles, while upland forests and dune systems provide important habitat for terrestrial species throughout the year.

Threatened and Endangered Species

Cumberland Island provides habitat for several federally listed and proposed species that are part of the island’s wildlife community and reflect the ecological importance of its coastal, wetland, and upland environments. A review of the US Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) system in June 2026 identified multiple listed and proposed species with the potential to occur within or adjacent to the project area. These species and their federal status are summarized in table 2 below. The west Indian manatee (*Trichechus manatus*) is also potentially present in the vicinity of the project area; however, the potential land exchanges are not anticipated to impact the west Indian manatee, and as a result, it is not discussed further.

TABLE 2. FEDERALLY LISTED SPECIES WITHIN OR ADJACENT TO THE PROJECT AREA

Species	Federal Status
Mammals	
Tricolored bat (<i>Perimyotis subflavus</i>)	Proposed endangered
Birds	
Eastern black rail (<i>Laterallus jamaicensis ssp. jamaicensis</i>)	Threatened
Piping plover (<i>Charadrius melodus</i>)	Threatened
Rufa red knot (<i>Calidris canutus rufa</i>)	Threatened
Reptiles	
Eastern indigo snake (<i>Drymarchon couperi</i>)	Threatened
Southern hognose snake (<i>Heterodon simus</i>)	Proposed threatened
Green sea turtle (<i>Chelonia mydas</i>)	Threatened
Hawksbill sea turtle (<i>Eretmochelys imbricata</i>)	Endangered
Kemp's Ridley sea turtle (<i>Lepidochelys kempii</i>)	Endangered
Leatherback sea turtle (<i>Dermochelys coriacea</i>)	Endangered
Loggerhead sea turtle (<i>Caretta caretta</i>)	Threatened
Insects	
Monarch butterfly (<i>Danaus Plexippus</i>)	Proposed threatened

Source: USFWS 2025a–d

Mammals

The tricolored bat is a small insectivorous bat that roosts in foliage and relies on forested habitats for foraging. The species occurs across portions of the eastern United States and has experienced substantial population declines due primarily to white-nose syndrome. Tricolored bats may use a variety of forested environments during the active season and typically migrate or shift roosting behavior seasonally. On Cumberland Island, suitable habitat for tricolored bats includes upland maritime forests that provide roosting opportunities and insect prey. Tricolored bat has been observed on the island during various

inventories, surveys, and stranding reports over time, dating back to 1898 and up to 2017 (Allen et al. 2018). White-nose syndrome has been confirmed in Georgia but has not been documented on Cumberland Island to date, therefore, fluctuations in populations can also be attributed to rising temperatures, changes in water quality, loss and fragmentation of forests, disease, and pesticide use (Allen et al. 2018).

Birds

Several federally listed bird species have the potential to occur within or near the project area, including the piping plover, rufa red knot, and eastern black rail, all of which are listed as threatened. These species represent a range of ecological niches and use coastal, wetland, and marsh environments on the island during different periods of the year.

The piping plover and rufa red knot are small, migratory shorebirds that rely on coastal environments during migrations and wintering periods. Piping plovers typically forage along ocean beaches, sand flats, and intertidal areas, where they feed on invertebrates in sandy substrates (USFWS 2025a). Rufa red knots are long-distance migrants that use intertidal flats and beaches as stopover and wintering habitat, where they forage on mollusks and other invertebrates (USFWS 2025b). Both species exhibit strong site fidelity to suitable coastal habitats along the Atlantic Flyway and are sensitive to disturbance in foraging and roosting areas. On Cumberland Island, the piping plover and rufa red knot occur primarily along ocean-facing beaches and adjacent intertidal zones, particularly during migration and winter months. These coastal areas provide the combination of open substrates, prey availability, and low levels of disturbance required for resting and foraging. The ecological importance of these coastal environments is formally recognized through the designation of critical habitat for piping plover and proposed critical habitat for rufa red knot within coastal portions of the island, which intersect with the project area. Existing threats to these shorebirds include habitat loss, human disturbance, predation, and changes in coastal processes that affect beach and intertidal habitat availability.

The eastern black rail is a federally listed threatened species with potential habitat on Cumberland Island (USFWS 2020). Along the southern Atlantic coast, eastern black rail habitat includes salt and brackish marshes. They require dense vegetation and shallow inundation that provide cover and foraging opportunities. Specifically on Cumberland Island, the tidally and nontidally influenced salt, brackish, and freshwater marsh habitats around the western portion of the island provide suitable habitat for the species. While the Seashore does contain habitat, the eastern black rail has not been documented within the Seashore boundaries (NPS 2026e).

Reptiles

Federally listed reptiles are an established component of Cumberland Island's coastal and upland wildlife communities. Species with the potential to occur within or adjacent to the project area include the eastern indigo snake, listed as threatened, southern hognose snake, listed as proposed threatened and multiple species of sea turtles that are either threatened or endangered (see table 2). These species reflect the importance of the island's relatively undeveloped beaches, nearshore waters, and intact upland habitats.

Globally, five species of sea turtles—loggerhead, green, Kemp's ridley, leatherback, and hawksbill—are found in the nearshore waters and beaches of Georgia, and all are protected by federal and state law. Although sea turtles spend most of their lives in marine environments, barrier island beaches are essential for reproduction. Nesting activity on the island is most commonly associated with loggerhead sea turtles, which are the predominant nesting species in Georgia, while green, Kemp's ridley, hawksbill, and leatherback sea turtles occur less frequently and may use the area for foraging, migration, or occasional nesting (GDNR 2025a). Annual monitoring results demonstrate that Cumberland Island regularly

accounts for 25 to 30% of the statewide nesting total (NPS 2026f). This is largely attributed to the Seashore's 18-mile undeveloped shoreline and minimal human disturbance (NPS 2026f). Adult females migrate seasonally to ocean-facing beaches during the nesting season, which generally extends from late spring through summer along the Georgia coast (GDNR 2025a). Cumberland Island's wide beaches, low levels of development, and limited artificial lighting provide conditions that support this nesting activity.

Critical habitat has been designated for the Northwest Atlantic Ocean District Population Segment of the loggerhead sea turtle under the Endangered Species Act. While final designated critical habitat occurs within portions of the southeastern Atlantic Ocean, including areas of coastal Georgia, the project area does not overlap designated loggerhead sea turtle critical habitat according to the USFWS IPaC system. Therefore, although loggerhead sea turtles may use Cumberland Island's ocean-facing beaches for nesting, no designated critical habitat for the species occurs within the project area.

The eastern indigo snake occupies terrestrial environments and is associated with large, relatively undisturbed upland habitats. This species is wide-ranging and uses a variety of cover types, including forested areas, longleaf pine sandhills, scrub, flatwoods, and animal burrows, to meet seasonal needs for shelter, foraging, and thermoregulation (USFWS 2025c). On barrier islands such as Cumberland Island, suitable habitat includes maritime forests and adjacent upland areas that provide connectivity and refuge from disturbance. Although the species is difficult to detect, the presence of intact upland habitat support the potential for seasonal or intermittent use.

The southern hognose snake is a small, nonvenomous snake native to the southeastern United States. This species is diurnal and often spends much of its time underground or within leaf litter and loose soil, occasionally emerging seasonally in the spring and fall to forage and move among habitat patches. Southern hognose snakes are closely tied to xeric upland habitats, including sandhills, dry oak-pine forests, pine flatwoods, scrub, and other well-drained sandy soils where their primary prey occurs. The fossorial nature and preference for dry, sandy habitats make the southern hognose snakes particularly sensitive to soil disturbance and fragmentation. Main factors responsible for their declines or disappearances are largely unknown; however, the destruction and alteration of longleaf pine-wiregrass and other xeric habitats has been implicated in the decline of many associated species. Nonnative invasive predators, road mortality, and human persecution have also been implicated (USFWS 2024).

Listed reptile species on Cumberland Island are subject to existing stressors that influence baseline conditions. Sea turtles are vulnerable to disturbance of nesting beaches, artificial lighting, vessel strikes, and change in beach morphology, while eastern indigo snakes are affected by habitat loss, fragmentation, and vehicle mortality throughout their range. These stressors reflect the existing conditions under which federally listed reptiles currently use beach, nearshore, and upland habitats on Cumberland Island.

Insects

One federally listed insect species, the monarch butterfly, proposed for listing as threatened, has the potential to occur within or adjacent to the project area. Monarch butterflies are widely distributed across North America and are known for their long-distance migratory behavior, with individuals moving seasonally between breeding and overwintering areas (USFWS 2025d). Monarchs use a variety of open and semi-open habitats during different life stages. Larvae depend on milkweed species, which serve as the sole host plants for development, while adult monarchs rely on nectar-producing flowering plants for foraging during migration and breeding periods (USFWS 2025d).

Suitable habitat for monarch butterflies is present in and near the project area, including open areas, forest edges, and other locations where milkweed and flowering plants occur. Based on the availability of these habitat features and the island's location within the monarch's migratory range, monarch butterflies are

likely to occur intermittently on Cumberland Island, particularly during seasonal migration periods. Occurrence within the project area is expected to be transitory and depend on seasonal plant availability and broader regional migration dynamics.

Monarch butterfly populations have declined substantially in recent decades, with major stressors including loss of milkweed and nectar plants and exposure to pesticides that affect larval and adult life stages. Habitat loss from herbicide use, pesticide drift onto wildflowers, and host plants, and reduced floral resources across landscapes are recognized as contributing factors to monarch declines (Xerces Society 2025).

State-Listed Species

In addition to federally listed species, Georgia law recognizes certain wildlife as “protected species” if they are determined to be endangered, threatened, rare, or unusual within the State of Georgia (Official Code of Georgia Annotated § 27-5-5; Ga. Comp. R. & Regs. r. 391-4-10). Several species recognized by the state overlap with federally listed species known or expected to occur in coastal and barrier island environments, including piping plover and wood stork. Beyond these overlaps, Georgia also recognizes a broader range of species of conservation concern that may occur in habitats similar to those present within and adjacent to the project area, including coastal birds, reptiles, amphibians, mammals, and native plant communities associated with maritime forests, dunes, wetlands, and tidal systems (GDNR 2025b). The presence of all state-listed or state-priority species has not been confirmed within the project area; however, their potential occurrence provides additional context for wildlife conservation considerations at the state level.

Environmental Trends Impacting Wildlife

Long-term environmental trends such as rising temperatures and sea level rise are expected to influence wildlife and habitat conditions on Cumberland Island. Sea level rise may contribute to the loss or alteration of coastal and marsh habitats through increased inundation, erosion, and saltwater intrusion, potentially affecting species that rely on these environments for foraging, nesting, or movement. The frequency and extent of flooding in the Seashore is likely to increase over time due to sea level rise, rising temperatures, and increased storm frequency and intensity. Changes in temperature and precipitation patterns may also influence species distribution, seasonal behavior, and habitat suitability over time.

Under current management, the NPS would not proceed with the proposed land exchanges, and wildlife conditions within and adjacent to the project area would be influenced by the continued presence of privately owned parcels without conservation easements or wilderness protection. Residential use of these parcels in accordance with existing property rights and local regulations and zoning could affect natural resources in those areas. Future construction and ongoing residential use could result in localized habitat loss, fragmentation, and increased human disturbance in areas of high ecological value—specifically, tree removal, which has the potential to result in adverse impacts on bats by eliminating suitable roosting habitat. Overall, these conditions could adversely affect wildlife, including federally and state-listed species by reducing the availability of foraging, nesting, and sheltering areas, resulting in long-term, localized, adverse effects on wildlife. Routine human presence, vehicle use, domestic animals, artificial lighting, and noise associated with residential activities could result in chronic, low-level disturbance to wildlife. Nighttime lighting may alter movement patterns or behavior of nocturnal species, including bats and reptiles, and could affect species sensitive to light disturbance. Artificial lighting visible from adjacent beaches may also interfere with nesting and hatchling orientation for sea turtles, which are known to be highly sensitive to nighttime lighting conditions. Repeated human activity and noise could also disrupt foraging, nesting, or roosting behavior of birds and other wildlife, particularly in areas that support high-quality or sensitive habitats. These effects are expected to be localized but long term in

duration and could adversely affect wildlife, including federally and state-listed species occurring in or near the project area.

Because the no-action alternative would not provide additional conservation or wilderness protections for privately owned parcels, the potential for these localized, long-term to permanent, adverse effects on wildlife habitat would remain over time within the project area and surrounding landscape.

Under current management, land use on privately owned parcels would continue to be governed by existing zoning, land management practices, and any current conservation easements.

ENVIRONMENTAL CONSEQUENCES

Alternative 1: No-Action Alternative

Under alternative 1, current land management and ownership would not change. As a result, impacts on wildlife would resemble those described above in the “Affected Environment” section, which describes the current and expected future conditions of this resource if no action is taken.

Alternative 2: Proposed Action

Under alternative 2, NPS acquisition of one or both privately owned parcels would result in the lands being incorporated into the Seashore and removed from potential private development. Elimination of potential development on the acquired parcels would prevent vegetation clearing, construction, human disturbance, and ongoing residential use, including associated lighting and noise. Wildlife habitat on these lands would be maintained under conservation-oriented management. Where applicable, designation of acquired lands as wilderness and management in accordance with the Wilderness Act and NPS policies would emphasize the preservation of natural conditions, minimize human disturbance, and maintain habitat connectivity.

These protections would have long-term, beneficial effects on wildlife. Species sensitive to disturbance, including forest-nesting birds, bats, mammals, and reptiles, would benefit from reduced human activity and the preservation of intact habitat. Federally threatened and endangered species that may occur on or near the project area would benefit from the permanent protection of habitat. Overall, effects on wildlife on lands acquired by the NPS would be beneficial to wildlife.

For federal parcels conveyed to private ownership under alternative 2, conservation easements would be established to protect areas of concern for natural resources, limiting development to designated portions of the properties. Development would be restricted to approximately 20% of each parcel, with the remaining areas retained in a largely undeveloped condition. These restrictions would reduce the extent of potential habitat loss and fragmentation compared to unrestricted development.

Limited construction and ongoing residential use could result in localized, long-term, adverse effects on wildlife within or adjacent to the project area. Construction activities may temporarily disturb wildlife through noise, vegetation removal, and increased levels of human presence. Ongoing residential use may introduce artificial lighting, increased noise, and regular human presence, which could affect wildlife behavior and habitat use in the immediate vicinity of developed areas. Such effects may include avoidance of nearby habitat, increased disturbance during nocturnal periods, and reduced suitability of adjacent areas for species sensitive to human activity. Species most susceptible to these effects would include birds that nest in trees or shrubs, bats that rely on forested habitat for roosting and foraging, and reptiles such as snakes that depend on ground cover and relatively undisturbed upland habitats.

Although non-listed and listed species may respond similarly to these stressors, federally threatened or endangered species are more sensitive to disturbance due to their reduced population sizes, specialized

habitat requirements, and limited resilience. Within the project area, listed species most likely to be affected by localized disturbance associated with limited development include upland-associated species such as the eastern indigo snake and tricolored bat, which may use forested habitats and habitat edges where construction or ongoing residential use could occur. Certain listed bird species may also experience minor disturbance where foraging or movement corridors overlap with developed areas. Sea turtles would not be affected by potential development as the parcels proposed for exchange are located on the marsh side of the island and do not include nesting beach habitat. However, given the limited footprint of allowable development and the protections afforded by conservation easements, these effects are expected to result in minimal adverse effects on federally listed species and wildlife at the property and island scale.

In addition to federally listed species, state-listed species recognized by Georgia may occur in habitats present within or adjacent to the project area. These species would be subject to the same potential stressors described for wildlife generally, including localized disturbance from construction activities and ongoing residential use, if development were to occur on lands conveyed to private ownership. However, given the limited extent of potential development and the application of conservation easements, effects on state-listed species are expected to be similar in nature and magnitude to those described for federally listed species and other sensitive wildlife.

Overall, alternative 2 would result in short-term, minor, adverse effects for wildlife and wildlife habitat, including threatened and endangered species, if development were to occur on parcels conveyed to private ownership. Potential adverse effects associated with future development on conveyed parcels would be limited to small areas designated for development and would not result in population-level effects, measurable reductions in habitat availability at the island scale, or substantial disruption of ecological connectivity. Listed species would continue to be protected through conservation easements, applicable regulatory requirements, and habitat preservation on acquired lands. Regardless of whether development occurs, this alternative would result in long-term, beneficial effects due to the permanent protection and conservation-oriented management of habitat within the Seashore.

VEGETATION

AFFECTED ENVIRONMENT – CURRENT AND EXPECTED FUTURE CONDITIONS OF THE ENVIRONMENT IF NO ACTION IS TAKEN

The following section describes the existing conditions of vegetation at the Seashore. Wetlands are covered in the “Water Resources” section of this document; this section discusses vegetation found in both wetlands and uplands in the project area. This section also provides a baseline from which to analyze potential effects on vegetation as a result of the alternatives.

Cumberland Island supports a diversity of vegetation, shaped by coastal processes, soil conditions, fire history, and past and current land use. Vegetation patterns generally transition from open beach and sparsely vegetated foredunes to interdunal meadows, shrub-dominated backdunes, and mature maritime forests in the island interior, before giving way to extensive salt marsh along the western shoreline. Major community types include salt marshes dominated by smooth cordgrass, dune and interdunal systems stabilized by grasses and forbs, freshwater wetlands scattered throughout the interior, and upland forests composed largely of live oak and palmetto, along with pine and mixed hardwood stands. This mosaic of habitats reflects long-term interactions among tides, storms, salinity, sediment movement, and natural succession (McManamay 2017; Boyle and Rico 2022).

Fire has been a critical ecological driver on Cumberland Island for millennia, maintaining freshwater wetlands, scrub woodlands, and pine-dominated systems that depend on periodic burning. More recently,

human fire suppression has altered these dynamics, contributing to woody encroachment, drying of wetlands, and reduced herbaceous diversity in fire-adapted uplands (McManamay 2017; NPS 2025b). Vegetation communities are further influenced by wildlife pressures, including destructive rooting by feral hogs that damages soils and inhibits seedling establishment, as well as grazing by nonnative, invasive, feral horses, particularly in open areas such as salt marshes (McManamay 2017).

Vegetation plays a vital role in stabilizing the island's landscape and supporting ecological resilience. Extensive root systems bind sediments, allowing dunes and marshes to build elevation and create conditions for additional plant communities to establish (Griffin 1991; Wellman et al. 2025). Dune vegetation alone accounts for a significant portion of the island and includes specialized species adapted to salt spray, wind, and drought. Together, the island's marshes, forests, wetlands, and dune systems form an interconnected network that buffers storm energy, sustains wildlife habitat, and underpins the ecological integrity of one of the Atlantic coast's most diverse barrier islands (Boyle and Rico 2022; NPS 2018; NPS 2024a).

The project area includes several different vegetation communities that were identified using data from the Vegetation Mapping Inventory Project of the Seashore, which inventoried and mapped existing vegetation types on Cumberland Island, and the accompanying Vegetation Mapping at Cumberland Island National Seashore Report, which provides detailed descriptions of vegetation types and background on sampling methods (NPS 2015; McManamay 2017). Nine vegetation communities occur in the project area (figures 8 to 11). Additionally, vegetation communities 8 (Commercial and Services) & 40 (Transportation, Communities, and Utilities) are legacy nomenclature for vegetation mapping and do not indicate authorized land use. Table 3 provides the acreages for each of these communities, while appendix C provides descriptions and characteristic species of the nine vegetation communities drawn from the *Vegetation Mapping at Cumberland Island National Seashore Report* (McManamay 2017).

Cumberland Island National Seashore Georgia

National Park Service
U.S. Department of the Interior



FIGURE 8. VEGETATION UNDER EXCHANGE 1A

Cumberland Island National Seashore Georgia

National Park Service
U.S. Department of the Interior



Exchange 1b



FIGURE 9. VEGETATION UNDER EXCHANGE 1B

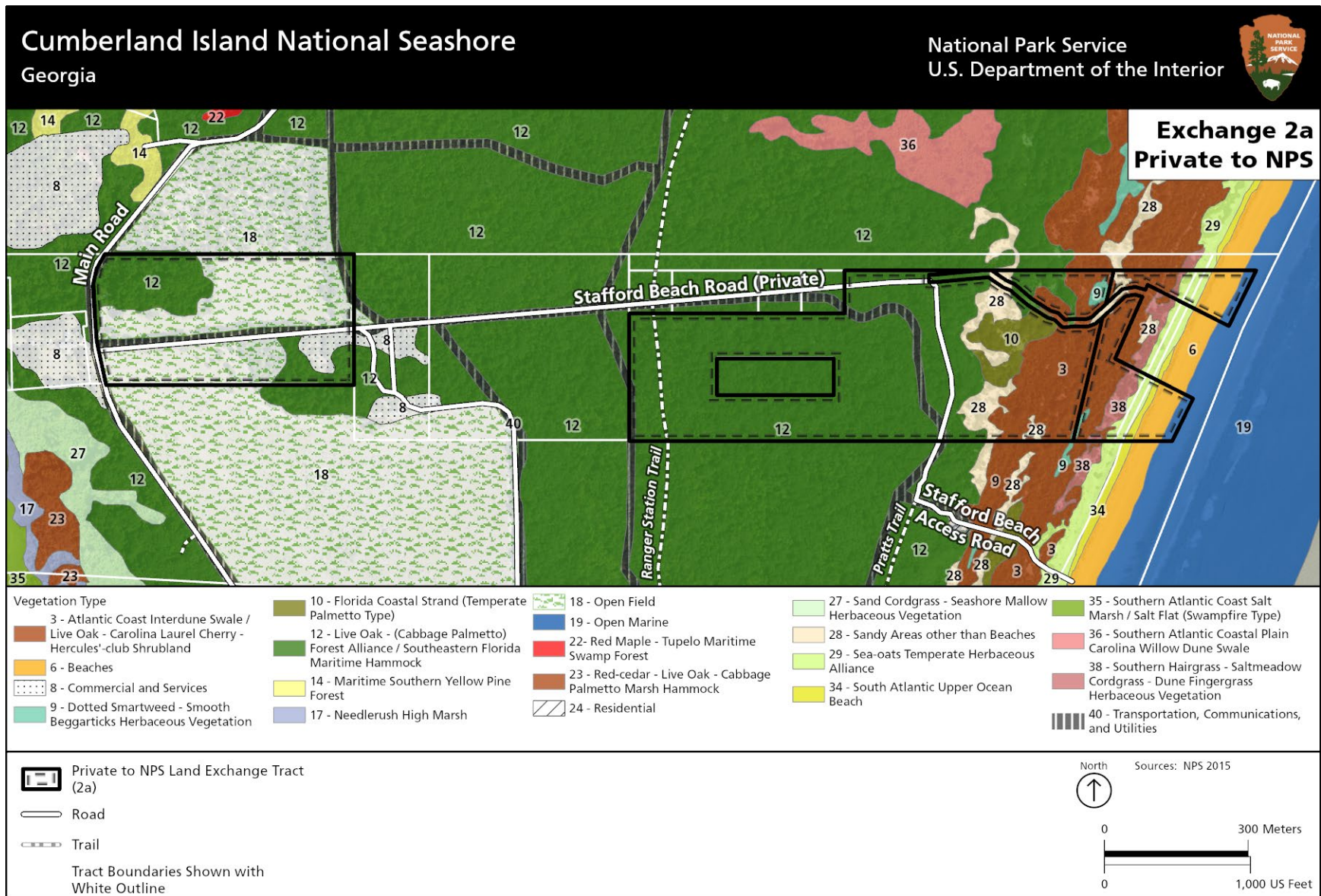


FIGURE 10. VEGETATION ON PRIVATELY OWNED PARCELS UNDER EXCHANGE 2



**Exchange 2b
NPS to Private**

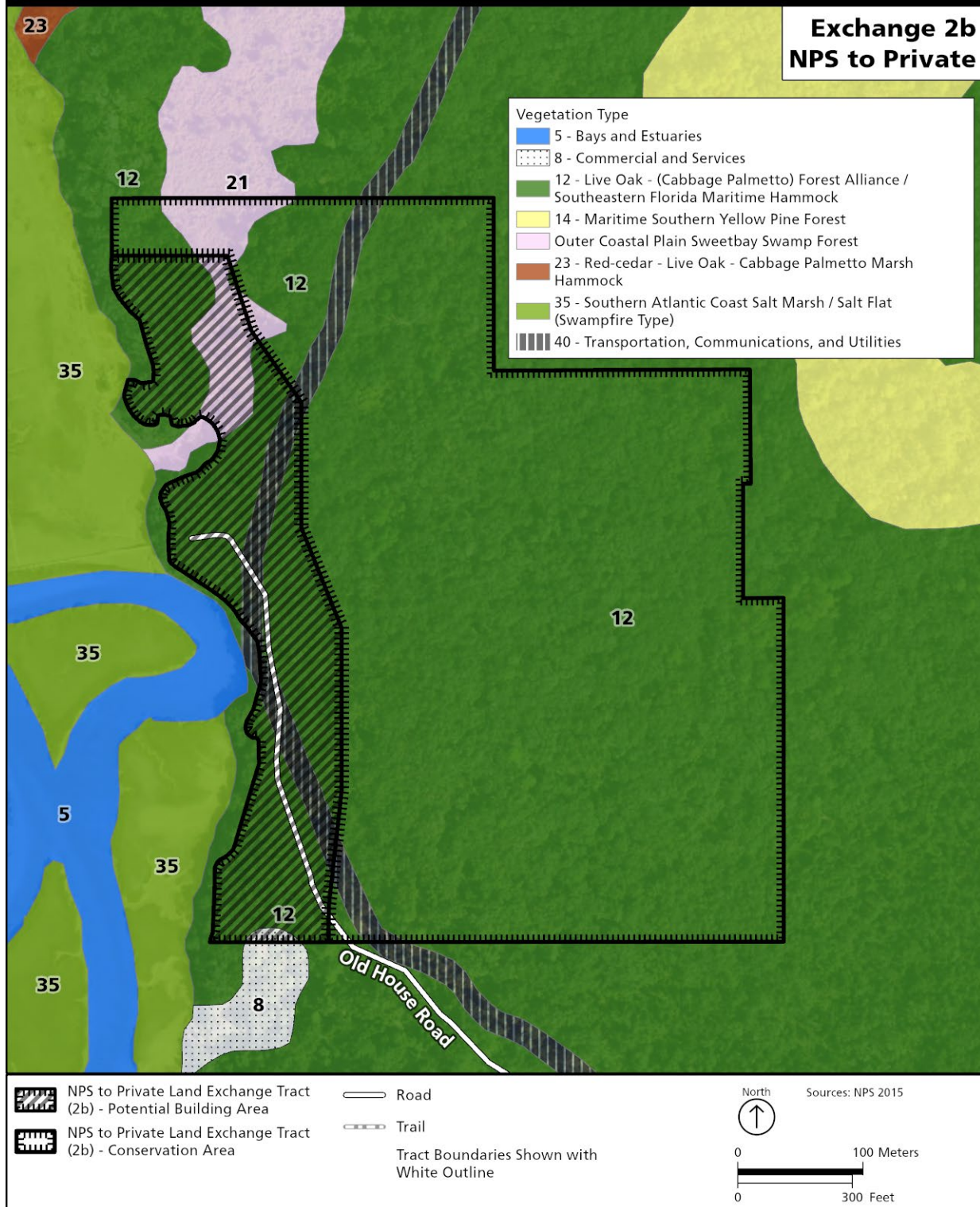


FIGURE 11. VEGETATION ON NPS-OWNED PARCELS UNDER EXCHANGE 2

TABLE 3. ACREAGES OF VEGETATION COMMUNITIES AT THE NPS FEDERAL LAND EXCHANGES

Vegetation Community	Acreage
Exchange 1	
From Privately Owned to NPS (Exchange 1a)	10.0
12 - Live Oak - (Cabbage Palmetto) Forest Alliance/Southeastern Florida Maritime Hammock	6.1
14 - Maritime Southern Yellow Pine Forest	3.4
35 - Southern Atlantic Coast Salt Marsh/Salt Flat (Swampfire Type)	0.4
40 - Transportation, Communications, and Utilities*	0.1
From NPS to Privately Owned (Exchange 1b)	20.0
Potential Building Area	4.0
8 - Commercial and Services* (Developed Areas)	1.1
12 - Live Oak - (Cabbage Palmetto) Forest Alliance/Southeastern Florida Maritime Hammock	2.9
Conservation Area	16.0
12 - Live Oak - (Cabbage Palmetto) Forest Alliance/Southeastern Florida Maritime Hammock	12.1
14 - Maritime Southern Yellow Pine Forest	3.1
40 - Transportation, Communications, and Utilities*	0.9
Exchange 2	
From Privately Owned to NPS (Exchange 2a)	119.3
10 - Florida Coastal Strand (Temperate Palmetto Type)	3.5
12 - Live Oak - (Cabbage Palmetto) Forest Alliance/Southeastern Florida Maritime Hammock	57.1
18 - Open Field*	22.2
19 - Open Marine*	1.2
28 - Sandy Areas Other Than Beaches*	4.6
29 - Sea-oats Temperate Herbaceous Alliance	2.1
3 - Atlantic Coast Interdune Swale/Live Oak - Carolina Laurel Cherry - Hercules'-club Shrubland	15.8
34 - South Atlantic Upper Ocean Beach	0.4
38 - Southern Hairgrass - Saltmeadow Cordgrass - Dune Fingergrass Herbaceous Vegetation	1.5
40 - Transportation, Communications, and Utilities*	5.4
6 - Beaches*	3.2
8 - Commercial and Services* (Developed Areas)	1.6
9 - Dotted Smartweed - Smooth Beggarticks Herbaceous Vegetation	0.6
From NPS to Privately Owned (Exchange 2b)	60
Potential Building Area	12.0
12 - Live Oak - (Cabbage Palmetto) Forest Alliance/Southeastern Florida Maritime Hammock	9.3
21 - Outer Coastal Plain Sweetbay Swamp Forest	1.1

Vegetation Community	Acreage
<i>40 - Transportation, Communications, and Utilities*</i>	1.5
<i>8 - Commercial and Services* (Developed Areas)</i>	0.1
Conservation Area	48.0
<i>12 - Live Oak - (Cabbage Palmetto) Forest Alliance/Southeastern Florida Maritime Hammock</i>	45.9
<i>21 - Outer Coastal Plain Sweetbay Swamp Forest</i>	0.9
<i>40 - Transportation, Communications, and Utilities*</i>	1.1

Source: NPS 2015

Note: * = non-vegetated area

Vegetation Communities 8 (Commercial and Services) & 40 (Transportation, Communities, and Utilities) are legacy nomenclature for vegetation mapping and do not indicate authorized land use.

Environmental Trends Impacting Vegetation

Vegetation conditions on Cumberland Island are shaped by dynamic coastal processes, long-term ecological drivers, and ongoing management practices. As a barrier island system, vegetation communities are inherently transitional, influenced by shoreline change, dune migration, storm events, and sediment redistribution. Over time, these processes are expected to continue to shift the distribution and composition of vegetation communities, particularly within dune, interdunal, and marsh systems. Natural succession also influences vegetation patterns, with herbaceous communities transitioning to shrub and forested systems without disturbance, particularly in upland and backdune areas.

Fire has historically played a critical role in maintaining vegetation structure and diversity on the island, especially within pine-dominated systems, scrub, and freshwater wetlands. Continued fire suppression or limited prescribed fire application may contribute to increased woody encroachment, reduced herbaceous cover, and altered species composition in fire-adapted communities. Conversely, the ongoing use of prescribed fire by the NPS is expected to help maintain natural community structure, enhance biodiversity, and reduce fuel loads where implemented.

Wildlife and feral animal activity also influence vegetation communities. Rooting by feral hogs and grazing by nonnative, invasive, feral horses are expected to continue affecting vegetation structure, soil stability, and regeneration capacity, particularly in marshes, dune systems, and open upland habitats. Existing NPS management actions, including monitoring and control efforts for nonnative species, are anticipated to continue and will influence the trajectory of vegetation recovery and resilience over time.

Increasing temperatures represent an important long-term trend affecting vegetation resources across the Seashore. Sea level rise is expected to contribute to increased inundation, shoreline erosion, and landward migration of salt marsh communities, potentially resulting in the loss or alteration of upland and freshwater vegetation systems. Saltwater intrusion may further affect plant composition by reducing the viability of less salt-tolerant species. In addition, changes in temperature, precipitation patterns, and storm frequency and intensity may influence plant productivity, species distribution, and disturbance regimes, including fire behavior and storm-driven vegetation loss.

On privately owned parcels within the project area, future development or land use changes may result in vegetation clearing, fragmentation, or conversion, depending on zoning and management practices. Planned or potential infrastructure improvements, such as trail rerouting or expansion, may also disturb vegetation through clearing, soil compaction, and increased human use in previously undisturbed areas. The privately owned parcels would remain within the boundary of the Seashore and be managed by private landowners; future development could occur in accordance with existing property rights and local regulations and zoning. The NPS would retain ownership of the parcels proposed for conveyance and

continue to manage this land under existing Seashore's policies and plans, meaning that there would be no impacts on vegetation on the NPS parcels proposed for conveyance.

Under current management, these natural processes, climate-related changes, wildlife influences, and ongoing management activities would continue to shape vegetation communities across Cumberland Island. Together, these factors represent the baseline conditions and expected trends under which vegetation resources in the project area would persist and evolve over time.

ENVIRONMENTAL CONSEQUENCES

Alternative 1: No-Action Alternative

Under alternative 1, current land management and ownership would not change. As a result, impacts on vegetation would resemble those described above in the "Affected Environment" section, which describes the current and expected future conditions of this resource if no action is taken.

Alternative 2: Proposed Action

Under alternative 2, NPS acquisition of the privately owned parcels would eliminate the potential for future development, enhancing protection of vegetation in those parcels. However, the transfer of federal parcels to private ownership would allow for the possibility of future development on portions of the property, in accordance with development restrictions included in the preliminary exchange agreements, which could have long-term, adverse effects on vegetation in those areas.

As displayed in table 3, exchange 1 would provide long-term protection for 6.1 acres of the Live Oak - (Cabbage Palmetto) Forest Alliance/Southeastern Florida Maritime Hammock vegetation community, 3.4 acres of the Maritime Southern Yellow Pine Forest vegetation community, and 0.4 acres of the Southern Atlantic Coast Salt Marsh/Salt Flat (Swampfire Type) vegetation community that are currently privately owned and subject to potential development in accordance with local regulations and zoning (figure 8). NPS acquisition of the parcels would protect these lands in their current undeveloped state to benefit the vegetation within and adjacent to the property and enhance overall habitat connectivity, resulting in long-term, beneficial impacts.

Exchange 1 would transfer 15 acres of the Live Oak - (Cabbage Palmetto) Forest Alliance/Southeastern Florida Maritime Hammock vegetation community and 3.1 acres of the Maritime Southern Yellow Pine Forest vegetation community into private ownership (figure 9). However, most of this area would be within the conservation area. Only 2.9 acres of the Live Oak - (Cabbage Palmetto) Forest Alliance/Southeastern Florida Maritime Hammock vegetation community would be in the potential building area where vegetation could be removed for the construction of single-family residences. Clearing and construction activities would both temporarily and permanently disturb vegetation in the potential building area, resulting in short- and long-term, adverse impacts on vegetation.

Exchange 2 would provide long-term protection for 3.5 acres of the Florida Coastal Strand (Temperate Palmetto Type) vegetation community, 56.3 acres of the Live Oak - (Cabbage Palmetto) Forest Alliance/Southeastern Florida Maritime Hammock vegetation community, 2.1 acres of the Sea-oats Temperate Herbaceous Alliance vegetation community, 15.8 acres of the Atlantic Coast Interdune Swale/Live Oak - Carolina Laurel Cherry - Hercules'-club Shrubland vegetation community, 0.4 acres of the South Atlantic Upper Ocean Beach vegetation community, 1.5 acres of the Southern Hairgrass - Saltmeadow Cordgrass - Dune Fingergrass Herbaceous vegetation community, and 0.6 acres of the Dotted Smartweed - Smooth Beggarticks Herbaceous vegetation community. These areas are currently privately owned and subject to potential development in accordance with local regulations and zoning (table 3, figure 10). As noted for exchange 1, NPS acquisition of the property would protect these lands in

their current undeveloped state to benefit the vegetation within and adjacent to the property and enhance overall habitat connectivity, resulting in long-term, beneficial impacts.

Exchange 2 would transfer 55.2 acres of the Live Oak - (Cabbage Palmetto) Forest Alliance/Southeastern Florida Maritime Hammock vegetation community and 2 acres of the Outer Coastal Plain Sweetbay Swamp Forest vegetation community into private ownership (figure 11). However, most of this area would be within the conservation area. Only 9.3 acres of the Live Oak - (Cabbage Palmetto) Forest Alliance/Southeastern Florida Maritime Hammock vegetation community and 1.1 acres of the Outer Coastal Plain Sweetbay Swamp Forest vegetation community would be in the potential building area where vegetation could be removed for the construction of single-family residences. Clearing and construction activities would both temporarily and permanently disturb vegetation in the potential building area, resulting in short- and long-term, adverse impacts on vegetation.

Overall, alternative 2 would result in short- and long-term, adverse impacts on vegetation in the parcels that would be conveyed from federal to private ownership, particularly in the potential building areas. Any vegetation loss would be limited to designated building areas, comprising approximately 20 percent of conveyed lands, and would not result in substantial loss of maritime forest, habitat connectivity, or native plant communities at the island scale. However, there would also be long-term, beneficial impacts on vegetation in the parcels that would be conveyed from private to federal ownership because they would be permanently protected and managed by the NPS.

SOILS

AFFECTED ENVIRONMENT – CURRENT AND EXPECTED FUTURE CONDITIONS OF THE ENVIRONMENT IF NO ACTION IS TAKEN

Soils on Cumberland Island primarily consist of soils formed from marine sands, loams, and clays that are predominantly sandy in character, low in organic matter and moisture-holding capacity, and nutrient-poor. The soils of the barrier islands were derived primarily from quartz sands, which are highly resistant to decomposition by chemical and physical weathering processes. The main characteristic of these soils is their high permeability that results in low water-holding capacity and a rapid leaching process. The coarse-to-fine sandy soils of the islands are commonly placed in the Regosol soil group (Hillestad et al. 1975). Most of the island's soils are acidic and highly permeable, with rapid recycling of nutrients, with the exception of soils near the beach (Fripp and Duckston sands) (Allen et al. 2018). Soil distinction exists across the island, separating the interior Pleistocene core, with its older, more developed, weathered, and occasionally loamy soil types, from the coastal Holocene shoreline, which is defined by newer, undeveloped, excessively drained sands within active dunes (Griffin 1991).

Table 4 and figures 12 through 15 present the soils associated with the project area. Soil types include Cainhoy fine sand, Mandarin fine sand, and Pottsburg sand, which represent a spectrum of drainage and profile development common in the sandy marine sediments of the Lower Coastal Plain. Cainhoy fine sand (0–5% slopes) is classified as an excessively drained, rapidly permeable soil with a “salt and pepper” surface appearance and no water table within 80 inches of the surface (USDA 2026). In contrast, Mandarin fine sand (0–2% slopes) is somewhat poorly drained and characterized by a relatively shallow spodic (Bh) horizon—a dark, organic-rich layer—starting within 30 inches of the surface; maintaining a seasonal high water table between 18 and 42 inches during wet months (USDA 2026). Pottsburg sand is poorly to somewhat poorly drained siliceous, thermic Grossarenic Alaquods typically found in nearly level, poorly drained sandy areas. Characterized by thick, dark grayish brown fine sand surfaces over pale brown sand, this soil holds high water tables and supports slash pine, saw palmetto, and gallberry (*Ilex glabra*) vegetation common in coastal flatwoods (USDA 2026).

TABLE 4. SOIL TYPES AT THE NPS FEDERAL LAND EXCHANGES

Soil Type	Acreage
Exchange 1	
From Privately Owned to NPS (Exchange 1a)	10.0
<i>Bohicket-Capers association</i>	0.2
<i>Cainhoy fine sand, 0 to 5 percent slopes</i>	9.8
From NPS to Privately Owned (Exchange 1b)	20.0
Potential Building Area	4.0
<i>Cainhoy fine sand, 0 to 5 percent slopes</i>	4.0
Conservation Area	16.0
<i>Cainhoy fine sand, 0 to 5 percent slopes</i>	4.5
<i>Mandarin fine sand, 0 to 2 percent slopes</i>	11.5
Exchange 2	
From Privately Owned to NPS (Exchange 2a)	119.3
<i>Beaches</i>	9.5
<i>Cainhoy fine sand, 0 to 5 percent slopes</i>	36.2
<i>Fripp-Duckston complex, 0 to 20 percent slopes</i>	27.2
<i>Mandarin fine sand, 0 to 2 percent slopes</i>	6.2
<i>Pottsburg sand</i>	40.2
From NPS to Privately Owned (Exchange 2b)	60
Potential Building Area	12.0
<i>Cainhoy fine sand, 0 to 5 percent slopes</i>	3.2
<i>Mandarin fine sand, 0 to 2 percent slopes</i>	7.6
<i>Pottsburg sand</i>	1.2
Conservation Area	48.0
<i>Cainhoy fine sand, 0 to 5 percent slopes</i>	1.4
<i>Mandarin fine sand, 0 to 2 percent slopes</i>	37.6
<i>Pottsburg sand</i>	9.0

Source: USDA 2026

Cumberland Island National Seashore Georgia

National Park Service
U.S. Department of the Interior

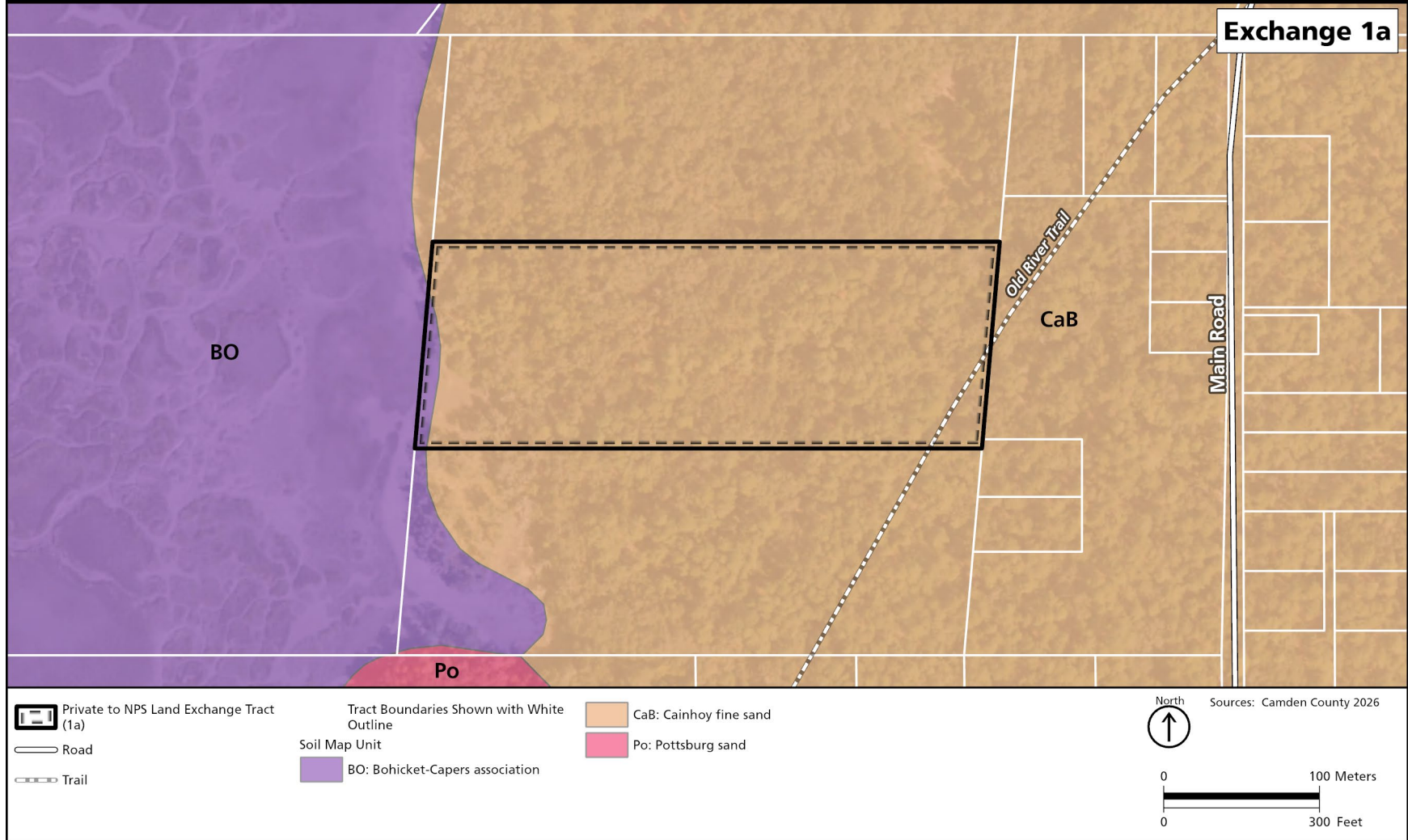


FIGURE 12. SOIL TYPES UNDER EXCHANGE 1A



Exchange 1b

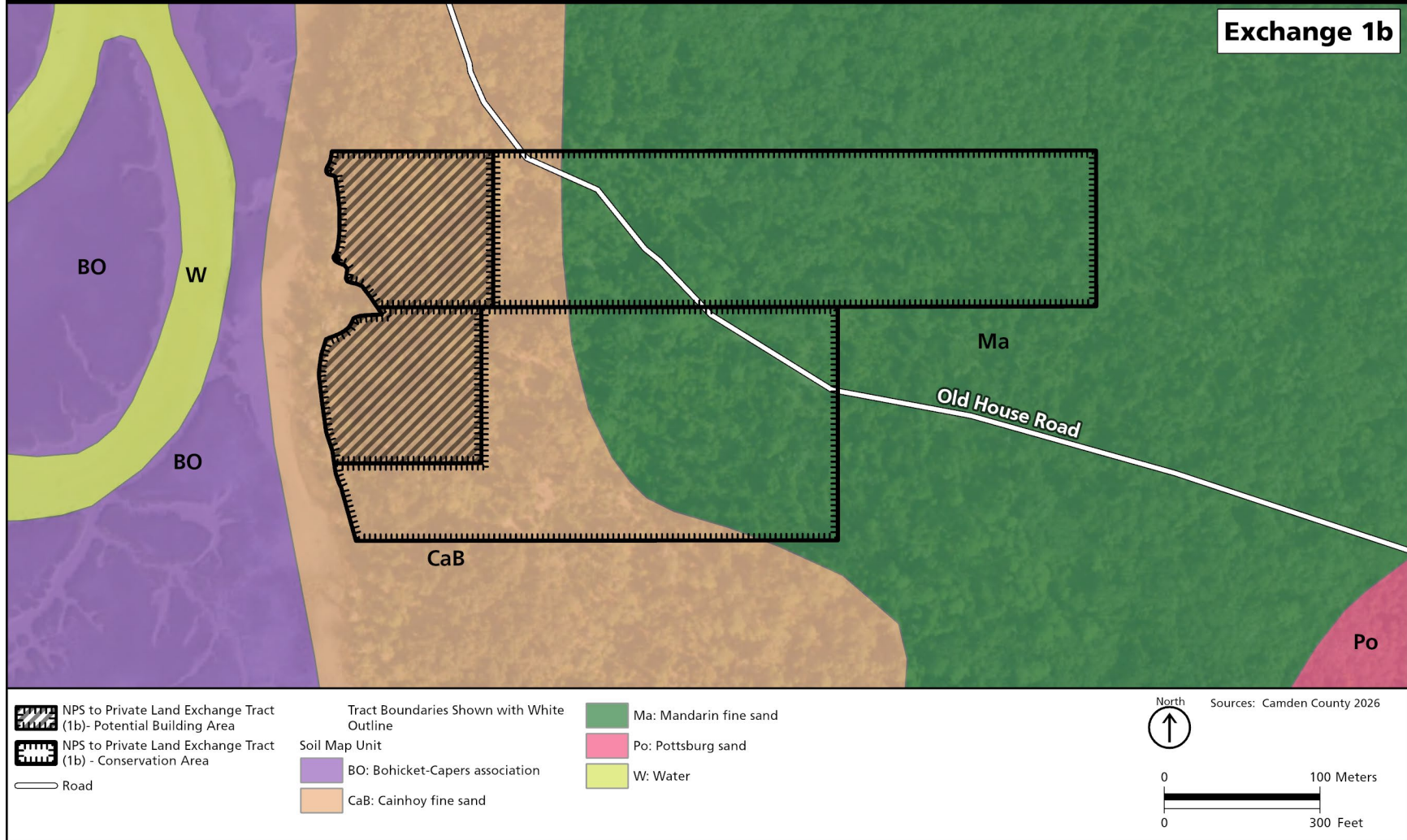


FIGURE 13. SOIL TYPES UNDER EXCHANGE 1B

Cumberland Island National Seashore Georgia

National Park Service
U.S. Department of the Interior



Exchange 2a Private to NPS

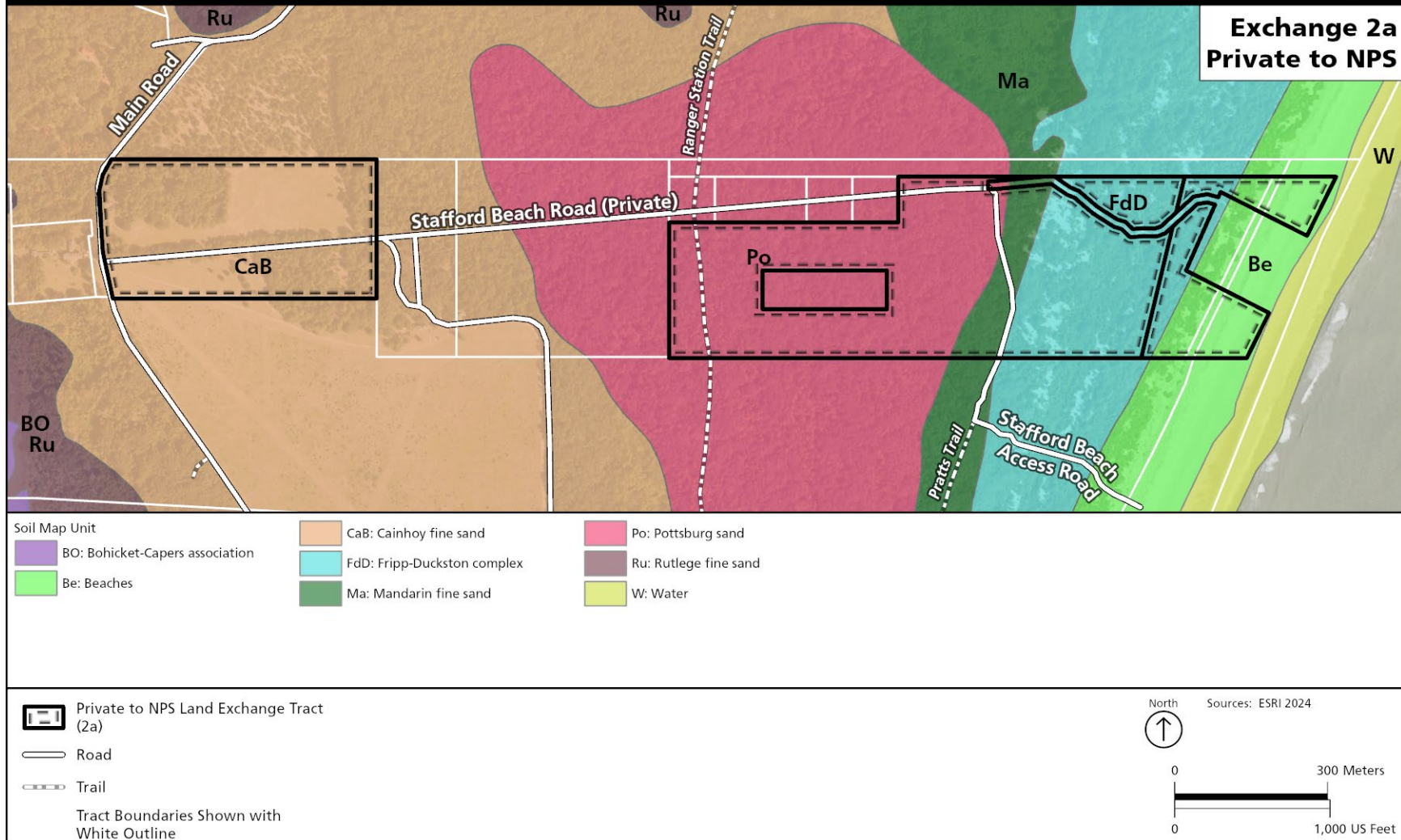


FIGURE 14. SOIL TYPES ON PRIVATELY OWNED LANDS UNDER EXCHANGE



**Exchange 2b
NPS to Private**

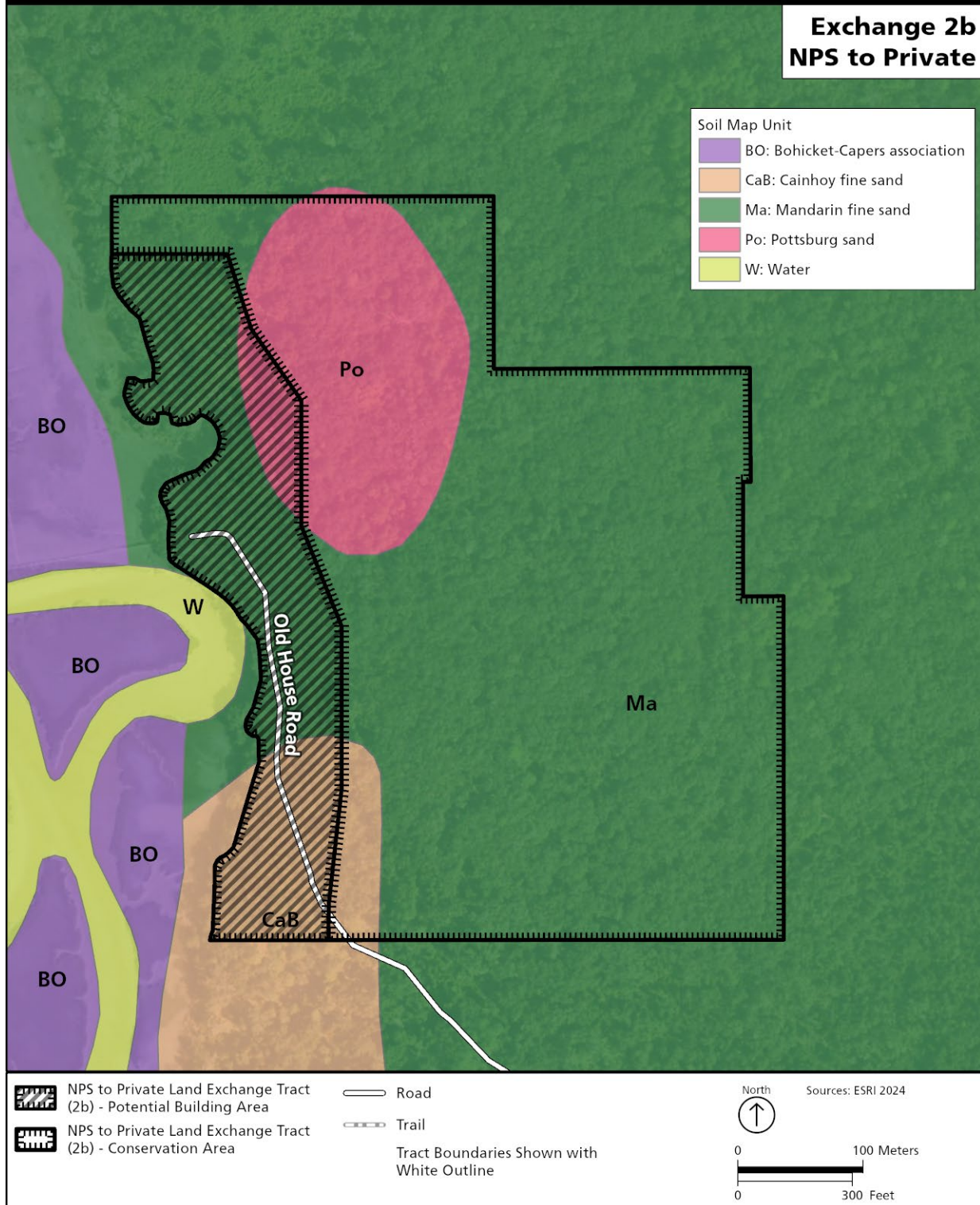


FIGURE 15. SOIL TYPES UNDER EXCHANGE 2

Environmental Trends Impacting Soils

Past development trends on Cumberland Island, including residential development on private property, have contributed to soil degradation by temporarily disturbing or permanently affecting naturally occurring soils. Historical use of the island and land management practices have also led to the intentional or unintentional introduction of nonnative species such as feral hogs and nonnative, invasive, feral horses. The persistence of nonnative species has degraded the natural quality of soils in those areas and increased the potential for soil erosion.

Under the current management, the privately owned parcels would remain within the boundary of the Seashore and managed by private landowners. Private landowners would have the ability to develop the parcel in accordance with existing property rights and local regulations and zoning. Construction and grading activities associated with such development could affect soils and result in long-term, adverse impacts on soils from the loss of soil productivity, erosion, and soil compaction. Conversely, the NPS would retain ownership of the parcels proposed for conveyance and continue to manage them under existing policies and plans with no effects on soils.

ENVIRONMENTAL CONSEQUENCES

Alternative 1: No-Action Alternative

Under alternative 1, current land management and ownership would not change. As a result, impacts on soils would resemble those described above in the “Affected Environment” section, which describes the current and expected future conditions of this resource if no action is taken.

Alternative 2: Proposed Action

Under alternative 2, up to 16 acres of the parcels exchanged from federal ownership to private ownership could be impacted by the construction of single-family residences, together with any ancillary structures, with a total footprint that would not exceed 15,000 square feet per residence. Clearing and construction activities would temporarily disturb soils and increase the risk of erosion, soil compaction, and potential for hazardous materials to be released into soils from equipment. Long-term, adverse impacts on soils would occur as a result of site grading and construction of residential structures. Fill and foundations could permanently affect approximately 0.69 acres of soils (Cainhoy fine sand, Mandarin fine sand, and Pottsburg sand soil types) by compacting naturally occurring soils, reducing the porosity of the soil, and reducing the biological activity in the soil. However, the proposed action would not affect any unique or sensitive soils.

Construction of any new residential structures would occur only within the designated potential building areas, which make up 20% of the parcels conveyed to private ownership. The remaining 80% of the parcels would be within a conservation easement, and no ground-disturbing activities would be permitted within that portion, resulting in no impacts on soils.

The parcels acquired by the NPS would be managed in accordance with the rest of the Seashore, resulting in long-term protection and preservation of natural resources. The properties that would be acquired are unimproved and contain habitats that include maritime forest, upland forest, salt marsh, dunes, and beach; acquisition of these lands would protect these habitats and maintain soil quality. Protection of these lands in their current undeveloped state would benefit the undeveloped quality of the soils in the project area by avoiding the potential for these properties to be developed and an associated increase in construction activities and motor vehicle use in the areas adjacent to NPS-owned land. No new NPS facilities on the acquired parcels are proposed under alternative 2, and management activities are not expected to degrade the existing soil conditions of those lands.

In addition, removing these lands from potential private development would eliminate the need to reroute existing trails. Acquisition of the privately owned parcel under exchange 1 would avoid the potential need to reroute Old River Trail, which would avoid impacts on soils within the affected trail segment. Acquisition of the privately owned parcel under exchange 2 would maintain continuity of the Parallel Trail and avoid the potential need to reroute sections of this trail, which could degrade the natural soil quality.

Alternative 2 would potentially result in short- and long-term, adverse impacts on soils within the developable areas of the privately owned parcels and long-term, beneficial impacts on soils within the NPS-acquired parcels. Effects would be localized to designated building areas and access routes and would be minimized through conservation easements, permitting requirements, erosion control measures, and applicable state and federal regulations. Impacts would not substantially alter island-scale soil resources.

WATER RESOURCES

AFFECTED ENVIRONMENT – CURRENT AND EXPECTED FUTURE CONDITIONS OF THE ENVIRONMENT IF NO ACTION IS TAKEN

The following section describes the existing conditions of water resources in the Seashore. For the purposes of the following discussion, water resources are considered to consist of surface waters and wetlands, floodplains, and groundwater. This section provides a baseline from which to analyze potential effects on water resources as a result of the alternatives.

Surface Waters and Wetlands

Cumberland Island is surrounded by saltwater from the Atlantic Ocean to the east and brackish water from the East River, St. Mary's River, and Cumberland Sound to the west. Most of the surface waters on Cumberland Island consist of an intricate network of sloughs that connect to one or more of the surrounding waterbodies. These are highly dynamic water features with constantly changing water levels and salinity driven by tides and freshwater pulses from the East and St. Mary's Rivers.

Cumberland Island also features a number of freshwater lakes and ponds that are fed by rainfall and groundwater (Frick et al. 2002). Freshwater lakes and ponds on Cumberland Island are generally shallow; most are less than 3 feet deep. Water levels in the island's lakes and ponds fluctuate seasonally and annually based on rainfall. Many of the lakes and ponds are intermittent, meaning that they are completely dry during a portion of the year (Hillestad et al. 1975; Allen et al. 2018).

Cumberland Island has the largest and most diverse freshwater wetlands system of all Georgia's barrier islands (Hillestad et al. 1975; Allen et al. 2018). The extent of these wetlands and associated open water also varies, depending on climatic conditions (i.e., temperature and precipitation), groundwater levels, and disturbances (e.g., fire, hurricanes) (Frick et al. 2002; Allen et al. 2018). Cumberland Island is surrounded by marine and estuarine wetlands, including extensive salt marshes on the western side of the island. Formal wetland delineations have not been performed in the project area. However, National Wetlands Inventory (NWI) mapping completed by USFWS provides reconnaissance-level information on the location, type, and size of wetlands on Cumberland Island based on aerial imagery (USFWS 2026a). (NWI wetlands mapping are generated using remote sensing and are used for planning purposes only. Prior to any land exchange, qualified wetlands professionals would delineate wetlands.) Past efforts have verified the extent of many of the wetlands at the Seashore on the ground (Hillestad et al. 1975; McManamay 2017).

Three types of wetlands (based on NWI categories) occur in the project area:

- **Estuarine and Marine Wetland.** Estuarine wetlands consist of deepwater tidal habitats and adjacent tidal wetlands that are usually semi-enclosed by land but have open, partly obstructed, or sporadic access to the open ocean, and in which ocean water is at least occasionally diluted by freshwater runoff from the land. The salinity may be periodically increased above that of the open ocean by evaporation. Along some low-energy coastlines, there is appreciable dilution of sea water (USFWS 2026b). Most estuarine wetlands in the Seashore consist of salt marsh dominated by cordgrass (*Spartina* spp.) (Allen et al. 2018). Marine wetlands consist of the open ocean overlying the continental shelf and its associated high-energy coastline. Marine habitats are exposed to the waves and currents of the open ocean, and water regimes are determined primarily by tides. Salinities exceed 30 parts per thousand (ppt) (USFWS 2026b).
- **Freshwater Emergent Wetland.** Freshwater wetlands occur in tidal areas where salinity from ocean-derived salts is below 0.5 ppt. They are characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens. This vegetation is present for most of the growing season in most years. These wetlands are usually dominated by perennial plants (USFWS 2026b). Plant species that dominate freshwater emergent wetland in the Seashore include sand cordgrass (*Spartina bakeri*); other frequent herbs are Virginia chain fern (*Woodwardia virginica*), sugarcane plumegrass (*Saccharum giganteum*), common rush, and, in deeper ponds, may be bulltongue arrowhead (*Sagittaria lancifolia*) and pickerel weed (*Pontederia cordata*) (McManamay 2017).
- **Freshwater Forested/Shrub Wetland.** Like freshwater emergent wetlands, these wetlands occur in tidal areas where salinity from ocean-derived salts is below 0.5 ppt. They are dominated by woody vegetation less than 20 feet tall. Vegetation includes true shrubs, young trees (saplings), and trees or shrubs that are small or stunted because of environmental conditions. Plant species that dominate forested/shrub wetland in the Seashore include red cedar, cabbage palmetto, and saw palmetto (McManamay 2017).

Water quality in the Seashore's surface waters and wetlands varies seasonally, primarily in response to the frequency and amount of rainfall. For waterbodies closer to the beach, drastic changes in water quality can occur following storm events if saltwater inundation occurs due to storm and tidal surges (Frick et al. 2002). Water quality testing has not been conducted in the project area as part of this effort. However, previous water quality testing and monitoring throughout the Seashore has shown a high degree of variability in surface water quality. Previously documented water quality issues at the Seashore have included elevated nutrient concentrations, low dissolved oxygen, and saltwater intrusion (Allen et al. 2018; Frick et al. 2002). Fluctuations in these parameters are driven primarily by natural factors and processes (organic decomposition, climate and precipitation patterns, and sea level). Although fecal coliform contamination of surface waters has not been documented in the Seashore, it remains a concern due to feral hog and horse activity (Allen et al. 2018). Results of the most recent Estuarine Water Quality Assessment rated overall water quality in the Seashore's salt marshes as "fair" based on factors including nutrient concentrations, dissolved oxygen, and water clarity (NPS 2024c).

The exchange 1a parcel is bordered to the west by estuarine and marine wetland, a portion of which (approximately 0.5 acres) extends onto the parcel (figure 16). The exchange 2b parcels are partially bordered by the Atlantic Ocean to the east and feature a small (approximately 0.2-acre) isolated freshwater emergent wetland, a small portion (approximately 0.1-acre) of an approximately 15-acre freshwater forested/shrub wetland complex that lies to the north, and a small (approximately 0.3-acre) freshwater pond, based on NWI data (2026b). The parcels also contain approximately 4.6 acres of estuarine and marine wetland (figure 18). The exchange 1a and 2a parcels are bordered to the west by

estuarine and marine wetland (figure 16 and 19). The exchange 2b parcel also borders a slough to the west and includes approximately 5.4 acres of freshwater forested/shrub wetland (figure 19).

Floodplains

The NPS defines floodplains as, “the lowland and relatively flat areas adjoining inland and coastal waters, including flood-prone areas of offshore islands and (at a minimum) that area subject to temporary inundation by a regulatory flood.” (NPS 2002). Most of the Seashore’s coastal areas, including beaches and salt marshes, and some low-lying interior areas such as freshwater wetland complexes, lie within the floodplain with a 1% annual chance of flooding (previously referred to as the 100-year floodplain). Approximately 15,000 acres of land within the Seashore is within the 1% floodplain. Due to its low elevation and relatively flat relief, most of the Seashore is prone to occasional flooding as a result of hurricanes, tropical storms, and other extreme weather events.

Approximately half of the exchange 1a parcel (5 acres) lies within the 1% floodplain (figure 16). The exchange 2a parcels are almost entirely within the floodplain (approximately 12.8 acres), while the western parcels are outside the 1% floodplain (figure 17). The western (marsh) portion of both exchange 1b and 2b parcels is within the 1% floodplain (approximately 8.7 acres; figure 16 and 19).

Cumberland Island National Seashore Georgia

National Park Service
U.S. Department of the Interior

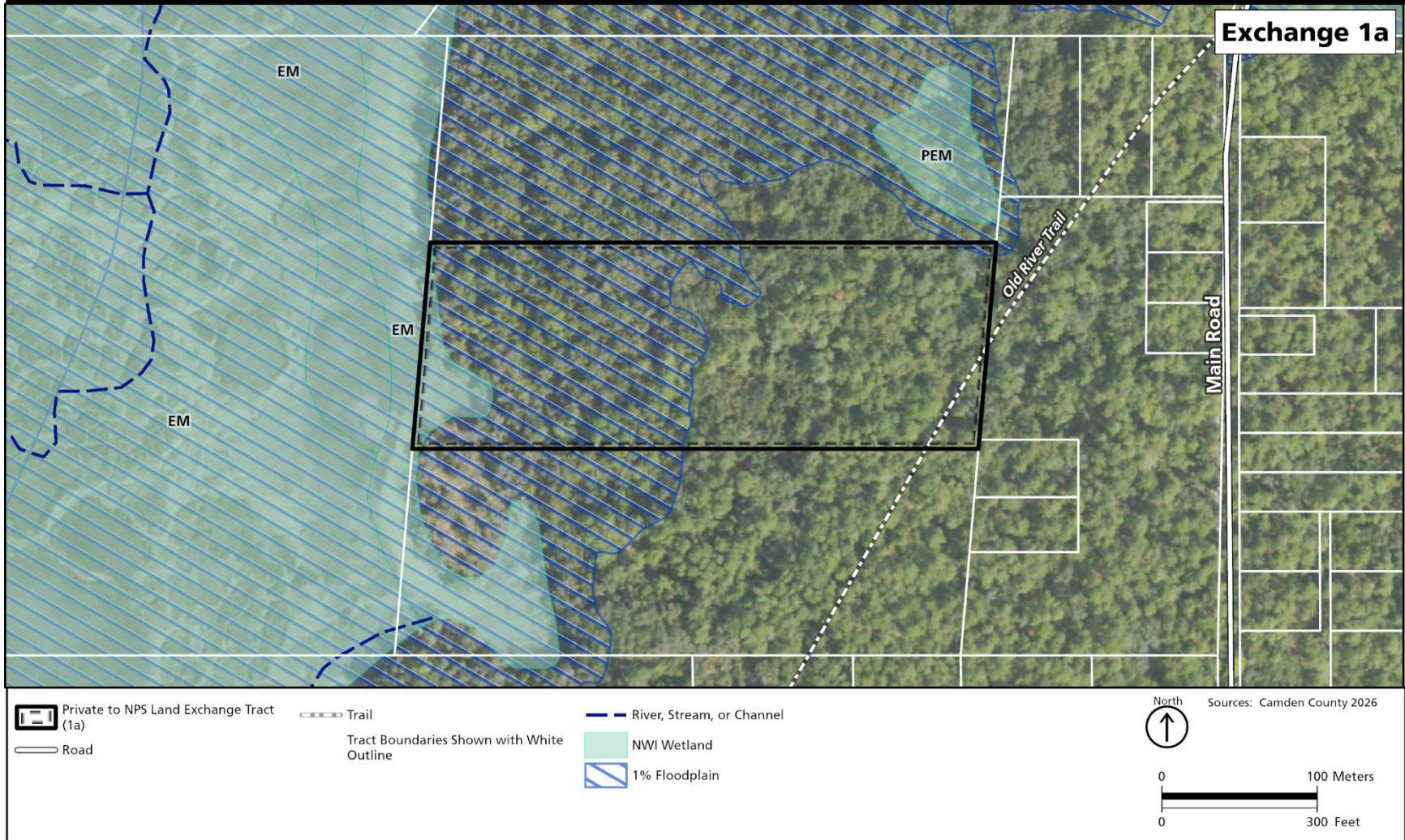


FIGURE 16. WATER RESOURCES UNDER EXCHANGE 1A

Cumberland Island National Seashore Georgia

National Park Service
U.S. Department of the Interior



Exchange 1b



FIGURE 17. WATER RESOURCES UNDER EXCHANGE 1B

Cumberland Island National Seashore Georgia

National Park Service
U.S. Department of the Interior



Exchange 2a Private to NPS

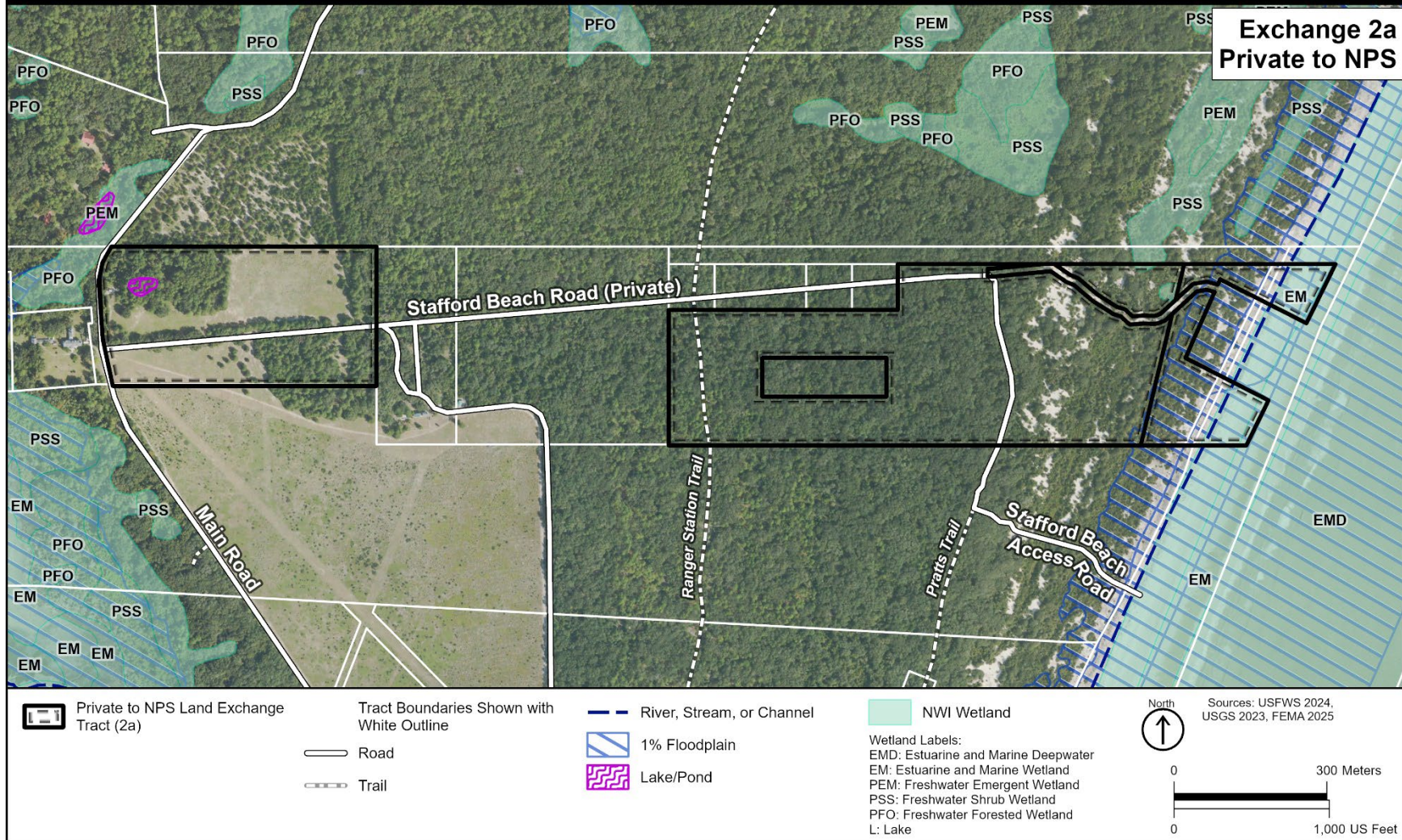


FIGURE 18. WATER RESOURCES ON PRIVATELY OWNED LANDS UNDER EXCHANGE 2

Cumberland Island National Seashore Georgia

National Park Service
U.S. Department of the Interior



Exchange 2b NPS to Private

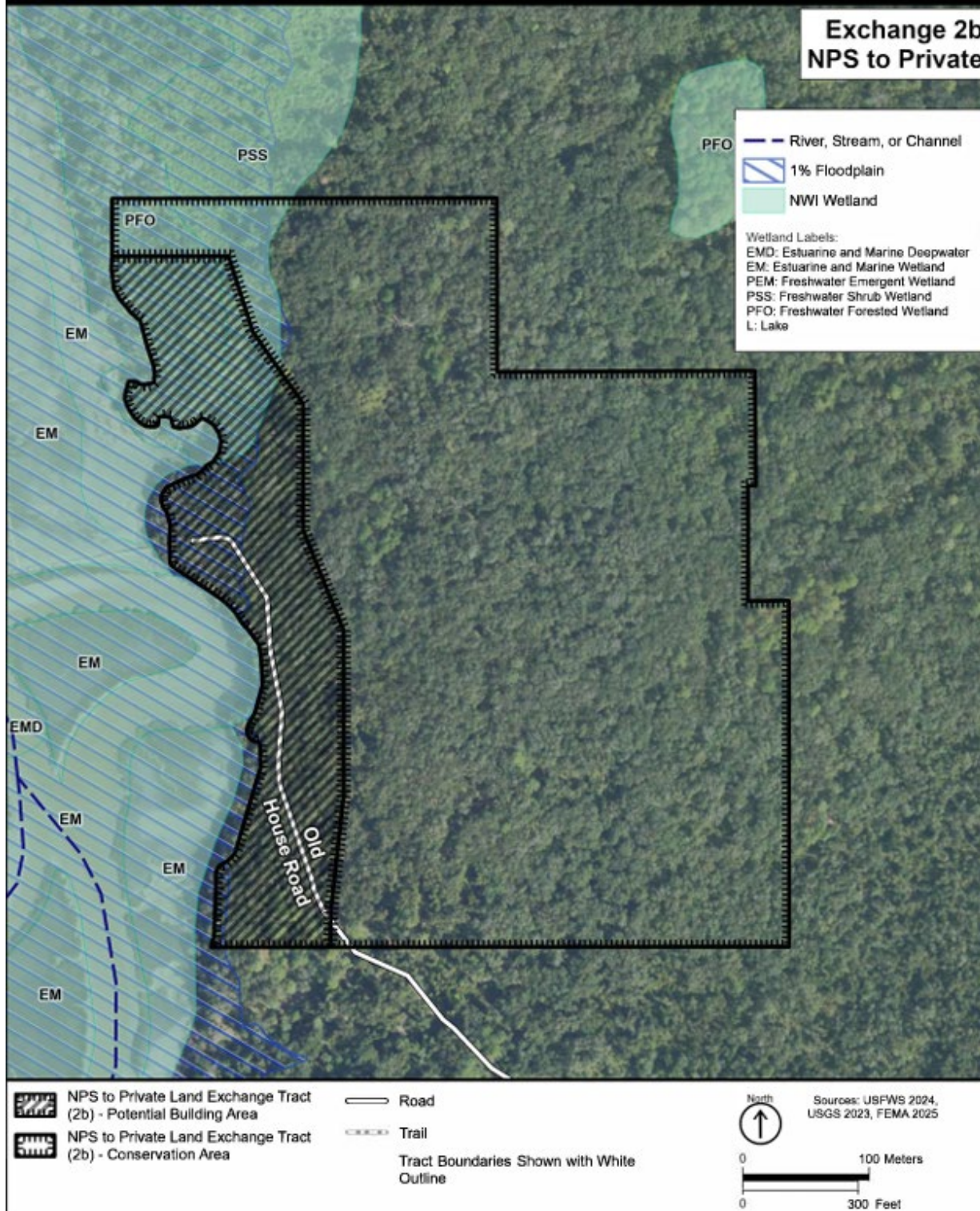


FIGURE 19. WATER RESOURCES ON NPS-OWNED LANDS UNDER EXCHANGE 2

Groundwater

Cumberland Island lies above the Floridian aquifer, which is overlain by a shallow water table aquifer (Hillestad et al. 1975; Allen et al. 2018). The Seashore contains both shallow and artesian wells, which predate its establishment (Allen et al. 2018). No groundwater contamination has been documented at the Seashore. However, sulfate enrichment is a concern for artesian wells because the Floridian aquifer has a relatively high concentration of hydrogen sulfide (Frick et al. 2002; Allen et al. 2018). As a result, water from the artesian wells on Cumberland Island typically produces a strong sulfur smell (Allen et al. 2018).

Environmental Trends Impacting Water Resources

The extent of wetland coverage in the Seashore has declined since pre-settlement times. The extent of the decline is difficult to determine due to differences in methodology among previous wetland inventories. Ongoing threats to surface waters and wetlands include rising temperatures, sea level rise, coastal erosion, and feral hog and horse activity (Allen et al. 2018). The NPS manages wetlands in accordance with NPS Director's Order #77-1: *Wetland Protection*, which aims to avoid net loss of wetlands on NPS-managed lands (NPS 2016).

The frequency and extent of flooding in the Seashore is likely to increase over time due to sea level rise, rising temperatures, and increased storm frequency and intensity. The NPS manages floodplains in accordance with NPS Director's Order #77-2: *Floodplain Management*, which establishes procedures for implementing floodplain protection and management actions in units of the National Park System (NPS 2002).

Groundwater withdrawal on Cumberland Island has remained relatively low over time, and several abandoned artesian wells have been capped or plugged, reducing groundwater withdrawal and the associated risk of sulfate enrichment over time (Allen et al. 2018). The potential for saltwater intrusion is likely to increase in the future due to sea level rise. Rising temperatures and changing precipitation patterns are also likely to affect groundwater resources in the future.

Ongoing monitoring efforts including water quality monitoring, coastal shoreline change monitoring, salt marsh elevation monitoring, and vegetation community monitoring would continue to provide valuable information that allows Seashore managers to track current conditions and trends in water resources (NPS 2024c). Relatively recent natural resource reports, including the Seashore's 2017 Vegetation Mapping inventory (McManamay 2017) and 2018 Natural Resource Condition Assessment (Allen et al. 2018) report also provide information about the current extent and conditions of the Seashore's natural resources, including water resources. Findings from these reports continue to help Seashore managers develop near-term management priorities and conduct planning to benefit water resources and other natural resources in the Seashore.

Under continued management, potential future development on the privately owned parcels could adversely affect water resources. However, the potential for impacts on water resources would be limited by local regulations and zoning, permitting requirements, and financial risk to private landowners. Any impacts on surface waters and wetlands would be limited by existing wetlands regulations, including Clean Water Act section 401/404, which requires a permit for activities that would affect wetlands. Permit conditions generally include avoidance or mitigation measures to avoid net loss of wetlands. Similarly, state or local permits that would be required for potential future development would likely include required measures, such as erosion control measures, to avoid impacts on water resources. Permit conditions for new wells or wastewater systems would limit the potential for groundwater contamination. Potential future development in the 1% floodplain would be possible, but unlikely, based on insurance considerations and risk to private landowners associated with predicted future sea level rise scenarios.

There would be no new impacts on the NPS parcels proposed for conveyance because the NPS would retain ownership and continue to manage its land under existing policies and plans.

ENVIRONMENTAL CONSEQUENCES

Alternative 1: No-Action Alternative

Under alternative 1, current land management and ownership would not change. As a result, impacts on water resources would resemble those described above in the “Affected Environment” section, which describes the current and expected future conditions of this resource if no action is taken.

Alternative 2: Proposed Action

Under alternative 2, NPS acquisition of the privately owned parcels would eliminate the potential for future development, enhancing protection of water resources on or adjacent to those parcels. However, the transfer of NPS property into private ownership would allow for the possibility of future development on portions of the property, in accordance with local regulations and zoning.

Exchange 1 would protect approximately 0.5 acres of estuarine wetland and approximately 5 acres of floodplain on lands that are currently privately owned and subject to potential development in accordance with local regulations and zoning (figure 16). NPS acquisition of the parcel involved in exchange 1 would also eliminate the potential for groundwater contamination that could result from new well or wastewater system development. Conversely, the transfer of NPS property into private ownership would allow for development within approximately 1.5 acres of the 1% floodplain. However, as noted under alternative 1, development within the floodplain is unlikely based on insurance considerations and risk to private landowners based on predicted future sea level rise scenarios. Placing most of the parcel into a conservation easement would prevent development on approximately 0.3 acres of floodplain adjacent to the potential building area. There are no surface waters or wetlands on the NPS parcel involved in exchange 1, so there would be no potential for impacts on these resources.

Exchange 2 would protect approximately 4.6 acres of estuarine and marine wetland, 0.2 acres of freshwater emergent wetland, 0.1 acres of freshwater forested/shrub wetland, a small (approximately 0.3-acre) freshwater pond, and approximately 12.8 acres of floodplain that are located on lands that are currently under private ownership by eliminating the potential for future development (figure 18). Exchange 2 would also eliminate the potential for groundwater contamination that could result from new well or wastewater system development on these parcels. Conversely, the transfer of NPS property into private ownership would place 3.4 acres of freshwater forested/shrub wetland 5 acres of the 1% floodplain within the potential building area, subjecting them to potential future development (figure 19). Table 5 displays the NWI wetlands within the project area.

TABLE 5. NWI WETLANDS IN THE PROJECT AREA

Exchange 1		Acres
From Privately Owned to NPS (Exchange 1a)		16
	NWI Wetlands	0.50
From NPS to Privately Owned (Exchange 1b)		20.0
	NWI Wetlands - Potential Building Area	0.0
	NWI Wetlands - Conservation Area	0.0
Exchange 2		Acres
From Privately Owned to NPS (Exchange 2a)		119.3
	NWI Wetlands	4.92
From NPS to Privately Owned (Exchange 2b)		60
	NWI Wetlands - Potential Building Area	3.40
	NWI Wetlands - Conservation Area	1.99
Total Wetlands Exiting Federal Ownership		5.39
Total Wetlands Entering Federal Ownership		5.42

The potential for development within wetlands or floodplains would be limited by regulatory and permitting requirements, insurance considerations, and risk to private landowners, thereby reducing potential adverse impacts. Specifically, any future development would be subject to all local, state, and federal laws and regulations including Georgia Department of Natural Resources guidelines, the Coastal Marshlands Protection Act, the Georgia Shore Protection Act, and the Georgia Erosion and Sedimentation Act, as applicable, which would protect water resources from adverse impacts. Exchange 2 would continue protections for approximately 2 acres of freshwater forested/shrub wetland and 1.9 acres of floodplain because the portion of the parcel outside the potential building area would be placed into a conservation easement. Effects would be localized to designated building areas and access routes and would be minimized through conservation easements, permitting requirements, erosion control measures, and applicable state and federal regulations. Impacts would not substantially alter watershed function, groundwater resources, or wetland systems.

Alternative 2 would result in long-term, beneficial and adverse impacts on water resources. Overall, beneficial impacts on water resources would outweigh adverse impacts because more water resources would receive protection from NPS ownership and conservation easements associated with the land exchanges than currently protected resources that would be subject to potential development. In addition to protections provided by conservation easements, the potential for impacts on water resources on NPS parcels that would be transferred into private ownership would be limited by regulatory and permitting requirements, insurance considerations, and risk to private landowners.

LAND USE

AFFECTED ENVIRONMENT – CURRENT AND EXPECTED FUTURE CONDITIONS OF THE ENVIRONMENT IF NO ACTION IS TAKEN

Land use generally refers to the management and use of the land, which typically includes residential, commercial, industrial, agricultural, military, and recreational. Land use also includes areas set aside for preservation or protection of natural resources, wildlife habitat, vegetation, or unique features. Management plans, policies, zoning ordinances, and regulations determine the types of uses that protect specially designated or environmentally sensitive uses. Future land use planning and zoning are complementary but distinct components of community planning and regulations. Future land use

represents a community’s long-term vision for growth and development, providing a conceptual framework for how land should be used over time without direct regulatory authority. In contrast, zoning is the legally enforceable mechanism to implement land use controls with specific requirements governing permitted uses, development standards, and building types. While future land use planning reflects broader planning goals and desired development patterns, zoning establishes binding rules that control what can be constructed and how land can be used.

In addition to Camden County planning and zoning, the NPS *Management Policies 2006* regarding land use refer specifically to safeguarding against adverse impacts on park resources from adjacent incompatible land uses. As stated in the NPS *Management Policies 2006*, “External threats may originate with proposed uses outside a park that may adversely impact park resources or values. Superintendents will therefore be aware of and monitor land use proposals and changes to adjacent lands and their potential impacts. They will also seek to encourage compatible adjacent land uses to avoid or to mitigate potential adverse effects” (NPS 2006). Furthermore, the act establishing the Seashore (16 U.S.C. §459i et seq.), enacted in 1972, authorizes the NPS to acquire land, water, and interests within its boundaries to preserve scenic, scientific, and historical values, and allows the use of land exchanges to consolidate ownership and prevent further development on private inholdings.

Cumberland Island, located in unincorporated Camden County, is Georgia’s largest and southernmost barrier island. According to Camden County land use data, the existing land use designation is *Parks, Recreation and Conservation* with a future land use and zoning designation of *CP-Conservation and A-F Agriculture Forestry*. Most of the island is wilderness and undeveloped beach, owned and managed by the NPS. However, there are a small number of privately owned residences within the authorized boundary of the Seashore as well as multiple privately owned undeveloped, or vacant, and developable properties on the island. The undeveloped parcels are designated as *CP-Conservation*, but many have previously submitted rezoning requests and development proposals to Camden County that have already allowed or would allow for future residential development. The land use portion of the *Camden County Comprehensive Plan* includes land use maps for 2023–2027, which shows recommended land uses by major categories, each of which is interpreted locally through zoning designations. Table 6 lists the future land use and zoning descriptions associated with the NPS federal land exchanges.

TABLE 6. LAND USE AND ZONING DESCRIPTIONS WITHIN THE NPS FEDERAL LAND EXCHANGE PARCELS

Designation	Description/Purpose
Agriculture Forestry (A-F)	The intent of the A-F district is to provide land for the production of agricultural products such as field crops, livestock, poultry, and other conventional agricultural and forestry pursuits. The A-F district is also created to assist in the conservation of natural resources by encouraging practices that will conserve soil and water resources.
Conservation Preservation (CP)	Natural features, views, coastal areas, floodplains, wetlands, watersheds. Wildlife management areas, barriers islands, and other environmentally sensitive areas. The CP district is established to preserve and control development within certain land, marsh, and water areas of this county. These areas serve as wildlife refuges, possess great natural beauty, are of historical or ecological significance, are utilized for outdoor recreational purposes, or provide needed open space for the health and general welfare of the county's inhabitants.
Parks, Recreation, and Conservation	Areas to preserve and control development of certain land, marsh, and water areas. The purpose is to protect the historical and ecological significance of coastal Georgia.

Source: Camden County 2026a,b

Environmental Trends Impacting Land Use

The southern coast of Georgia has been experiencing an increase in residential and recreational development since the 1990s. Increased development has the potential to threaten many Seashore resources. Over the past two decades, multiple new and expanded developments have been proposed within 30 kilometers (18.6 miles) of Cumberland Island (Allen et al. 2018). As previously stated, multiple privately owned undeveloped and/or vacant properties on the island that are suitable for development have put forth development proposals.

Under continued management, the privately owned parcels would remain within the boundary of the Seashore and managed by private landowners. Certain private landowners may retain limited historical use rights that predate current zoning and land management regulations that could allow them to pursue development or residential use of their properties, subject to obtaining any required local variances, rezoning approvals, permits, and other regulatory authorizations. As a result, future development on Cumberland Island could occur. The NPS would retain ownership of the parcels proposed for conveyance and continue to manage its land under existing Seashore's policies and plans.

Retention of existing private land ownership would preclude the NPS from designating the acquired lands as wilderness and managing them according to the Wilderness Act and NPS policy to preserve the wilderness character of the land for recreational, scenic, conservation, and historical uses. Further, the retention of the private land within this area of the Seashore would conflict with NPS management direction, which focuses on the NPS seeking to acquire lands that have been identified for acquisition and to encourage compatible land uses adjacent to wilderness and trails. Consequently, continued management would result in long-term, adverse impacts on land use policies at the Seashore.

Environmental Consequences

Alternative 1: No-Action Alternative

Under alternative 1, current land management and ownership would not change. As a result, impacts on land use would resemble those described above in the "Affected Environment" section, which describes the current and expected future conditions of this resource if no action is taken.

Alternative 2: Proposed Action

Under alternative 2, the privately owned parcels would be transferred to the NPS and would be protected and managed in accordance with NPS and other relevant federal laws, regulations, and policies and in support of the Seashore's purpose and significance. The parcels that the NPS would convey would be subject to and encumbered by a conservation easement and land use restrictions. The permitted land uses described in chapter 2 state that the properties may be used only for conservation, low-impact, outdoor recreation that is consistent with the Conservation Values of the Property (80%), and for limited non-commercial, non-industrial single-family residential uses (20%). As discussed in chapter 2, within the lands transferred from existing federal land to private land ownership are divided into two distinct land use areas: conservation land and the potential building area. Eighty percent of the properties would be within designated conservation land use and may only be used for conservation and non-commercial, non-industrial, low-impact outdoor recreation. Construction of any new residential structures would occur only within the designated potential building area, which makes up the other 20% of the properties.¹ The allowed uses in this area include constructing and maintaining a maximum of single-family residences,

¹ Development within the buildable areas of the conveyed properties would require special use authorization, variance, and/or rezoning approval from Camden County Board of Commissioners. The NPS has no role in this action and it is outside the scope of this analysis.

together with ancillary structures and access road, with a total footprint not to exceed 15,000 square feet per residence.

The parcels acquired by the NPS in the exchange agreements would become part of the Seashore and no longer be subject to private development. These lands would be managed for the purposes of conservation or wilderness preservation according to NPS policy.

As presented in table 7, the land exchange would remove approximately 80 acres of land from direct federal management and protection, but the land use designation is not expected to change as a direct result of the exchange.¹ The NPS would acquire approximately 130 acres of privately owned inholdings that would become part of the Seashore.

TABLE 7. NPS FEDERAL LAND EXCHANGES TO PRIVATE LAND OWNERSHIP

Exchange 1		Acres
From Privately Owned to NPS (Exchange 1a)		10.0
From NPS to Privately Owned (Exchange 1b)		20.0
Potential Building Area		4.0
Conservation Area		16.0
Exchange 2		Acres
From Privately Owned to NPS (Exchange 2a)		119.3
From NPS to Privately Owned (Exchange 2b)		60.0
Potential Building Area		12.0
Conservation Area		48.0

Under alternative 2, no adverse impacts are expected from the acquisition of private land within the Seashore boundary. NPS acquisition of lands within the Seashore boundary would have no effect on surrounding land uses. However, beneficial impacts would occur as a result of fulfillment of the Seashore's long-standing management direction to acquire private properties in the Seashore to meet the purposes of the 1972 act establishing the Seashore (16 U.S.C. §459i et seq.) and eliminate potential incompatible uses within the Seashore boundary. Beneficial effects would occur as a result of lands becoming part of the Seashore and managed according to NPS policy to limit development and maintain adequate trail access and preserve the wilderness character.

While approximately 80 acres would be conveyed from federal ownership, development potential would remain substantially constrained through conservation easements, density limitations, and building area restrictions. The exchange would not result in substantial changes to existing land use patterns on Cumberland Island and would maintain compatibility with surrounding conservation-oriented land uses. The land would be removed from direct federal control, and future development could conflict with Camden County land use plans, policies, or controls for *CP-Conservation* future land use and zoning. However, beneficial effects would occur as a result of establishing conservation easements and land use restrictions to limit development within the properties. The permitted land uses described in the restrictions would allow the NPS to control the type and density of development and preserving over 80% of the land under conservation easements.

ARCHEOLOGICAL RESOURCES

AFFECTED ENVIRONMENT – CURRENT AND EXPECTED FUTURE CONDITIONS OF THE ENVIRONMENT IF NO ACTION IS TAKEN

A cultural resource can represent past cultures or modern-day cultures, and can be composed of physical remains, intangible traditional use areas, or an entire landscape. Buried cultural resources are usually referred to as archeological sites. Archeological resources on Cumberland Island span multiple thousands of years of human occupation of the island. Because of this, there is considerable potential for previously unrecorded cultural materials within areas of the currently privately owned properties that have not been surveyed for cultural resources. Conversely, most of the NPS land involved in this exchange has been subjected to archeological investigations.

In support of the potential land exchanges, the NPS completed archeological surveys of the current federally owned properties (exchange 1a and 2a). During the surveys, one site—Little Old Field—was identified within the boundary of exchange 1a and 1b. The types of ceramics recovered from the surveys indicate that the Little Old Field site was occupied from the Late Archaic into the Mission periods, but it was not possible to identify areas within the test grids with specific occupations because the distributions of the various ceramic types often overlapped one another. The mixed time period with lacking dominate archeological features is a site type that is prevalent throughout the southern and middle portions of Cumberland Island, which are the areas that saw the most intense occupation during the historic and modern periods. The scatter and mixing of materials is likely a consequence of activities from subsequent occupations such as historic timber harvesting and clearing for agriculture, which resulted in the leveling of any existing shell mounds and the dispersal of material over the landscape. Most of the recovered ceramics were too small and/or eroded to identify by type (NPS 2026g).

The testing suggests that historic and modern landscape modifications over time have negatively affected several aspects of integrity, such that small pockets that retain integrity may remain, but were not identified at the resolution used for data collection. Because of prior landscaping impacts and intense bioturbation, there are likely no large horizontally or vertically intact cultural surfaces inside the survey area that would notably contribute to understanding of past human activities. As a result, the site was recommended as ineligible for listing in the National Register of Historic Places (National Register). Consultation with the Georgia State Historic Preservation Office is ongoing.

Three previously recorded archeological sites are known to exist within currently privately owned parcels that are being considered as part of the proposed action. Two of the sites are Precontact and date prior to the arrival of Europeans (Sites 9CM16 and 9CM72). The third consists of cabins for enslaved people associated with Stafford Plantation (Site 9CM104). Table 8 displays the site name and eligibility for the known archeological resources on the privately owned parcels (exchange 1b and 2b).

TABLE 8. ARCHEOLOGICAL SITES WITHIN THE PROJECT AREA

Site Number	Site Name	Precontact / Historic	National Register Eligibility
9CM16	Stafford North 7	Precontact	Unevaluated
9CM72	Stafford Air Field	Precontact	Eligible
9CM104	Stafford Slave Cabins	Historic	Eligible

Environmental Trends Impacting Archeological Resources

Overall, cultural resources within the privately owned parcels being considered as part of the proposed action are unprotected and vulnerable to future development actions that could have adverse effects. While the NPS parcels proposed for conveyance have been regularly surveyed for archeological resources and are subject to NPS management standards, privately owned properties are not and would continue to be at risk of development or other activities that could destroy known and potentially unknown resources under current management.

ENVIRONMENTAL CONSEQUENCES

Alternative 1: No-Action Alternative

Under alternative 1, current land management and ownership would not change. As a result, impacts on land use would resemble those described above in the “Affected Environment” section, which describes the current and expected future conditions of this resource if no action is taken.

Alternative 2: Proposed Action

Under alternative 2, up to 16 acres of the NPS parcels conveyed to private ownership could be disturbed for the construction of single-family residences, together with any ancillary structures, with a total footprint not exceeding 15,000 square feet per residence. Under alternative 2, management of the known archeological site on exchange 1b and 2b would transfer from federal management to private ownership; however, artifacts discovered during surveys were removed and stored within NPS control at appropriate archival facilities, and the site is recommended as not eligible for listing in the National Register.

Conversely, the acquisition of the privately owned parcels (exchange 1a and 2b) would transfer three known archeological sites into NPS management and protection, including two sites eligible for listing in the National Register. This transfer would protect known and unknown archeological resources within the parcels. The lands that would be acquired by the NPS would be managed in accordance with the rest of the Cumberland Island to provide long-term protection and preserve cultural resources. No new recreational developments or changes in management restrictions are proposed under alternative 2 on NPS-acquired parcels.

Alternative 2 would result in overall long-term, beneficial and adverse effects on archeological resources. Overall, beneficial impacts to archeological resources would outweigh adverse impacts because known archeological resources would receive protection from both NPS ownership and conservation easements associated with the land exchanges.

CHAPTER 5: REFERENCES

Allen, K., A. J. Nadeau, and A. Robertson

- 2018 “Natural Resource Condition Assessment: Cumberland Island National Seashore.” Natural Resource Report NPS/CUIS/NRR—2018/1773. National Park Service, Fort Collins, Colorado. Accessed May 1, 2026. <https://npshistory.com/publications/cuis/nrr-2018-1773.pdf>

Audubon

- 2025 Important Bird Area (IBA) Explorer. National Audubon Society. Accessed December 2025. <https://gis.audubon.org/portal/apps/dashboards/1742bc47f980490da9c23e23dc4d5e86#state=Georgia>

Boyle, M. F., and E. Rico

- 2022 “Terrestrial vegetation monitoring at Cumberland Island National Seashore: 2020 data summary.” Natural Resource Data Series NPS/SECN/NRDS—2022/1365. National Park Service, Fort Collins, CO. <https://doi.org/10.36967/2294287>

Camden County

- 2026a Camden County Code of Ordinances, Amended February 3, 2026. Article 2. Use of Land and Structures. Accessed January 27, 2026. <https://www.camdencountyga.gov/DocumentCenter/View/19027/02-Uses-02032026?bidId=>
- 2026b 2023–2027 Joint Comprehensive Plan for Camden County and the Cities of Kingsland and St. Mary’s. Accessed January 27, 2026. <https://www.camdencountyga.gov/1240/Plans-Resources>

Diefenbach, D., L. Hansen, J. Bohling, C. M. Butterworth

- 2015 “Population and genetic outcomes 20 years after reintroducing bobcats (*Lynx rufus*) to Cumber Island, Georgia USA.” *Ecol Evol.* 5(21): 4885–4895. <https://doi.org/10.1002/ece3.1750>

eBird

- 2025 Cumberland Island National Seashore. Cornell University, Lab of Ornithology. Accessed December 2025. <https://ebird.org/hotspot/L1471016/bird-list>

Frick, E. A., M. B. Gregory, D. L. Calhoun, and E. H. Hopkins

- 2002 *Water quality and aquatic communities of upland wetlands, Cumberland Island National Seashore, Georgia, April 1999 to July 2000.* Water-Resources Investigations Report 02-4082. U.S. Geological Survey, Atlanta, GA.

Georgia Department of Natural Resources (GDNR)

- 2003 *Amphibian Monitoring*. Georgia Adopt-A-Stream. Department of Natural Resources. Environmental Protection Division.
- 2025a *Sea Turtle Recovery Efforts*. Wildlife Resources Division. Accessed December 2025. <https://georgiawildlife.com/conservation/seaturtles>
- 2025b *Georgia State Wildlife Action Plan*. Social Circle, GA. <https://ga-state-wildlife-action-plan-gadnrwrld.hub.arcgis.com/>

Godbois I. A., L. Mike Conner, and R. J. Warren

- 2003 “Habitat Use of Bobcats at Two Spatial Scales in Southwestern Georgia.” Accessed January 2026. https://www.researchgate.net/profile/Robert-Warren-4/publication/252191833_Habitat_Use_of_Bobcats_at_Two_Spatial_Scales_in_Southwestern_Georgia/links/53f5fa7b0cf2888a7492071e/Habitat-Use-of-Bobcats-at-Two-Spatial-Scales-in-Southwestern-Georgia.pdf

Griffin, M. M.

- 1991 *Geological Guide to Cumberland Island National Seashore*. Department of Natural Resources, Environmental Protection Division, Georgia Geologic Survey, Georgia. <https://npshistory.com/publications/cuis/geologic-guide.pdf>

Hillestad, H. O., J. R. Bozeman, A. S. Johnson, C. W. Berisford, and J. I. Richardson

- 1975 “The ecology of the Cumberland Island National Seashore, Camden County, Georgia.” Technical Report Series - Number 75-5. Georgia Marine Science Center, Skidaway Island, Georgia.

Landres, P. B., C. Barns, S. Boutcher, T. Devine, P. Dratch, A. Lindholm, L. Merigiano, N. Roeper, and E. Simpson

- 2015 *Keeping it wild 2: An updated interagency strategy to monitor trends in wilderness character across the Nation Wilderness Preservation System*. Gen. Tech. Rep. RMRS-GTR-340. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 114 p. <https://doi.org/10.2737/RMRS-GTR-340>

McManamay, R. H.

- 2017 “Vegetation mapping at Cumberland Island National Seashore.” Natural Resource Report NPS/SECN/NRR—2017/1511. National Park Service, Fort Collins, CO.

National Oceanic and Atmospheric Administration (NOAA)

- 2025 *Most Sea Turtles Rebounding Worldwide as Conservation Efforts Protect Nests and Habitat, Analysis Finds*. NOAA Fisheries. Accessed January 2026. <https://www.fisheries.noaa.gov/feature-story/most-sea-turtles-rebounding-worldwide-conservation-efforts-protect-nests-and-habitat>

National Park Service

- n.d. National Register of Historic Places Inventory—Nomination Form. Stafford Plantation Historic District. <https://npshistory.com/publications/cuis/nr-stafford-plantation-hd.pdf>
- 1984 *General Management Plan*, Cumberland Island National Seashore, Georgia. January 1984.
- 2002 Procedural Manual #77-2: *National Park Service Floodplain Management*.
- 2006 *NPS Management Policies*. US Department of the Interior, National Park Service, Washington, DC.
- 2013a “Cumberland Island National Seashore Visitor Survey, Fall 2012 and Winter 2013.” Natural Resource Report NPS/NRSS/EQD/NRR—2013/706. Visitor Study 5008.1. Accessed May 1, 2026. <https://www.govinfo.gov/content/pkg/GOVPUB-I29-PURL-gpo144377/pdf/GOVPUB-I29-PURL-gpo144377.pdf>
- 2013 Director’s Order #41: *Wilderness Stewardship*, as amended April 30, 2024. https://www.nps.gov/subjects/policy/upload/DO_41_5-13-2013.pdf
- 2014 “Southeast Region Foundation Document Recommendation Cumberland Island National Seashore. Foundation Document, Cumberland Island National Seashore, Georgia.” Retrieved from National Park Service Archives [online] January 7, 2026 from [cuis-fd-2014.pdf](https://www.nps.gov/cuis-fd-2014.pdf)
- 2015 Geospatial data for the Vegetation Mapping Inventory Project of Cumberland Island National Seashore. <https://irma.nps.gov/DataStore/Reference/Profile/2252847>
- 2016 National Park Service Procedural Manual #77-1: *Wetland Protection*.
- 2018 Beaches. Cumberland Island National Seashore. Accessed August 27, 2026. <https://www.nps.gov/cuis/learn/nature/beaches.htm>
- 2019 Cumberland Island National Seashore Cultural Landscapes. Cumberland Island National Seashore. Accessed August 26, 2026. <https://home.nps.gov/articles/975727.htm>
- 2020 Armadillos. Cumberland Island National Seashore, Georgia. Accessed January 2026. <https://www.nps.gov/cuis/learn/nature/armadillos.htm>
- 2021 Feral Horses. Cumberland Island National Seashore, Georgia. Accessed January 2026. <https://www.nps.gov/cuis/learn/nature/feral-horses.htm>
- 2022a Animals. Learn about the Park. Cumberland Island National Seashore. Accessed May 1, 2026. <https://www.nps.gov/cuis/learn/nature/animals.htm>
- 2023 *Reference Manual 41: Wilderness Stewardship, NPS Wilderness Character Monitoring Technical Guide*. <https://www.nps.gov/subjects/wilderness/rm41.htm>
- 2024a NPS Geodiversity Atlas—Cumberland Island National Seashore. Accessed August 27, 2026. <https://www.nps.gov/articles/nps-geodiversity-atlas-cumberland-island-national-seashore-georgia.htm>

- 2024b Cumberland Island National Seashore, Georgia. Accessed August 27, 2026.
<https://www.nps.gov/cuis/index.htm>
- 2024c Assessment of Estuarine Water Quality at Cumberland Island National Seashore: 2022 Data Summary. Accessed January 22, 2026. <https://www.nps.gov/articles/000/secn-parkwide-assessment-cuis-2022.htm>.
- 2025a National Park Service. 2025a. Annual Park Visitation Graph (1904- Last Calendar Year). Visitor Use Statistics. Park Reports - Cumberland Island National Seashore. Available at:
[https://irma.nps.gov/Stats/SSRSReports/Park%20Specific%20Reports/Annual%20Park%20Recreation%20Visitation%20\(1904%20-%20Last%20Calendar%20Year\)?Park=CUIS](https://irma.nps.gov/Stats/SSRSReports/Park%20Specific%20Reports/Annual%20Park%20Recreation%20Visitation%20(1904%20-%20Last%20Calendar%20Year)?Park=CUIS)
- 2025b Cumberland Island National Seashore 2025 Fire Management Plan.
https://www.nps.gov/cuis/learn/management/upload/CUIS_2025_FMP_508.pdf
- 2026a 516 DM 1 – U.S. Department of the Interior Handbook of National Environmental Policy Act Implementing Procedures. <https://www.doi.gov/media/document/doi-handbook-nepa-procedures>
- 2026b Directions & Transportation - Cumberland Island National Seashore. Plan Your Visit. Last updated: March 19, 2026. Accessed May 6, 2026.
<https://www.nps.gov/cuis/planyourvisit/directions.htm>
- 2026c Camping - Cumberland Island National Seashore. Plan Your Visit. Last updated: March 5, 2026. Accessed May 6, 2026. <https://www.nps.gov/cuis/planyourvisit/camping.htm>
- 2026d Things to Do. Cumberland Island National Seashore, Georgia. Plan Your Visit.
<https://www.nps.gov/cuis/planyourvisit/things2do.htm>
- 2026e Personal Communication – NPS (Michael Seibert) to WSP team. August 2026.
- 2026f Sea Turtles. Cumberland Island National Seashore. Accessed August 27, 2026.
<https://www.nps.gov/cuis/learn/nature/sea-turtles.htm>
- 2026g Phase Archeological Investigation of Old House Creek, CUIS-594. July 20, 2026.

Peek, K. M., H. L. Thompson, B. R. Tormey, and R. S. Young

- 2022 *Coastal Hazards & Sea-Level Rise Asset Vulnerability Assessment for Cumberland Island National Seashore: Summary of Results*. NPS 640/186744. Program for the Study of Developed Shorelines, Western Carolina University, Cullowhee, NC.

US Department of Agriculture

- 2026 Official Soil Series Descriptions. <https://soilseries.sc.egov.usda.gov/osdname.aspx>

US Fish and Wildlife Service (USFWS)

- 2014 Feral Hog Management on National Wildlife Refuges in Arkansas. “Frequently Asked Questions.” August 2014. Accessed January 2026.
<https://www.fws.gov/sites/default/files/documents/FeralHogARFAQs.pdf>

- 2020 Endangered and Threatened Wildlife and Plants; Threatened Species Status for Eastern Black Rial With a Section 4(d) Rule. Final Rule. Federal Register, Volume 85, No. 196, October 8, 2020.
- 2024 Species Status Assessment Report for the Southern Hognose Snake (*Heterodon simus*), Version 2.1. October 2024. Atlanta, GA.
- 2025a Overview. Piping Plover (*Charadrius melodus*). Accessed December 2025.
<https://www.fws.gov/species/piping-plover-charadrius-melodus>
- 2025b Overview. Rufa Red Knot (*Calidris canutus rufa*). Accessed December 2025.
<https://www.fws.gov/species/rufa-red-knot-calidris-canutus-rufa>
- 2025c Overview. Eastern Indigo Snake (*Drymarchon couperi*). Accessed December 2025.
<https://www.fws.gov/species/eastern-indigo-snake-drymarchon-couperi>
- 2025d Overview. Monarch Butterfly (*Danaus plexippus*). Accessed December 2025.
<https://www.fws.gov/species/monarch-danaus-plexippus>
- 2026a National Wetlands Inventory. Accessed January 21, 2026.
<https://www.fws.gov/program/national-wetlands-inventory/what-we-do>
- 2026b National Wetlands Inventory Wetland Mapper. Accessed January 21, 2026.
<https://www.fws.gov/program/national-wetlands-inventory/wetlands-mapper>

US Forest Service (USFS).

- 2025 *Odocoileus Virginianus*. Fire Effects Information System (FEIS). Accessed January 2026.
<https://www.fs.usda.gov/database/feis/animals/mammal/odvi/all.html>

University of Georgia

- 2025a Scarlet Snake (*Cemophora coccinea*). Savannah River Ecology Laboratory. Accessed January 2026. <https://srelherp.uga.edu/snakes/scarlet-snake/>
- 2025b Island Glass Lizard (*Ophisaurus compressus*). Savannah River Ecology Laboratory. Accessed January 2026. <https://srelherp.uga.edu/lizards/island-glass-lizard/>

Wellman, E. H., B. J. Lee, and A. E. Braswell

- 2025 “Salt Marsh Restoration: A Summary of Approaches: FA269, 8 2025.” *EDIS* 2025 (4). Gainesville, FL. <https://doi.org/10.32473/EDIS-FA269-2025>

Xerces Society

- 2025 “Monarchs in Decline. Monarch Butterfly Conservation.” Accessed January 2026.
<https://xerces.org/monarchs/conservation-efforts>

CHAPTER 6: LIST OF PREPARERS

US DEPARTMENT OF THE INTERIOR, NATIONAL PARK SERVICE

Name	Title
Mark Husbands	Project Manager, Environmental Quality Division
Jami Hammond	Regional Environmental Coordinator, Acting Program Manager, Planning and Compliance Division
Michael Bockman	Realty Officer
Maria (Beta) Martinez	Real Estate Specialist
Clifford Saulter	Real Estate Specialist
Byron Tsang	Regional Wetland Ecologist
Carrie Allison	Wildlife Biologist, Southeast Region
Bill Hunter	Regional Historian
PJ Walker	Regional Wilderness Coordinator
Sarah Merrill	Partnership Program Manager, Southeast Region

CUMBERLAND ISLAND NATIONAL SEASHORE

Name	Title
Melissa Trenchik	Superintendent
Michael Seibert	Integrated Resource Manager
Kayleigh Hendley	Cultural Resource Manager
Cynthia Brewer	Management Support Specialist

WSP USA, INC.

Name	Title
Rudi Byron, AICP	Project Manager
William Huber, AICP	Deputy Project Manager
Gabriella Benacquisto	Environmental Planner
Jessica Forbes	Environmental Planner
Joe Dalrymple	Environmental Scientist
Madison Reckman	Environmental Planner
Margaret Stover	Environmental Planner
Nancy Holst	Historian
Gregory Katz	Lead Archaeologist
Kaylee Swords	Assistant Archaeologist
Deborah Mandell	Senior Editor
Linda Green	GIS Specialist

APPENDIX A: CONSULTATION AND COORDINATION

INTRODUCTION

This appendix describes the consultation and coordination conducted during the preparation of this environmental assessment (EA). The civic engagement process for the project began in September 2024. A detailed description of the civic engagement/early consultation process and the agency consultation initiated during the development of the EA is summarized below.

PUBLIC PARTICIPATION

CIVIC ENGAGEMENT

Public involvement is an essential component of the National Environmental Policy Act (NEPA) planning process. As part of the civic engagement process, the Cumberland Island National Seashore (Seashore) solicited input on four potential land exchanges, preliminary purpose and need, and potential resource considerations. The Seashore issued a press release and newsletter on September 5, 2024, announcing the start of the 45-day civic engagement period for the proposed land exchanges, and the public was invited and encouraged to provide feedback.

The public was encouraged to submit comments through the National Park Service's (NPS) Planning, Environment, and Public Comment (PEPC) website (https://parkplanning.nps.gov/cuis_land_exchange). Comments were also accepted by US mail. Comments from the civic engagement period were used to inform the development of the preliminary range of alternatives and resource considerations. In addition to the press release and newsletter, the NPS hosted one virtual meeting on September 19, 2024. The meetings included a PowerPoint presentation and posters with an overview of the project and a question-and-answer session. A total of 492 comments were derived from the 2,725 pieces of correspondence received during the 45-day public comment period.

PUBLIC COMMENT ON THE ENVIRONMENTAL ASSESSMENT

The EA will be available for public and agency review for 30 days. Interested individuals, agencies, and organizations will be notified of its availability. The EA will be available for public review on the NPS PEPC website: https://parkplanning.nps.gov/cuis_land_exchange.

AGENCY CONSULTATION

The NPS initiated consultation with relevant agencies during the preparation of this EA. All agencies will be provided a copy of the EA for review. This consultation is discussed in more detail below. Copies of correspondence between NPS and the agencies, and responses from the agencies, if applicable, will be provided in the decision document.

NATIONAL HISTORIC PRESERVATION ACT, SECTION 106 CONSULTATION

Section 106 of the National Historic Preservation Act (NHPA) requires federal agencies to consider the effects of their undertakings on historic properties. Compliance with section 106 of the NHPA was carried out separately but concurrently with the planning process for the EA. As required by section 106, the NPS is consulting with the Georgia State Historic Preservation Office.

The NPS will complete the section 106 consultation process prior to finalizing the NPS decision document for this EA, including consideration of any public comments on this EA and ongoing consultation with the Georgia State Historic Preservation Office.

TRIBAL NATIONS CONSULTATION

As required by section 106 of the NHPA, the NPS is consulting with federally recognized Indian Tribes that are culturally or historically affiliated in the region. On August 14, 2024, the NPS initiated consultation with the following Tribal Nations as consulting parties:

- Absentee Shawnee Tribe of Oklahoma
- Coushatta Tribe of Texas
- Quassarte Tribal Town
- Coushatta Tribe of Louisiana
- Eastern Shawnee Tribe of Oklahoma
- Kialegee Tribal Town
- Miccosukee Tribe
- Muscogee Creek Nation
- Poarch Band of Creek Indians
- Seminole Nation of Oklahoma
- Seminole Tribe of Florida
- Thlopthlocco Tribal Town

To date, no Tribal Nations have expressed an interest in becoming consulting parties for this project. The EA will be provided to any federally recognized Tribes with an interest in the region and their comments will be invited.

The NPS will complete the section 106 consultation process prior to finalizing the decision document, including consideration of any Tribal Nations comments. Furthermore, if the Tribes provide additional information, the NPS will work with concerned parties to resolve any potential impacts associated with the project.

ENDANGERED SPECIES ACT, SECTION 7 CONSULTATION

Section 7 of the Endangered Species Act requires federal agencies to consult with the US Fish and Wildlife Service to ensure that any action it authorizes, funds, or carries out is not likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat. The NPS will complete the section 7 consultation process prior to finalizing the decision document.

APPENDIX B: ALTERNATIVES AND ISSUES AND IMPACT TOPICS CONSIDERED BUT ELIMINATED FROM DETAILED ANALYSIS

ALTERNATIVES CONSIDERED BUT DISMISSED FROM DETAILED ANALYSIS

According to National Environmental Policy Act (NEPA) guidelines, the National Park Service (NPS) must briefly discuss any alternatives that were identified but subsequently dismissed from further evaluation. An alternative may be eliminated from detailed study if it is determined to be technically or economically infeasible; does not meet the project's purpose and need; causes unnecessary or significant environmental impacts; or is inconsistent with NPS *Management Policies* or the Cumberland Island National Seashore's (Seashore) enabling legislation. Through the planning process for the proposed action, the project team discussed several methods for securing land interests within the Seashore's boundary. The following alternatives were considered but dismissed for the reasons described.

FEE SIMPLE ACQUISITION

An alternative considering the fee simple acquisition (full ownership) of one or both parcels of private property within the Seashore was considered. However, this alternative was dismissed from detailed analysis because the parcels included in the land exchange are owned by residents who have expressed a strong desire to retain ownership of their property on Cumberland Island. As a result, pursuing a fee simple acquisition is not a viable alternative.

CONDEMNATION

The use of the NPS's condemnation (eminent domain) authority was also discussed as a potential alternative. Under this approach, the NPS would acquire the subject parcels through condemnation, which entails the involuntary taking of private property for a public use, with a court determining the "just compensation" owed to the landowners. The use of condemnation was dismissed from detailed analysis for the following reasons:

- Inconsistency with the NPS "Willing Seller" Policy: The NPS policy is to acquire land from willing sellers whenever possible. Condemnation is considered an action of last resort, typically reserved for instances where there is an immediate threat to park resources that cannot be mitigated by other means. The Seashore is currently engaged in productive negotiations for land exchanges, and thus, the use of adversarial acquisition methods is unnecessary and inconsistent with NPS policy.

For these reasons, pursuing land acquisition via condemnation alternative is not considered a reasonable alternative and is not analyzed further in this environmental assessment (EA).

ISSUES CONSIDERED BUT DISMISSED FROM DETAILED ANALYSIS

Air Quality—While the proposed land exchanges could result in the development of residences on private lands, the scale and nature of the development is not expected to result in any measurable or lasting impacts on local or regional air quality. Construction-related emissions (e.g., from small-scale equipment or temporary vehicle use) would be short term, negligible, and below any threshold of significance under federal or state air quality standards. As a result, this impact topic was dismissed from detailed analysis in the EA.

Cultural Resources—The consideration of impacts on historic properties is mandated under section 101(b)(4) of NEPA as implemented by 40 CFR, Parts 1501–1508. Historic properties, defined in section 101(a)(1)(A) of the National Historic Preservation Act, include districts, sites (archeological and religious/cultural), buildings, structures, and objects that are listed in or determined eligible for listing in the National Register of Historic Places (National Register). A cultural resource can represent past cultures or modern-day cultures, and can be composed of physical remains, intangible traditional use areas, or an entire landscape.

There are known cultural resources in the vicinity of the project area. These include:

- **Stafford Plantation Historic District**—The Stafford Plantation Historic District (NRHP 84000265) includes nine structures, including the extant 1901 residential building and associated outbuildings and a 19th century cemetery. Additionally, there is a contributing complex referred to as the “Chimneys” which are the structural remains of 20 chimney stacks relating to 20 non-extant slave quarters. The Stafford Plantation Historic District also includes an archeological feature identified by shell middens and other Precontact landscape elements. As detailed in the National Register nomination, “The remnants of slave quarters, a prehistoric archeological site, and the Carnegie buildings establish the significance of the district in the areas of prehistoric and historic archeology, agriculture, architecture, and landscape architecture” (NPS n.d.). The Stafford Historic District surrounds the southern half of one of the two privately owned parcels associated with exchange 2.
- **Main Road**—Main Road (NRHP 84000941) is a linear feature identified in 1802 maps that extends from north to south for 13 miles through the center of the island. The shell-bed road intersects with contemporary and historic trails and service roads leading east to west. Additional paths run parallel or radiating to the Stafford Plantation Historic District through the project area. The road is listed in the National Register and is considered significant under Criterion A under transportation.
- **Museum Collections**—The proposed land exchanges would not affect NPS museum collections because the action does not involve the use, handling, relocation, storage, or management of accessioned museum objects, archival materials, or other curated collections. The proposed action would not affect museum collection facilities, collection management operations, or the preservation of existing NPS collections. Therefore, no impacts to museum collections are anticipated, and this impact topic was dismissed from detailed analysis in the EA.

There would be beneficial impacts on cultural resources associated with exchange 2. Under exchange 2, the NPS would acquire a parcel that is surrounded by the Stafford Plantation Historic District, resulting in beneficial impacts from the elimination of potential future development. Main Road would not be altered under either of the proposed exchanges, resulting in no impacts. Additionally, the NPS would acquire land with known archeological resources, also resulting in beneficial impacts. The two parcels proposed to convey to private ownership are not within a historic district. As a result, this impact topic was dismissed from detailed analysis in the EA.

Noise—The proposed action would not result in any notable or sustained increases in noise levels. If future development occurs, it would involve the construction of single-family homes, which would generate temporary, localized construction noise. These activities would be short in duration and would not exceed common ambient noise thresholds for rural or natural areas; therefore, this impact topic was dismissed from detailed analysis in the EA.

Hazardous Materials and Waste—The proposed land exchanges would not involve activities that generate hazardous materials or hazardous waste. Any future development associated with the exchanged lands would be limited in scope and would be required to comply with applicable federal, state, and local regulations governing the storage, handling, and disposal of hazardous substances, if any are used. Any solid waste generated during pasture improvements or future residential construction would be disposed of off-site in accordance with applicable regulations. As a result, no adverse impacts related to hazardous materials or waste are anticipated, and this impact topic was dismissed from detailed analysis in the EA.

Geology—The proposed land exchanges are not expected to result in impacts to geologic resources. While future development on private lands could involve minor site preparation and excavation associated with the construction of single-family residences, such activities would be limited in scale and unlikely to alter geologic formations, topography, or geologic processes. No unique geologic features, mineral resources, or geologic hazards would be affected by the proposed action. Therefore, this impact topic was dismissed from detailed analysis in the EA.

Federally Managed Fisheries—According to that National Oceanic and Atmospheric Administration’s Essential Fish Habitat (EFH) mapper, federally designated EFH occurs within portions of the project area, including estuarine and salt marsh habitats that support federally managed species. Under the proposed action, lands containing shoreline and marsh habitats would be acquired and managed by NPS, resulting in the long-term protection of EFH and associated aquatic resources. Although future residential development could occur on exchanged upland parcels, no in-water work, shoreline stabilization, dredging, filling, or other activities with the potential to directly affect EFH are proposed. Any future development would be limited in scale, subject to applicable permitting and environmental regulations, and located on upland areas, substantially reducing the potential for indirect effects such as sedimentation, stormwater runoff, or nutrient loading. Because the proposed action would provide an overall benefit through the permanent conservation of EFH-containing lands and is not expected to result in measurable adverse effects to federally managed fisheries or their habitat, this impact topic was dismissed from detailed analysis in the EA.

Visual Resources—The proposed land exchanges could result in limited future residential development on private lands, which may introduce minor changes to existing viewsheds, particularly from trails, roads, and waterways. Future development could also introduce localized sources of artificial lighting that may alter nighttime visual conditions and contribute to minor changes in the area’s natural lightscape. However, any development would likely consist of low-density single-family residences that would be compatible with the surrounding rural character, partially screened by existing vegetation, and unlikely to generate substantial nighttime lighting. Development would not include large structures or substantial landscape modifications, and conservation easements associated with the proposed action would help maintain the natural character of the surrounding landscape. Because any changes to visual resources or lightscape conditions could affect visitor perceptions and experiences of the Seashore’s setting, these considerations are incorporated into the “Visitor Use and Experience” analysis rather than analyzed as a separate impact topic in the EA.

Tourism and Recreation—The proposed land exchanges would result in net beneficial impacts to tourism and recreation at the Seashore. The NPS acquisition of private parcels would help ensure permanent trail continuity, resource protection, and the preservation of an undeveloped visitor experience. In addition, the parcels proposed for transfer to private ownership are not located in high-use visitor areas and do not currently provide public recreational access; therefore, future development of these parcels is not expected to interfere with public access or recreational opportunities within the Seashore. Because recreational opportunities, visitor access, and tourism-related effects are inherently tied to visitor use and enjoyment of the park, these considerations are incorporated into the “Visitor Use and Experience” analysis rather than analyzed as a separate impact topic in the EA.

Human Health and Safety—The proposed land exchanges are not expected to result in adverse impacts to human health and safety. The action involves the exchange of land ownership and does not include activities that would expose the public, visitors, or employees to hazardous conditions or increased safety risks. Any future residential development on privately owned parcels would be limited in scale and subject to applicable building codes, public health requirements, and safety regulations. In addition, the lands proposed for transfer to private ownership are not located in high-use visitor areas and would not affect public access, emergency response capabilities, or visitor safety within the Seashore. Therefore, no notable impacts to human health and safety are anticipated, and this impact topic was dismissed from detailed analysis in the EA.

APPENDIX C—VEGETATION COMMUNITIES

Nine vegetation communities occur in the project area. Descriptions and characteristic species of the nine vegetation communities are drawn from the *Vegetation Mapping at Cumberland Island National Seashore Report* (McManamay 2017) and are described below.

- **Atlantic Coast Interdune Swale/Live Oak - Carolina Laurel Cherry – Hercules'-club Shrubland.** The very sparse to dense (0–80% cover) tree canopy, 10–15 meters (m) tall, is dominated by *Morella cerifera* (wax-myrtle) along with lesser amounts of *Quercus virginiana* (live oak), *Sabal palmetto* (cabbage palmetto), and *Zanthoxylum clava-herculis* (Hercules'-club). The very sparse to moderate (0–50%) subcanopy may include *Celtis laevigata* (sugarberry), *Ilex vomitoria* (yaupon), *Juniperus virginiana* var. *silicicola* (southern redcedar), wax-myrtle, and/or cabbage palmetto. The very sparse to moderately dense (10–70%) tall-shrub layer (2–5 m) and very sparse (10%) short-shrub layer (1–2 m) share the same composition as the canopy and subcanopy or are dominated by wax-myrtle. The herbaceous layer cover is highly variable (5–90% cover), depending on the density of the upper layers; dominants may include *Ampelopsis arborea* (peppervine), *Andropogon glomeratus* (bushy bluestem), *Andropogon virginicus* (broomsedge bluestem), *Eupatorium capillifolium* (dogfennel), *Hydrocotyle umbellata* (manyflower marshpennywort), *Juncus effusus* (common rush), *Phyla nodiflora* (turkey tangle fogfruit), and *Teucrium canadense* (Canada germander). Vines (up to 20% cover) of *Parthenocissus quinquefolia* (Virginia creeper), *Smilax auriculata* (earleaf greenbrier), *Smilax bona-nox* (saw greenbrier), and *Vitis rotundifolia* (muscadine) climb into the tree and shrub layers. *Eremochloa ophiuroides* (centipede grass) is a common exotic. In addition, this community supports state-imperiled *Quercus chapmanii* (Chapman oak).
 - Characteristic species include wax-myrtle, Hercules'-club, and live oak.
- **Dotted Smartweed - Smooth Beggarticks Herbaceous Vegetation.** Characterized by a very dense (90% cover) herbaceous layer dominated by *Bidens laevis* (smooth beggarticks), turkey tangle fogfruit, and *Polygonum punctatum* (dotted smartweed). In addition, there is a very sparse (5%) emergent tree canopy of cabbage palmetto and sparse (20%) shrub layer (1–5 m) wax-myrtle. Other herbs present include peppervine, *Boehmeria cylindrica* (small-spike false nettle), *Centella erecta* (erect centella), *Mikania scandens* (climbing hemipvine), *Panicum dichotomiflorum* var. *bartowense* (fall panicgrass) (possible new state record), *Pluchea odorata* (sweetscent), *Saccharum giganteum* (sugarcane plumegrass), *Sacciolepis striata* (American cupscale), and *Symphotrichum subulatum* (eastern annual saltmarsh aster).
 - Characteristic species include smooth beggarticks and dotted smartweed.
- **Live Oak - (Cabbage Palmetto) Forest Alliance/Southeastern Florida Maritime Hammock.** The moderately dense (70% cover) tree canopy, 10–15 m tall, is dominated by *Quercus geminata* (sand live oak) and live oak, while the sparse (10%) subcanopy (5–10 m) is made up of *Osmanthus americanus* (devilwood), *Quercus myrtifolia* (myrtle oak) (state-vulnerable), and *Symplocos tinctoria* (common sweetleaf). Often contains cabbage palmetto and southern redcedar. The sparse (40%) tall-shrub layer (2–5 m) is dominated by *Lyonia ferruginea* (rusty staggerbush), which also dominates the moderately dense (70%) short-shrub layer (1–2 m) along with *Serenoa repens* (saw palmetto). Additional tall and short shrubs include wax-myrtle, common sweetleaf, *Asimina parviflora* (smallflower pawpaw), *Galactia elliottii* (Elliott's milkpea), *Persea borbonia* (redbay), *Vaccinium corymbosum* (highbush blueberry), and *Vaccinium myrsinites* (shiny blueberry). The herbaceous layer is very sparse (5%) and made up

mostly of oak seedlings. Vines of earleaf greenbrier, *Smilax glauca* (cat greenbrier), and muscadine climb into the tree and shrub layers. Epiphytes include *Tillandsia usneoides* (Spanish moss).

- Characteristic species include sand live oak, saw palmetto, and live oak.
- **Maritime Southern Yellow Pine Forest.** The moderate (50–60% cover) tree canopy, 20–35 m tall, is dominated by *Pinus elliotii* (slash pine), *Pinus palustris* (longleaf pine), and/or *Pinus taeda* (loblolly pine). The very sparse to sparse (5–30%) subcanopy (5–20 m) is dominated by *Quercus hemisphaerica* (Darlington oak) or live oak, with some areas exclusively dominated by loblolly pine and lacking *Liquidambar styraciflua* (sweetgum). The very sparse (5–20%) tall-shrub layer (2–5 m) may include canopy species as well as *Ilex opaca* (American holly), wax-myrtle, redbay, *Prunus serotina* (black cherry), myrtle oak (state-vulnerable), and cabbage palmetto. The sparse (10–40%) short-shrub layer (1–2 m) is dominated by wax-myrtle, saw palmetto, and *Vaccinium stamineum* (deerberry). The herbaceous layer is very sparse (10–20%); common species include *Andropogon* (bluestem) spp., *Chasmanthium laxum* (slender woodoats), *Cnidocolus stimulosus* (finger rot), *Dichanthelium commutatum* (variable panicgrass), *Dichanthelium sabulorum* var. *thinium* (hemlock rosette grass), *Eupatorium* (thoroughwort) spp., *Pityopsis graminifolia* (narrowleaf silkgrass), *Scleria triglomerata* (whip nutrush), and many others. Vines (up to 10% cover) include *Gelsemium sempervirens* (evening trumpetflower), earleaf greenbrier, saw greenbrier, *Toxicodendron radicans* (eastern poison-ivy), and muscadine, which climbs into the canopy and shrub layers. Epiphytes include *Pleopeltis polypodioides* (resurrection fern) and Spanish moss. In addition, this community supports state-critically imperiled *Tridens carolinianus* (Carolina fluffgrass) and state-vulnerable *Aristida lanosa* (woollysheath threeawn) and myrtle oak.
 - Characteristic species include wax-myrtle, slash pine, longleaf pine, and loblolly pine.
- **Outer Coastal Plain Sweetbay Swamp Forest.** The dense (80% cover) tree canopy, 15–20 m tall, is dominated by *Persea palustris* (swamp bay) and *Magnolia virginiana* (sweetbay). The very sparse (10%) subcanopy (5–10 m) is made up of wax-myrtle, swamp bay, and loblolly pine, as is the sparse (20%) tall-shrub layer (2–5 m), along with *Vaccinium arboreum* (farkleberry) and highbush blueberry. The sparse (20%) short-shrub layer (1–2 m) is made up of saplings of the canopy species. The moderately sparse (40%) herbaceous layer is dominated by slender woodoats; additional herbs found in lesser amounts include *Dichanthelium dichotomum* (cypress panicgrass), *Rhynchospora fascicularis* (fascicled beaksedge), *Rubus argutus* (sawtooth blackberry), *Saururus cernuus* (lizard's-tail), and *Woodwardia areolata* (netted chainfern). Vines (10%) of evening trumpetflower, *Smilax laurifolia* (laurel greenbrier), cat greenbrier, and muscadine cover the ground and climb into the tree and shrub layers. Epiphytes include resurrection fern.
 - Characteristic species include sweetbay and swamp bay.
- **Sea-oats Temperate Herbaceous Alliance.** The moderate to dense (50–80% cover) herbaceous layer, 1–2 m tall, is strongly dominated by *Uniola paniculata* (sea-oats); additional species may include bushy bluestem, *Cenchrus* (sandbur) spp., *Cirsium horridulum* (yellow thistle), *Croton punctatus* (gulf croton), *Hydrocotyle bonariensis* (largeleaf pennywort), *Oenothera humifusa* (seabeach evening-primrose), *Panicum amarum* (bitter panicgrass), *Spartina patens* (saltmeadow cordgrass), *Triplasis purpurea* (purple sandgrass), and others. In addition, this community supports state-critically imperiled *Eragrostis secundiflora* (red lovegrass).

- Characteristic species include sea-oats.
- **South Atlantic Upper Ocean Beach.** The very sparse (5–30% cover) herbaceous layer includes *Cakile edentula ssp. harperi* (Harper’s searocket), gulf croton, *Distichlis spicata* (inland saltgrass), *Ipomoea imperati* (beach morning-glory), *Ipomoea pes-caprae* (bayhops), bitter panicgrass, saltmeadow cordgrass, sea-oats, and exotic *Salsola kali* (Russian thistle).
 - Characteristic species include Harper’s searocket, gulf croton, bayhops, and sea-oats.
- **Southern Atlantic Coast Salt Marsh/Salt Flat (Swampfire Type).** The Southern Atlantic Coast Salt Marsh vegetation is a sparse to moderately dense (20–70% cover) monoculture of *Spartina alterniflora* (smooth cordgrass) ranging from 0.5–2 m tall. Cover and height of the vegetation, and percent of flowering stems, seem to correlate negatively with inundation duration. The Salt Flat (Swampfire Type) community is strongly dominated by *Sarcocornia pacifica* (Pacific swampfire) in the moderately dense (70% cover) herbaceous layer. Additional taxa found in lesser amounts include *Borrchia frutescens* (bushy seaside-tansy), inland saltgrass, *Limonium carolinianum* (Carolina sealavender), *Salicornia bigelovii* (dwarf saltwort), and smooth cordgrass.
 - Characteristic species include smooth cordgrass, inland saltgrass, and Pacific swampfire.
- **Southern Hairgrass - Saltmeadow Cordgrass - Dune Fingergrass Herbaceous Vegetation.** This is a species-rich community defined by the moderate to dense (40–80% cover) herbaceous layer dominated by bushy bluestem, broomsedge bluestem, and/or *Muhlenbergia filipes* (gulfhairawn muhly). Other common herbs include *Aristida purpurascens* (arrowfeather threeawn), yellow thistle, *Conyza canadensis* (Canadian horseweed), *Cyperus polystachyos* (manyspike flatsedge), *Cyperus retrorsus* (pine barren flatsedge), *Dichanthelium aciculare* (needleleaf rosette grass), hemlock rosette grass, *Diodia virginiana* (Virginia buttonweed), *Eragrostis elliottii*, dogfennel, *Euthamia caroliniana* (slender goldentop), *Fimbristylis caroliniana* (Carolina fimbry), largeleaf pennywort, *Hypericum gentianoides* (orangegrass), *Juncus* (rush) spp., *Ludwigia maritima* (seaside primrose-willow), *Paspalum setaceum* (thin paspalum), turkey tangle fogfruit, *Physalis walteri* (Walter’s groundcherry), and *Polypremum procumbens* (juniper leaf). In areas undergoing succession to woody vegetation, there may also be a sparse (30%) emergent tree canopy (10–15 m) and very sparse (5%) subcanopy (5–10 m) of loblolly pine, as well as a very sparse (5–10%) tall-shrub layer (2–5 m) and very sparse to moderately sparse (5–40%) short-shrub layer (0.5–1 m) most often composed of wax-myrtle, and occasionally includes yaupon, sawtooth blackberry, *Salix nigra* (black willow), and *Sideroxylon tenax* (tough bully) (state-vulnerable). Vines of earleaf greenbrier and (saw greenbrier are also common and can form dense clambering masses over short shrubs). In addition, this community supports state-critically imperiled red lovegrass.
 - Characteristic species include Gulf hairawn muhly.