



Everglades National Park Wilderness Stewardship Plan

August 2026



National Park Service
U.S. Department of the Interior

Everglades National Park
Wilderness Stewardship Plan

Florida

August 2026

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SIGNATURES

This Wilderness Stewardship Plan has been prepared as a collaborative effort by an interdisciplinary team and is recommended for approval by the superintendent.

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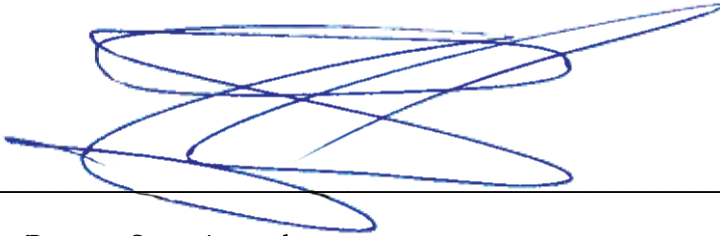
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Chapter 1

Introduction

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CHAPTER 1: INTRODUCTION

OVERVIEW

This plan provides long-term, comprehensive management guidance for protecting wilderness character, stewarding natural and cultural resources, and managing visitor use in designated and proposed wilderness at Everglades National Park. The plan applies guidance from the Interagency Visitor Use Management Council (<https://visitorusemanagement.nps.gov/>), National Park Service (NPS) *Management Policies 2006*, and *Reference Manual 41: Wilderness Stewardship* regarding wilderness stewardship in the national park system and the NPS dynamic portfolio of tiering management plans that serves as internal bureau tools to accomplish the following:

- Articulate strategies for the public enjoyment of national parks to ensure resources are protected and unimpaired for future generations.
- Set desired visitor experiences based on a unit's unique qualities and the values that merited its national designation.
- Guide bureau decision-making, activities and investment priorities with transparency and accountability to the American public.

The purpose of wilderness in the national parks includes the preservation of wilderness character and wilderness resources in an unimpaired condition and, in accordance with the Wilderness Act, wilderness areas shall be devoted to the public purposes of recreational, scenic, scientific, educational, conservation, and historical use.

Few places across the national wilderness preservation system can match the wilderness character of the Marjory Stoneman Douglas Wilderness today, as described in a recent wilderness character assessment (NPS 2023). The Marjory Stoneman Douglas Wilderness includes most of the park's undeveloped lands and inland waters. Furthermore, the majority of marine waters within the wilderness boundary are considered "submerged marine land wilderness" (i.e., the sea floor is under traditional wilderness protection, but the water column is nonwilderness). The Marjory Stoneman Douglas Wilderness is exceptional within the national park system for being the largest subtropical wilderness area of the national wilderness preservation system.

BACKGROUND

Park Description

Everglades National Park was authorized by Congress in 1934. A fundamental purpose for the park's establishment was provided in the enabling legislation: "The said area or areas shall be permanently reserved as a wilderness, and no development of the project or plan for the entertainment of visitors shall be undertaken which will interfere with the preservation intact of the unique flora and fauna and the essential primitive natural conditions now prevailing in this area" (Public Law [PL] 73-267). Because park lands could be acquired only through public or

private donation, land acquisition proceeded slowly over the ensuing years. Through the sustained efforts of many supporters and critical funding provided by the state of Florida, the park was eventually established 13 years later. From the original 460,000 acres at the time of the park's establishment in 1947, boundary changes expanded the park to 1.4 million acres by 1958. The Everglades National Park Protection and Expansion Act of 1989 added the East Everglades (109,506 acres) part of the park, bringing the Northeast Shark River Slough within the park boundaries. The park now encompasses 1,509,000 acres, including the largest legislated wilderness area (1,296,500 acres) east of the Rocky Mountains.

The park preserves a large portion of the remaining portion of the Everglades, a vast "River of Grass" that originally extended from Lake Okeechobee to the Gulf of Mexico and Florida Bay. The park has received international recognition as a World Heritage Site, an International Biosphere Reserve, and a Wetland of International Importance. In 1978, Congress designated almost 1.3 million acres of wilderness in Everglades National Park under the terms of the Wilderness Act. This wilderness was redesignated the Marjory Stoneman Douglas Wilderness Area in 1997.

Everglades National Park was the first national park in the United States set aside solely for its biological resources rather than its scenic or historic values. The park was established as a permanent wilderness, preserving essential primitive conditions, including the natural abundance, diversity, behavior, and ecological integrity of unique flora and fauna. More than 60 years later, protecting the park's natural resources and the ecosystem remains a primary focus of park management.

The most meaningful and effective way to understand and appreciate Everglades National Park is through exploration, education, and recreation within the vast subtropical wilderness. A wide variety of recreational opportunities is available to visitors. Popular activities include wildlife viewing, nature hikes, fishing, camping, bicycling, motorboating, and canoeing. The 99-mile-long Wilderness Waterway that runs through the western portion of the park offers outstanding backcountry boating and camping experiences. This water trail is used by canoers, kayakers, and powerboaters and terminates at Flamingo. Most paddlers allow at least eight days to complete the trip.

From the initial settlement by Indigenous people about 6,000 years ago to the more recent use of Everglades resources throughout the 20th century, the complete story of Everglades National Park includes links between natural resources and human use (including historic and prehistoric use) of the area. Protecting the park's cultural resources and the stories of connecting people, places, and events are also an important part of the park mission. Park managers seek to protect these resources and tell the stories so that all who visit Everglades National Park can better understand its full context.

Wilderness Background and Context

Wilderness Act

The Wilderness Act (PL No. 88-577, 16 USC § 1131-1136), signed into law in 1964, created the national wilderness preservation system to ensure an enduring resource of wilderness for future generations. The act provides that wilderness areas are to possess the following characteristics:

- The earth and its community of life are untrammelled by humans, where humans are visitors and do not remain.
- The area is undeveloped and retains its primeval character and influence without permanent improvements or human habitation.
- The area generally appears to have been affected primarily by the forces of nature, with the imprint of humans' work substantially unnoticeable.
- The area is protected and managed so as to preserve its natural conditions.
- The area offers outstanding opportunities for solitude or a primitive and unconfined type of recreation.

The primary mandate of the Wilderness Act is given in section 4(b) (16 USC § 1133(b)) and states that “each agency administering any area designated as wilderness shall be responsible for *preserving the wilderness character of the area*” [emphasis added]. To establish a common understanding of this directive, wilderness character was formally defined by an interagency monitoring team representing the US Forest Service (USFS), (Department of Agriculture), as well as the US Fish and Wildlife Service (USFWS), National Park Service, and Bureau of Land Management (Department of the Interior):

Wilderness character is 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. Taken together, these tangible and intangible values define wilderness character and distinguish wilderness from all other lands. (Landres et al. 2015)

Wilderness character encompasses the five qualities that are described in the definition of wilderness from section 2(c) (16 USC § 1131(c)) of the Wilderness Act. Together, these five qualities are used to monitor how stewardship actions, impacts from modernization, and other changes occurring outside of a given wilderness area affect wilderness over time. The five qualities apply nationally to all wilderness areas—regardless of their size, location, administering federal agency, or other unique place-specific attributes—because they are based on the legal definition of wilderness. Descriptions of these qualities, as derived from section 2(c) of the Wilderness Act, follow.

Untrammelled

Wilderness is “... an area where the earth and its community of life are untrammelled by man...”

Wilderness ecological systems are essentially unhindered and free from the intentional actions of modern human control or manipulation when the untrammelled quality is preserved.

Natural

Wilderness “... is protected and managed so as to preserve its natural conditions ...”

Wilderness ecological systems are substantially free from the effects of modern civilization when the natural quality is preserved.

Undeveloped

Wilderness is "... an area of undeveloped Federal land ... without permanent improvements or human habitation ..."

Wilderness retains its primeval character and influence, and is essentially without permanent improvement or modern human occupation when the Undeveloped Quality is preserved.

Solitude or Primitive and Unconfined Recreation

Wilderness "... has outstanding opportunities for solitude or a primitive and unconfined type of recreation ..."

Wilderness provides outstanding opportunities for solitude or primitive and unconfined recreation when the quality of solitude or primitive and unconfined recreation is preserved.

Other Features of Value

Wilderness "... may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value ..."

Other tangible features of scientific, educational, scenic, or historical value in wilderness preserve wilderness character when they are preserved.

In addition to these five tangible qualities of wilderness character, wilderness also has important intangible aspects that are difficult or impossible to quantify or monitor. These intangible aspects are diverse and can include the park's scenic beauty, spiritual experiences, the immensity of an area, and opportunities for self-discovery, self-reliance, and challenge that come from wilderness settings. Currently, these intangible aspects of wilderness can only be addressed in narrative form.

Wilderness character may change over time and may be improved or diminished by the actions or inaction of managers. The challenge of wilderness stewardship is that decisions and management actions taken to protect one quality of wilderness character may degrade another quality. In addition, the accumulated result of seemingly small decisions and actions may cause a significant gain or loss of wilderness character over time. Because of this complexity, preserving wilderness character requires that agency staff document decisions made in wilderness and the impacts of those decisions.

Everglades National Park Wilderness Study Process and Legislative History

Consistent with requirements of the Wilderness Act, the National Park Service undertook a wilderness study of Everglades National Park in the early 1970s. A draft wilderness proposal covering 849,400 acres was released for public comment in April 1974. The proposal called for

764,700 acres of designated wilderness,¹ consisting of undeveloped areas to the north, south, and west of the road to Flamingo, together with 84,700 acres of potential wilderness.² The potential wilderness was made up primarily of agricultural land in the center of the park known as the Hole-in-the-Donut, as well as various private tracts and private mineral estates in the northwest part of the park below Chokoloskee.

In response to public comment and further study, the National Park Service produced a wilderness recommendation in August 1974. The wilderness recommendation reduced the area of potential wilderness to 81,900 acres and increased the total designated wilderness to 1,296,500 acres. The acreage added to designated wilderness comprised 529,300 acres of submerged marine lands, as well as a 2,400-acre pineland unit north of the Hole-in-the-Donut. The recommendation indicated that “roads within this unit would be obliterated.” An environmental impact statement covering the wilderness recommendation was approved on June 23, 1978. By that point, legislation had already been introduced in Congress to designate wilderness at Everglades National Park.

Legislation establishing the Everglades Wilderness was passed by Congress in October 1978 and signed into law by President Jimmy Carter on November 10, 1978 (PL 95-625). As established, the wilderness covers approximately 1,378,400 acres, consisting of 1,296,500 acres of designated wilderness and 81,900 acres of potential wilderness. The Everglades Wilderness was renamed the Marjory Stoneman Douglas Wilderness in 1997 (PL 105-82).

The National Park Service completed a wilderness study of the East Everglades Addition of the park in 2015. The preferred alternative of the study called for the designation of approximately 42,200 acres in the East Everglades Addition as wilderness and an additional 43,100 acres as potential wilderness. The preferred alternative was adopted in a record of decision signed on October 23, 2015.

Current Land Status, Boundary Descriptions, and Map

Currently, the National Park Service manages a total of 1,463,700 acres in the park in such a way as to preserve or enhance wilderness character. The categories of wilderness in the park are broken down as follows: 1,296,500 acres designated wilderness (nearly 86% of the park), 81,900 acres potential wilderness, 42,200 acres proposed wilderness³ (in the southern portion of the

1. Designated wilderness: federal land designated by Congress as wilderness and a component of the national wilderness preservation system where the National Park Service is required to manage according to the Wilderness Act of 1964 (NPS 2022d)

2. Potential wilderness: lands that possess wilderness characteristics that would normally qualify them for designation within the national wilderness preservation system but contain temporary nonconforming or incompatible conditions (such as structures or roads) or uses (such as inholdings, valid mining claims, or operations) that prevent their being immediately designated as wilderness. These lands may be identified as “potential wilderness” in NPS wilderness proposals, wilderness recommendations, and by Congress in legislation designating other portions of a park as wilderness (NPS 2022d).

3. Proposed wilderness: the findings and conclusions of a formal wilderness study that have been submitted as the National Park Service proposal by the director to the Department of the Interior but have not been approved by the secretary (NPS 2022d)

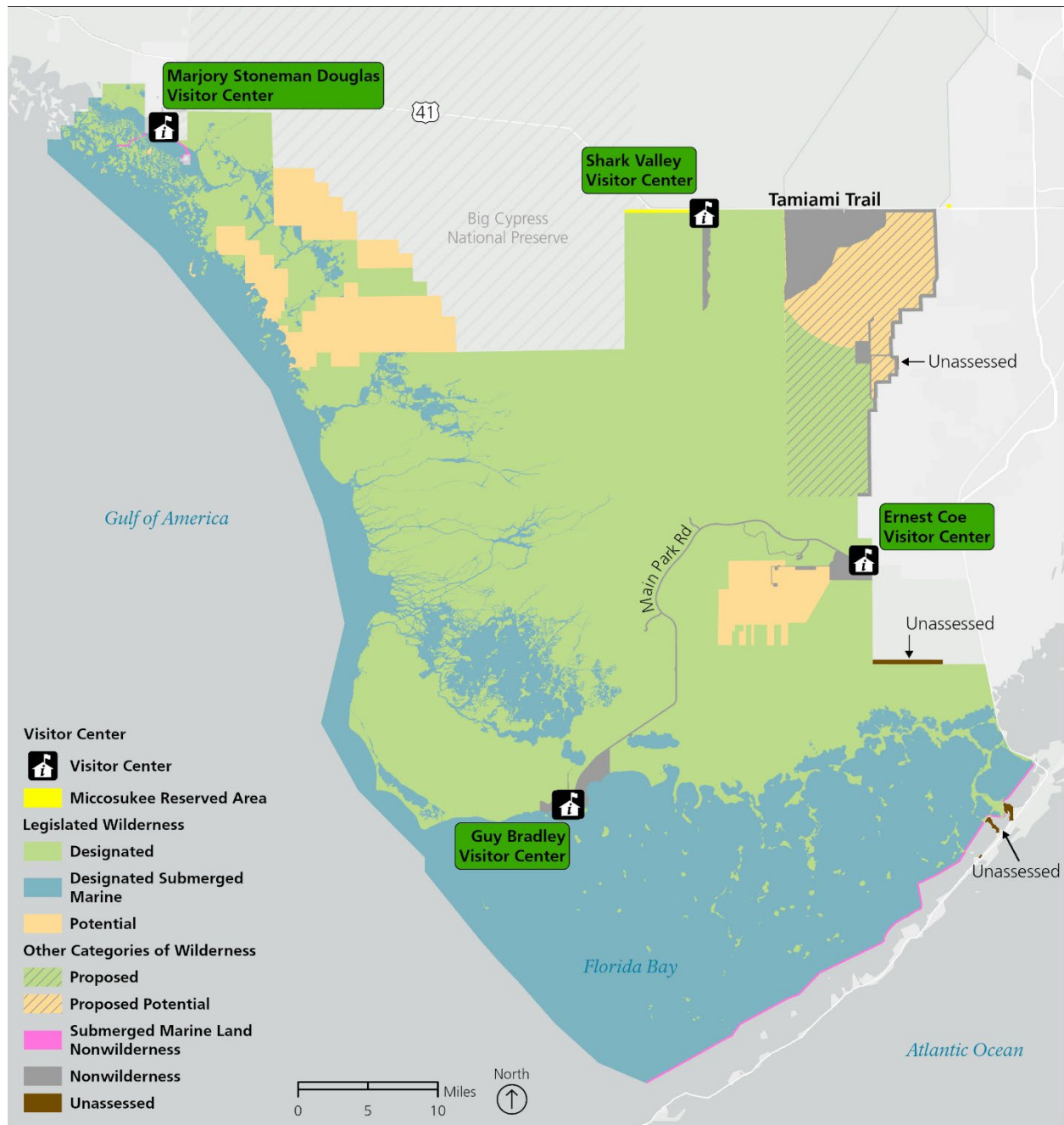
East Everglades Addition), and 43,100 acres proposed potential wilderness⁴ (in the northern part of the East Everglades Addition). By policy, the National Park Service manages proposed wilderness in such a way as to preserve its wilderness character until Congress decides whether or not to designate it as wilderness (see NPS *Management Policies 2006*, section 6.3.1). For the purpose of this document, unless specifically noted, the term “Everglades wilderness” includes all categories of wilderness within Everglades National Park.

The Marjory Stoneman Douglas Wilderness includes most of the park’s undeveloped lands and inland waters. Furthermore, the majority of marine waters within the wilderness boundary are considered “submerged marine land wilderness” (i.e., the sea floor is under traditional wilderness protection, but the water column is nonwilderness). Through the special designation of submerged marine wilderness, Congress authorized the continued use of motorboats within the waters that overlie these lands. Submerged marine land wilderness in the park comprises all areas underwater during high tide in Florida Bay and the Ten Thousand Islands, as well as the following inland waterbodies: Coot Bay, Davis Creek, East Cape Canal between Lake Ingraham and Florida Bay, East Creek, House Ditch downstream of its plug, Joe Bay, Lake Ingraham, Little Sable Creek, McCormick Creek, Middle Cape Canal, Mud Creek, Slagle Ditch downstream of its plug, Taylor Creek, Taylor River, Trout Creek, and West Lake.

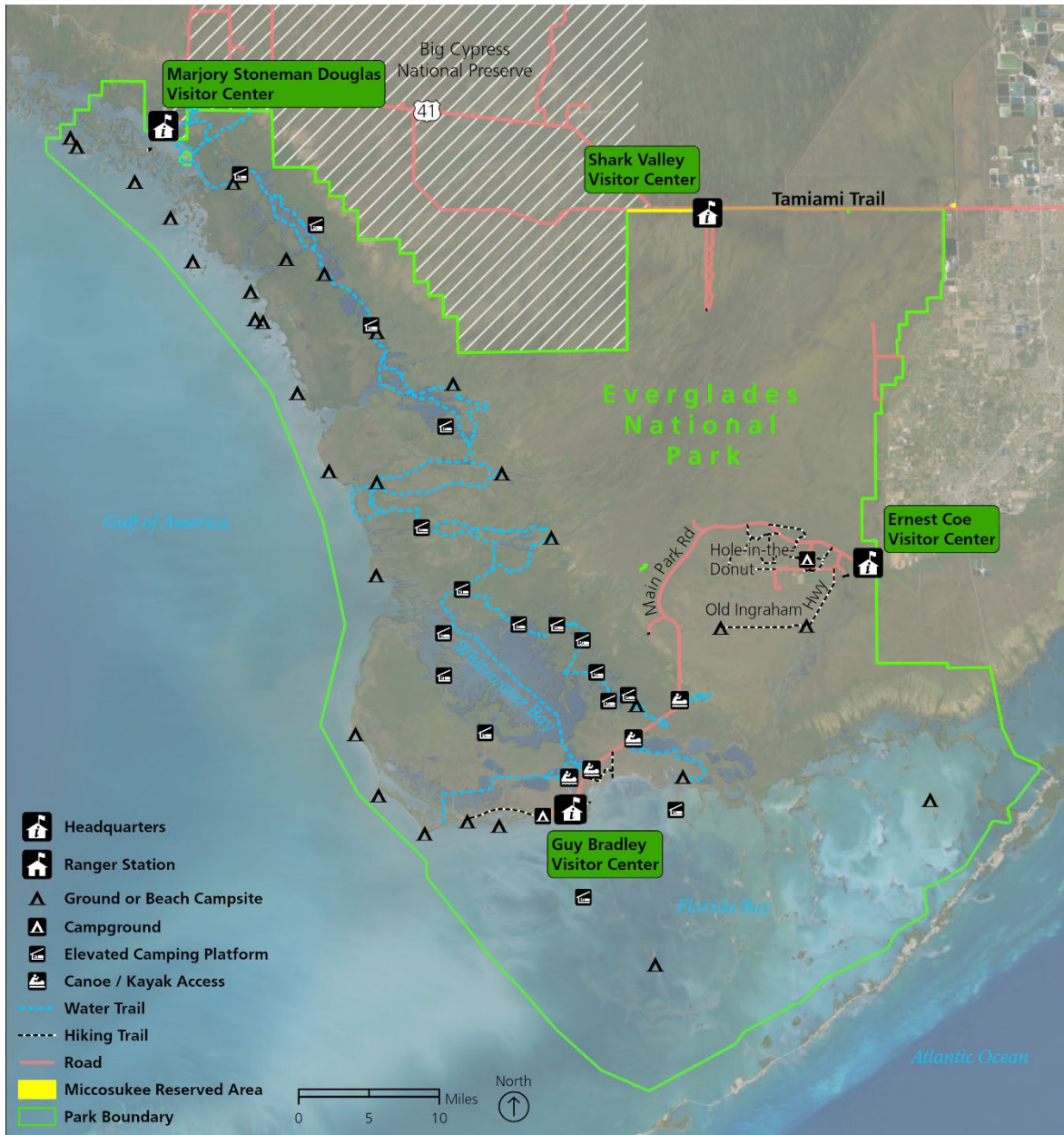
Notable areas of potential wilderness in the park include the Hole-in-the-Donut area, which can become wilderness when ongoing restoration efforts are complete, and certain areas in the northwestern part of the park still underlain by nonfederal mineral rights. The conversion from potential wilderness to designated wilderness requires a notice in the *Federal Register*.

Some isolated areas within the wilderness boundary are identified as nonwilderness. These are typically areas of continuous, nonconforming uses such as levees and radio repeater antennae sites. Nonwilderness within the exterior boundary of the Marjory Stoneman Douglas Wilderness include a 1-acre circular parcel surrounding the site of the old Lostmans River ranger station, a 1-acre semicircular parcel at the Levee 31W canal pumping station, the Buttonwood Canal, and the Levee 67 extension canal.

4. Proposed potential wilderness: lands that meet the definitions of both potential wilderness and proposed wilderness



MAP 1. WILDERNESS CATEGORIES



MAP 2. GENERAL PARK OVERVIEW MAP

PURPOSE OF THE PLAN

The purpose of this wilderness stewardship plan is to guide the preservation, management, and use of the Marjory Stoneman Douglas Wilderness, areas proposed for wilderness designation, and areas proposed as potential wilderness in the East Everglades Addition. The plan is intended to provide long-term direction for preserving wilderness character, protect the natural and cultural resources within these areas, improve conditions in areas where there may be unacceptable levels of impacts on wilderness character, and provide opportunities for and encourage public use and enjoyment of wilderness in accordance with the Wilderness Act and other applicable laws and policies.

Both NPS *Management Policies 2006* (section 6.3.4.2) and NPS Director's Order 41: *Wilderness Stewardship* (section 6.3) require a wilderness stewardship plan be developed for all wilderness areas. Management of the Marjory Stoneman Douglas Wilderness was addressed to some degree in the Everglades National Park *Master Plan* (1979) and *Backcountry Management Plan* (1981), but updated guidance is long-overdue, as these earlier efforts did not take into account current NPS policies and current and anticipated activities within the Marjory Stoneman Douglas Wilderness. The 2015 *Everglades National Park Final General Management Plan / East Everglades Wilderness Study / Environmental Impact Statement* provided broad guidance regarding the park's wilderness resources and identified a wilderness stewardship plan as a high-priority implementation plan to effectively preserve wilderness character. The *Everglades Foundation Document* has identified wilderness character as a park fundamental resource and value and the wilderness stewardship plan as a high priority. Resource issues in planning are often interconnected, such that decisions made in one management action can impact the outcomes of other decisions.

Since the above plans were completed, there has been more recent information about changes in visitor use patterns, ways to manage visitor use, continuing ecosystem restoration efforts, and resources management in wilderness that needs to be considered.

The project area for this plan includes all areas the National Park Service manages as wilderness. The project area also includes developed and frontcountry areas that serve as "gateways" to wilderness. This plan replaces Everglades National Park's 1981 backcountry management plan and supplements its 2015 general management plan.

Actions in this plan are organized into near-term and long-term categories to clarify priorities and readiness for implementation. When identifying which actions would be implemented in the near term, NPS staff considered input from Tribes, public comments, the feasibility of implementation, sustainability, relation to parkwide priorities, and the connection to the plan's purpose and need. See chapter 3 for more details.

PLANNING ISSUES AND CONCERNS ADDRESSED IN THIS PLAN

The public, NPS staff, Tribal nations, and stakeholders identified various issues and concerns during scoping for this wilderness stewardship plan. Here, an issue is defined as an important topic or problem regarding the use or management of public lands. The wilderness stewardship plan provides high-level strategies for addressing these issues and opportunities within the context of the park's purpose, significance, and legislative mandates.

Preserving Wilderness Character

Management of the Marjory Stoneman Douglas Wilderness was addressed to some degree in the park's 1979 master plan and 1981 backcountry management plan, but updated guidance is long overdue, as these earlier efforts do not account for current NPS policies and current and anticipated activities within the Marjory Stoneman Douglas Wilderness. Furthermore, the 1981 Backcountry Management Plan does not provide guidance for the proposed and proposed potential wilderness areas in the East Everglades Addition.

Managing Visitor Use and Experience

Updated guidance is needed for managing visitor use in wilderness that incorporates new information and understanding about changes in visitor use patterns, as well as legal requirements associated with visitor use management (i.e., visitor capacity) to ensure that a variety of high-quality visitor experiences are available while avoiding/minimizing impacts on wilderness character.

Unrealized opportunities are available to enhance recreation access, improve visitor experience, and protect wilderness character by evaluating appropriate activities and resources, including commercial services and special park uses. Per NPS Director's Order 41, section 7.3, and the Wilderness Act, section 4(d)(5) (16 USC § 1133(d)(5)), park managers must consider and decide on which commercial services are "necessary and appropriate" to realize the purposes for which park wilderness areas were established or proposed. Identifying ways to serve, welcome, and educate members of the public not traditionally included in wilderness-based recreation is also critical to realizing the full potential of the Marjory Stoneman Douglas Wilderness and maintaining its relevancy into the 21st century.

Managing Recreation Facilities and Navigational Signage in Wilderness

The National Park Service installs and maintains recreation features such as campsites, trails, and navigational markers within wilderness areas for recreation and navigation. Although recreational facilities often make visitors' wilderness experience easier or more comfortable, these facilities also impact wilderness character by reducing the need for primitive skills and self-reliance. Recreation features are also readily visible as clear signs of human use, and their maintenance may necessitate the use of motorized equipment or mechanical transport. The National Park Service also maintains aids to navigation to protect the submerged marine wilderness and facilitate safe boating operations; however, these installations impact the undeveloped quality. Guidance is needed to ensure that necessary recreation facilities in wilderness are maintained to provide a wide range of visitor experiences while avoiding or minimizing adverse impacts on wilderness character.

Managing Research Projects in Wilderness

A number of research projects occur in the designated, proposed, and potential wilderness areas. Proper management of the Marjory Stoneman Douglas Wilderness, and all areas of Everglades National Park, requires high-quality scientific information spanning a wide variety of disciplines. Efforts to restore the remnant Everglades have augmented the need for a more complex understanding of South Florida's natural systems. As a contiguous landscape of great ecological integrity, the Marjory Stoneman Douglas Wilderness remains an important area for scientific inquiry. Installations supporting scientific inquiries have been permitted, which help monitor, protect, and restore the natural quality or other features of value (i.e., cultural features that are relevant to wilderness character). Data from these projects also informs larger regional or landscape level management decisions and partnerships that park managers work on with stakeholders. Helicopters and airboats are extensively used for data collection efforts. However, these prohibited uses degrade the undeveloped quality of wilderness. Guidance is needed to

balance necessary research activities in wilderness with the mandate to avoid or minimize adverse impacts on wilderness character.

Managing Natural Resources in Wilderness

Management actions are regularly taken in the wilderness area to address topics such as fire regimes, invasive species, and ecosystem restoration—all of which impact the untrammeled quality of wilderness character while preserving the natural quality. Restoration projects implemented outside of wilderness may also impact wilderness character. Guidance on natural resource management activities is needed to avoid or minimize adverse impacts on wilderness character, primarily the untrammeled quality, while continuing to improve the natural quality.

Managing Cultural Resources in Wilderness

Wilderness within Everglades National Park includes many cultural resources, including archeological, historic, and ethnographic resources, as well as resources traditionally considered “natural.” These cultural resources face threats from a variety of sources, including weathering, vandalism, and park management actions. Guidance is needed to ensure that cultural resources are being documented, studied, and managed in a manner that avoids or minimizes adverse impacts on wilderness character.

Managing Administrative Activities and Facilities in Wilderness

Many activities necessary for the administration of wilderness (e.g., search and rescue operations, downed plane recovery) occur in wilderness. These activities have involved a variety of Wilderness Act 4(c) (16 USC § 1133(c)) prohibited uses. Because of the expansive nature of the wilderness, combined with its extreme environmental conditions, much of the wilderness is inaccessible by traditional means, resulting in the use of airboats and helicopters to access remote areas. Installations that support park communications and administrative activities degrade the undeveloped quality but also provide information that is essential in protecting and enhancing the natural quality. The Marjory Stoneman Douglas Wilderness and other lands managed as wilderness at Everglades National Park are without any permanent roads; however, temporary roads exist and act as firebreaks to conduct prescribed burning projects, law enforcement patrol routes, access corridors to perform invasive species treatment, and access corridors to collect a variety of research data. These temporary roads aid in a variety of ongoing park projects whose outcomes provide benefits to the natural quality; however, roads of any kind still diminish the undeveloped quality. Guidance is needed to balance necessary park operations and facilities with the mandate to avoid or minimize adverse impacts on wilderness character.

Adapting to Climate Change

Accelerated climate change and other global shifts pose unprecedented challenges for wilderness stewards (Stephenson and Millar 2012). Evidence of climate change and its impacts on resources is evident both in the region and in the parks. Climate models predict significant warming at Everglades National Park, indicating that future conditions will differ greatly from the past. Extreme weather events, such as high temperatures, heavy rainfall, drought, and

changes in plant-available water, are likely scenarios according to climate projections (NPS 2024f). Climate change has already affected the park, leading to issues like erosion, trail damage, the destruction of historic structures, and the degradation of natural resources. Sea level rise, storm surge, and hurricanes have affected recreational facilities in the park's wilderness areas. Guidance is needed to ensure that adaptive management strategies are integrated to address the inevitable changes brought about by climate change.

INTEGRATING VISITOR USE MANAGEMENT PLANNING INTO THE WILDERNESS STEWARDSHIP PLAN

Visitor use management is the proactive and adaptive process of planning for and managing characteristics of visitor use and its physical and social setting using a variety of strategies and tools to sustain desired resource conditions and visitor experience. The National Park Service, along with five other federal land management agencies, is an active participant in the Interagency Visitor Use Management Council (IVUMC), which established the Visitor Use Management Framework to provide cohesive guidance for managing visitor use on federal lands and waters. This plan integrated key steps from the Visitor Use Management Framework to develop a long-term strategy for managing visitor use within the project area (figure 1).

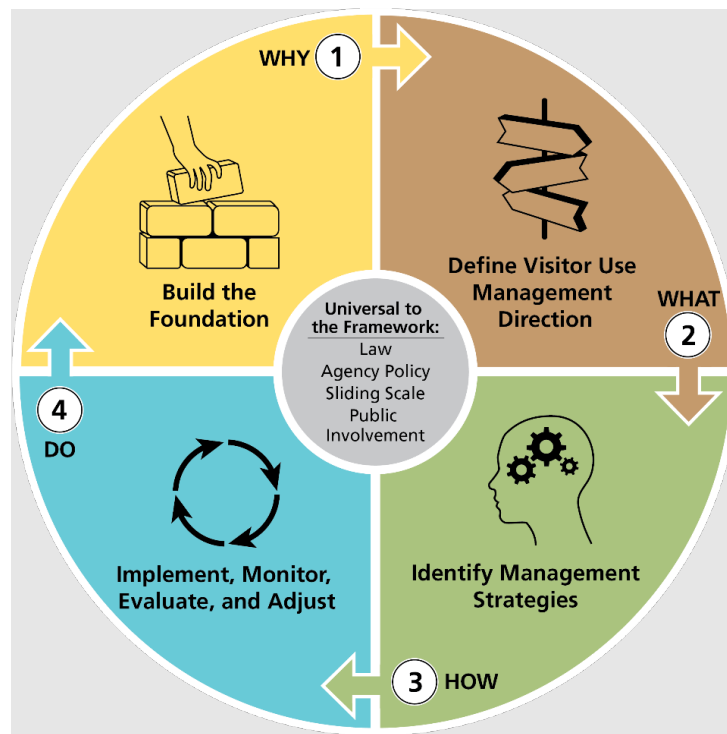


FIGURE 1. VISITOR USE MANAGEMENT FRAMEWORK (IVUMC 2016)

Specifically, desired conditions, indicators, thresholds, and visitor capacity and associated monitoring protocols were developed for the park's wilderness areas. Additional information on the Interagency Visitor Use Management Council and the guidance that was applied is available at <https://visitorusemanagement.nps.gov/>.

Proactively planning for visitor use maximizes the ability of agencies to encourage access and protect resources and values. In this plan, visitor use refers to human presence in an area for recreational purposes, including education, interpretation, inspiration, and physical and mental health. Visitor use goes beyond the types of activities that people engage in at parks. Visitor use also includes the amount, timing, and distribution of visitor activities and behaviors.

COMMITMENT TO BUILDING RELATIONSHIPS WITH TRIBAL NATIONS

Everglades National Park preserves natural and cultural resources associated with the homeland of Tribal nations of Florida (including the Miccosukee Tribe of Indians of Florida, the Seminole Tribe of Florida, the Seminole Nation of Oklahoma, and other Indigenous peoples' groups, such as the Council of the Original Miccosukee Simanolee Nation Aboriginal People). The National Park Service recognizes that the continued relationship between Indigenous people and the landscape and resources of Everglades National Park has supported humans since time immemorial and that humans have supported the landscape. The park also preserves natural and cultural resources associated with contemporary practices that sustain the cultural identities of Tribal nations. Everglades National Park staff will incorporate Indigenous Knowledge and facilitate ongoing connections between Indigenous people, their ancestors, and the landscape to ensure that the Everglades remains a living community.

In 2024, Miccosukee Tribe of Indians of Florida entered into a historic co-stewardship agreement with the Everglades National Park, which enables the cooperative administration of wildland fire and prescribed burn operations, hydrology and water resources, and visitor services in the Shark Valley area. The agreement will remain in effect for 5 years, with both parties agreeing to renew in good faith with similar terms every 5 years, for a total of 25 years, at which time the Tribe and the National Park Service have agreed to revisit the terms of the agreement. In addition to the co-stewardship agreement, park administrators will follow and adhere to recent updates of Department of the Interior policies, executive orders, secretary's orders, memorandums, guidance, and other relevant statutes that include Indigenous Knowledge, consultation and coordination, and stewardship.

The 2015 general management plan identified the need to consult with Tribal nations and Indigenous peoples' groups and stakeholders to develop and accomplish the programs of Everglades National Park. Consistent with the general management plan, park wilderness programs and activities would be conducted in a way that respects the beliefs, traditions, and other cultural values of those who have ancestral, historic, or contemporary ties to park lands.

The integrity of homeland values is honored by enhancing relationships between the National Park Service and traditional people, collaborating on cultural and natural stewardship of wilderness lands and waters, and facilitating Tribal access to the park.

RELATIONSHIP TO OTHER PARK PLANNING DOCUMENTS

This plan fulfills park planning priorities for resource preservation and visitor use management in the wilderness areas of Everglades National Park and serves as a component of the park's planning portfolio. The park's planning portfolio consists of individual planning documents, which together guide park decision-making. The planning portfolio enables the use of targeted

planning documents (such as this one) to meet a broad range of park planning needs and fulfill legal and policy requirements. The following plans are included in Everglades National Park's planning portfolio and provide context for the development of this wilderness stewardship plan.

Backcountry management plan (1981). The wilderness area of the park is currently being managed under direction of the backcountry management plan, as well as the general management plan. This plan is largely outdated because it does not adequately address protection of wilderness character and visitor use management direction. Topics addressed include the backcountry permit system and campsite reservations, campsite and shelter management, sanitation, wood fires, signs, and trail maintenance and management. The wilderness stewardship plan will replace the existing backcountry management plan; however, relevant management strategies and effective regulations from the backcountry management plan will be carried forward in the new plan, as appropriate.

General management plan / wilderness study (2015). The general management plan sets the overall direction for management of natural and cultural resources, visitor use, land protection, and facility development. The plan establishes management zones, sets desired conditions for use and development by zone, and evaluates lands for possible recommendation to Congress for inclusion in the national wilderness preservation system. Each management zone description includes desired conditions for natural and cultural resources, visitor opportunities and experiences, appropriate facilities, and management/research activities. Important or sensitive natural and cultural resources are found parkwide and therefore occur in multiple zones. Four management zones overlap designated and proposed wilderness: backcountry (nonmotorized), boat access, pole/troll, and pole/troll/idle. These zones are coextensive with the Marjory Stoneman Douglas Wilderness (including submerged marine land wilderness) and areas of proposed wilderness in the East Everglades Addition. However, the zones provide only general guidance for wilderness management. This wilderness stewardship plan ensures consistency with the general management plan while expanding on guidance related to wilderness preservation.

Foundation document (2017). Everglades National Park's foundation document was completed and approved in 2017. Key sections of this foundation document, including significance statements and fundamental resources and values, articulate the importance of wilderness and associated resources. The foundation document identifies a wilderness stewardship plan as a high-priority planning need. This plan fulfills that need.



Chapter 2

Existing Conditions

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CHAPTER 2: EXISTING CONDITIONS

This chapter summarizes existing information and current conditions (e.g., wilderness character and visitor use and experience in the area) related to the issues and opportunities in this plan.

The following two overview sections include the park's wilderness character narrative, which was published in the park's wilderness character baseline assessment (NPS 2022).

OVERVIEW OF THE MARJORY STONEMAN DOUGLAS WILDERNESS

At the southern tip of the peninsula that is the State of Florida lies the Marjory Stoneman Douglas Wilderness. Fully encompassed within Everglades National Park, this area was considered wilderness long before the Wilderness Act was signed into law. As stated in the enabling legislation for the park, this area “shall be permanently reserved as a wilderness, and no development of the project or plan for the entertainment of visitors shall be undertaken which will interfere with the preservation intact of the unique flora and fauna and the essential primitive natural conditions now prevailing in this area” (16 U.S.C. sec. 410c). Though signed 30 years prior to the Wilderness Act, the park's enabling legislation is analogous in its fundamental aims.

The Marjory Stoneman Douglas Wilderness is the largest unit of the National Wilderness Preservation System east of the Rocky Mountains. In character, it harks back to a primordial time full of mystery and intrigue. It is a wet, hot, and humid environment teeming with mosquitoes, hazardous wildlife, and poisonous plants, and is both unforgiving and inhospitable. There is no debating these facts; however, if given the chance, visitors will find that this area is also wondrous, enchanting, and beautiful.

The wilderness is a vast complex of seasonally or permanently flooded ecosystems interspersed with isolated patches of dry ground that one may explore with few signs of modern human presence. It is a unique subtropical wetland that connects central Florida's freshwater ecosystem with the marine systems of Florida Bay and the Gulf of Mexico. The Everglades is an outstanding and subtle landscape, one that seems both bountiful in resources and spectacular in its never-ending waterways, diverse wildlife, and sprawling scenic views. Visitors to the wilderness have the opportunity to enjoy a relatively undeveloped and wild landscape, where they can view numerous threatened and endangered species, slog through backcountry sloughs, and sleep under starlit skies, all within a stone's throw of a major metropolitan area.

Besides affording outstanding recreational benefits, the Marjory Stoneman Douglas Wilderness serves as an essential recharge for South Florida's water supply, a natural line of defense against the impacts of tropical storms and a vital nursing ground for numerous aquatic and avian species. It also harbors an extensive array of cultural resources. Many of these resources have been documented and determined eligible for listing on the National Register of Historic Places, while others are still to be identified and evaluated for significance. These resources include archeological, ethnographical, historic and prehistoric structures, and cultural landscapes.

The importance of the Marjory Stoneman Douglas Wilderness is reflected in its designations as an International Biosphere Reserve, a World Heritage Site, and a Ramsar Wetland of

International Importance. This combination of distinctions is unmatched anywhere else in the United States.

The following section describes in more detail what is unique and special about the Marjory Stoneman Douglas Wilderness, while noting some of the major threats to the area's wilderness character. It is organized by the five tangible and measurable qualities of wilderness character, namely, the untrammeled, natural, and undeveloped qualities, as well as opportunities for solitude or primitive and unconfined recreation, and other features of value.

OVERVIEW OF WILDERNESS CHARACTER AT EVERGLADES NATIONAL PARK

Untrammeled

As anyone venturing into the heart of the wilderness can attest, this vast wetland “appears to have been affected primarily by the forces of nature” and to the average visitor seems to be an area where the “earth and its community of life are untrammeled by man.” However, the story of the Everglades cannot be told without also taking note of the attempts of humans to manipulate and cultivate its landscape. In the decades leading up to the dedication of Everglades National Park, numerous attempts were made to exploit the region's resources. Canals intended to expedite drainage were constructed both inside and out of the modern wilderness boundary. These changes caused widespread damage to the land and its ecological systems. Inflow patterns from the upper watershed were altered dramatically, as were hydrologic flow within the wilderness itself. These flows must now be intentionally manipulated to perpetuate the natural conditions for which Everglades National Park was established. The result is long-term degradation of the Untrammeled Quality of wilderness character, even as the Natural Quality is maintained or enhanced.

Despite efforts to tame the land, biophysical processes remain the predominant features of the landscape. The cycle of life here continues largely unfettered. The fascinating biodiversity, including fish, birds, and all other forms of wildlife, are free to roam and forage unimpeded by human-caused restrictions. Likewise, most natural creeks and rivers openly flow through estuarine areas to the sea without impedance from artificial plugs or dams. Wildfires, which clear and rejuvenate the landscape, are generally allowed to burn unsuppressed, contributing to the natural cycle of succession. Perennial dynamic forces—violent storms, flood and drought, fire, and coastal wave action—continue to shape the region and do so freely.

As wild as this wilderness appears, there are a variety of threats to the Untrammeled Quality. Most trammeling actions that threaten the wilderness center around three activities—environmental restoration, fire, and nonnative species control—all of which are typically undertaken to preserve the Natural Quality of wilderness character. Water control structures on the periphery of the wilderness boundary are manually operated to counteract the effects of past actions. Additionally, active manipulations to restore seagrass scars in Florida Bay impact this quality. Even though naturally ignited fires generally burn unimpeded within the wilderness, the application of prescribed fire to the landscape results in trammeling. (Note, however, that such trammeling enhances the opportunity for future wildfires to go unsuppressed.) Similarly, unauthorized ignitions that have a physical effect upon the wilderness, regardless of ignition point, degrade the Untrammeled Quality. Finally, the removal of nonnative plant and animal

species, whether by mechanical or chemical means, qualifies as a trammeling of the wilderness even when conducted using nonmechanized means.

Natural

The Marjory Stoneman Douglas Wilderness has an amazing abundance of unique natural features, and these features are the primary reason the area was established as a national park. As President Truman stated during his dedication speech (1947), “Here are no lofty peaks seeking the sky, no mighty glaciers or rushing streams wearing away the uplifted land. Here is land, tranquil in its quiet beauty, serving not as the source of water but as the last receiver of it.” The headwaters of the Everglades, originating in central Florida, are generally considered to lie in Shingle Creek, some 170 miles north of the wilderness’ northernmost boundary. From this point, water, the lifeblood of the Everglades, flows ever so slowly southward, gradually expanding laterally across much of the state, permeating the natural features traditionally associated with this iconic landscape. It is a subtle place where earth, water, and sky blend in a low green landscape, where mere inches of elevation produce substantial changes in vegetation, and where a great wealth of birds and other wildlife find refuge.

This wilderness lies at the interface between temperate and subtropical America, sheltering a rich juxtaposition of species, many at the limit of their ranges. The interdependent mosaic of habitats supports an incomparable level of richness, ranging from microscopic organisms to matchless megafauna. Thirty-seven federally listed species have been recorded from within the wilderness, such as the American alligator (*Alligator mississippiensis*) and crocodile (*Crocodylus acutus*), the Florida panther (*Felis concolor coryi*), the West Indian manatee (*Trichechus manatus*), the smalltooth sawfish (*Pristis pectinata*), and the Cape Sable seaside sparrow (*Ammodramus maritima mirabilis*). Historically, the Marjory Stoneman Douglas Wilderness was part of the most significant breeding ground for wading birds in North America. More than 300 species of birds have been recorded here, seven of them rare or endangered.

Perhaps the Everglades’ best-known feature, the one for which it was dubbed the “River of Grass,” is a horizon-wide expanse of sawgrass prairie, punctuated by hundreds of scattered “islands.” This, the largest continuous stand of sawgrass prairie in North America, characterizes the landscape over much of the interior of the wilderness. Within this area, the vegetation of the deeper ponds and drainage-courses includes a profusion of aquatic plants surrounded by a dense growth of willows and pond-apple trees. The small “islands” exhibit dense, low, tangled forest groves composed of the relatively few tree species that are adapted to low, swampy sites overlying deep deposits of peat. In contrast, hardwood hammocks contain a greater variety of trees that form a dense, subtropical “jungle” with tall trees and a profusion of ferns, vines, epiphytic orchids and bromeliads. More than 750 native plant species have been found within the wilderness area, including an astonishing 39 orchid and 120 tree species. Fifty-nine of the plant species within the wilderness are considered to be critically imperiled in South Florida.

The sawgrass prairie dominates the landscape, but it encompasses only one of the many diverse ecosystems found within this wilderness. Centrally located within the wilderness is a relatively small and increasingly rare ecosystem composed of pine vegetation. This area, known as Long Pine Key, preserves the chief surviving example in southern Florida of pine rockland and its slash-pine vegetation type. Most other examples outside of the wilderness have been destroyed

and replaced as a result of human dominance over the landscape. The importance of fire in the preservation of this vegetation type is critical.

Along the western and southern fringes of the South Florida coastline, where the fresh water becomes brackish, lies the largest mangrove ecosystem in the Western Hemisphere. The coastline is cut by islands and estuaries where, in the words of President Truman, “deep rivers, giant groves of colorful mangrove trees, prairie marshes and innumerable lakes and streams” can be found. This area supports a variety of fish and wildlife, including the endangered small tooth saw fish, which is totally dependent upon the aquatic medium of these fresh-to-brackish waters.

To the west, beyond the mangroves are the open waters of the Gulf of Mexico. To the south is the broad expanse of Florida Bay, with its numerous and scattered keys, extensive seagrass meadows, mud banks, and basins. The bay is a shallow depression from less than one foot to no more than 10 feet in depth. Given the shallow waters and the profusion of motorboat use above the submerged marine land wilderness, seagrass scarring from vessel groundings is a continuous threat to this resource. While not included in the wilderness designation, the water column, in combination with the submerged vegetation in this warm, favorable environment, produces food for a large and diverse population of fish and birds. The shallow grass-and-mud banks are submerged at high tide to a depth of about 2 feet. However, during low tide, some are partially exposed, providing a primary feeding ground for certain wading birds, as well as pelicans, eagles, and ospreys. The keys of Florida Bay are low islands, usually ringed with mangrove trees and supporting a variety of tropical hardwoods, shrubs, and grasses within their interior. Many species of birds utilize the various keys for roosting and nesting.

Though unique and diverse, the Marjory Stoneman Douglas Wilderness faces a number of threats, both internal and external, that diminish the Natural Quality of wilderness character. The composition of natural communities within the wilderness is threatened by a long-term disruption of the natural fire regime, as well as an abundant variety of nonnative plants and animals. The continued presence of such invasive species as the Burmese python and melaleuca (Australian paperbark tree) severely alters the structure and function of the ecosystem. Major changes to the hydrologic regime of the park, beginning more than 100 years ago, are the result of the construction of a vast and effective system of canals, levees, weirs, and pumps located outside park boundaries. This water management system provides flood protection and water supply to the agricultural and urban areas of South Florida. However, disruption of the quality, quantity, timing, and duration of water within the wilderness has had dramatic and lasting effects upon the landscape’s form, function, and species composition, on both small and large scales. Some of these changes have resulted in the risk of losing valuable species, such as the Cape Sable seaside sparrow. Vegetation loss has occurred in Florida Bay, where many annual boat grounding and propeller-scarring incidents from motorboat use and increased salinity from diminished freshwater flows has damaged seagrass beds in submerged marine land wilderness. In the coming decades, the large-scale threats imposed by climate change and sea-level rise also have the potential to reshape the wilderness as we know it.

The importance of this environment cannot be denied. It is extremely dynamic by nature and not intended to be frozen as a static landscape. This dynamism, including the striking contrasts of land and sea, fresh water and saltwater, excess rainfall and drought, fire and the absence of

fire, stormy weather and calm weather, has created an environment both fascinating and beautiful.

Undeveloped

As the largest designated wilderness area east of the Rocky Mountains, the Marjory Stoneman Douglas Wilderness has the appearance and feel of an undeveloped wilderness landscape, a place “where man himself is a visitor who does not remain” (Wilderness Act of 1964). Sweeping views across the Everglades are largely unobstructed by human developments, allowing spectacular sights of the region’s unique flora and fauna. The southern portion of the park is dotted with remote keys, few of which have experienced modern development. The interior reaches of the wilderness are largely inaccessible, deterring the desire and feasibility of any form of modern improvement.

When compared to adjacent lands to the east, there is a stark contrast between the wilderness boundary and the sprawling urbanization and development which saturates the area. This contrast makes the undeveloped landscape that much more apparent to the casual observer. Historic development within the modern wilderness boundary was largely prevented by the vast shallow waters and extreme weather characteristic of the region. However, some pre-designation developmental traces do exist, including hunting camps and inholdings within the East Everglades Addition, areas of past agricultural activity, and canals constructed in the early twentieth century. The canals, particularly those on Cape Sable, pose difficult management issues with regards to preserving wilderness character, and have resulted in the construction of artificial plugs designed to assist in the preservation of the Natural Quality.

For the most part, agency authorized actions within the wilderness that impact the Undeveloped Quality take one of two forms—installations and use of motorized equipment (including airboats and landing of aircraft such as helicopters). The use of these measures, although generally prohibited by section 4c of the Wilderness Act, is largely owing to a paradox inherent in the preservation of wilderness character. Installations that support scientific inquiries or park communications degrade the Undeveloped Quality but also provide information that is essential in protecting and enhancing the Natural Quality. The data gained from many scientific installations are often the best available indicator of the condition of the Natural Quality. This is particularly true of data collected in connection with ongoing environmental restoration efforts in South Florida. Data collected for this purpose are crucial to park management when negotiating with stakeholders at the landscape level, many of whom have priorities that differ from the park’s goal of enhancing the Natural Quality. Furthermore, because of the expansive nature of the wilderness, combined with its extreme environmental conditions, much of the wilderness is inaccessible by traditional means within the requisite constraints of most data collection efforts. This has led to continued large-scale use and landing of helicopters within the wilderness. Airboats are also extensively used primarily along existing trails, although off-trail use may be permitted in some circumstances. This leads to the creation and perpetuation of features that could be considered equivalent to temporary roads. Other forms of temporary roads can be found in the Long Pine Key area where fire breaks form a network of paths throughout the area.

Limited infrastructure can also be found within the marine environs of the wilderness. Through the special designation of submerged marine land wilderness, Congress authorized the continued use of motorboats within the waters that overlie these lands. Dredged channels and various aids to navigation facilitate safe boating operations within these areas and reduce the occurrence and spread of resource damage from grounding impacts because of the shallow waters of Florida Bay, Ten Thousand Islands, and mangrove backcountry areas inland from the Gulf of Mexico. Similarly, hiking and canoe trails in other portions of the wilderness are periodically cleared and utilize small markers to accomplish similar goals.

On balance, the individual installations that occur within this wilderness are generally small and largely unnoticeable. While helicopter use often pervades the wilderness, its effects are typically isolated and short-lived. As long as the restoration effort is ongoing in South Florida, impacts upon the Undeveloped Quality can be expected. These impacts are generally acceptable in the short term so long as managers strive to minimize the threat imposed by cumulative impacts.

Solitude or Primitive and Unconfined Recreation

The ecological diversity of the Marjory Stoneman Douglas Wilderness provides an equally diverse array of recreational opportunities. Visitors to this wilderness can experience solitude, a deep connection with nature, discovery, revitalization, freedom from the pressures of society, or personal challenge and self-reliance. When delivering the invocation at the dedication ceremony for the park, Deaconess Harriett Bedell referred to this area as “a haven not only for the wild life, but where [visitors] may find the beauties and peace of nature—where they may go apart from the hurry and anxieties of this life.” More than one million visitors visit Everglades National Park annually, but the vast majority never leave the few access roads or developed trails within the park to enter the wilderness.

Located adjacent to the sprawling Miami metropolis and within two hours of many other municipalities, the perimeter of the wilderness is widely accessible, and experiences can vary as much as the visitor themselves. This is a particularly challenging environment for self-reliant recreation, and it provides a unique blend of risks and hazards that contribute to the wilderness experience. Hiking and “slogging” opportunities are boundless. Visitors can depart the road constrained only by the challenges of the wilderness environment itself, including jagged pinnacle rock, deep peat, dense vegetation, and perilous wildlife—all while being surrounded by and immersed in water. Likewise, there are nearly endless opportunities for unconfined paddling. Marked canoe trails do exist, but visitors are not restricted to their confines and may explore at their leisure. Paddling coastal areas among the mangroves can provide some of the richest experiences found in this wilderness.

Although paddlers may choose to spend the night in their watercraft, primitive camping is generally limited to designated backcountry campsites to preserve the Natural Quality. These sites also require a backcountry camping permit to resolve capacity issues. Primitive campsites include beach and other ground sites, but the most numerous sites come in the form of elevated camping platforms strategically placed throughout the submerged marine wilderness areas. Elevated camping platforms constitute visitor use facilities in wilderness, but their use is justified by two considerations. First, this watery wilderness is expansive; fully accessing it by primitive forms of transportation would not be possible without high and dry waypoints at which to stop

for the night. Second, much of the coastline is dominated by mangroves. These areas are not suitable for ground camping and clearing them for that purpose would significantly impact both the Natural and Untrammeled Qualities.

Backcountry camping provides opportunities to experience a side of the wilderness that cannot be encountered during daylight hours. In contrast to urbanized areas in which many visitors reside, the wilderness provides relatively clear viewing of the night sky with little haze and light pollution that plagues many cities. For those who rarely depart metropolitan confines, the enormity and stark contrast of the night sky can be striking. Furthermore, the nighttime soundscape provides an eclectic array of chirps, croaks, grunts, and bellows that can be both fascinating and eerie in the absence of light. With morning comes the sunrise and the dance of color low across the vast horizon, rejuvenating the day as well as any who observe it. These settings provide an opportunity for self-reflection and can lead to revelations regarding significance and self-worth.

Visitors will find ample opportunities to experience solitude when recreating in this wilderness. If they so wish, they can lose themselves in the vastness, avoiding contact with others for days at a time. Here visitors have the opportunity to commune with nature on a fundamental level unlike anywhere else. Whether secluded in a hardwood hammock as a flock of wading birds flies low overhead, every beat of their wings heard on the wind, or drifting along surrounded by a tangle of mangrove trees consumed by the tranquil sounds of nature, this wilderness provides settings that allow the burdens of everyday life to fade away. Visitors can return home with a refreshed spirit and a greater appreciation of the majesty and beauty that lies within this wilderness.

Even so, visitors will almost certainly encounter some actions and practices that diminish this quality. Reminders of modern civilization (e.g., installations, structures, use of motorized equipment, landing of aircraft) affect the setting visitors associate with the wilderness, regardless of the utility these tools have for preserving other elements of wilderness character. The visual and auditory presence of motorboats, although allowed above the submerged marine land wilderness, influences the wilderness setting, as does the occurrence of routine aircraft overflights and specialized helicopter operations, which are typically authorized for research and monitoring. Airboat use for research, monitoring, law enforcement, and recreation (the latter limited to portions of the East Everglades Addition) also impacts opportunities for solitude. The impacts of these motorized activities can be difficult to ignore. Likewise, elevated camping platforms affect both the natural setting and recreational experience, despite having become part of the Everglades culture and an expected part of the visitor experience. The very duality of this quality (i.e., solitude and primitive/unconfined recreation) can often be at odds. Wilderness camping permits and designated campsites impose a confinement upon recreation but help facilitate opportunities for solitude. Appropriate management of this quality, as with the other qualities, requires a delicate balance of action and restraint.

Other Features of Value

Indigenous people have interacted with and shaped this landscape for more than 5,000 years. The earliest known human occupation within this area took place on interior tree islands and hardwood hammocks. In the Ten Thousand Islands region, humans constructed many of

today's land-based islands from shell debris, primarily oyster shells. Over time, the accumulation of debris (shell and soil middens) as well as the intentional construction of raised platforms, ridges, high mounds, crescents, canals, and inundated courtyards have significantly altered the topography of these locations. These human-constructed landscape elements support numerous plant and animal habitats, which could not exist in their current numbers and locations without the agency of Indigenous people.

The Mud Lake Canal on Cape Sable is an aboriginal canal potentially constructed as early as 1,250 years ago by ancestors of the Tequesta people and is associated with the Bear Lake Mound district. The canal extends about four miles, linking Bear Lake and the waters of Whitewater Bay with Florida Bay. The prehistoric canal likely provided safer navigation passage, easy access to aquatic resources, and a route to facilitate exchange and tribute among groups. The canal was designated a National Historic Landmark in 2006, exhibiting exceptional national significance as the best-preserved example of a rare prehistoric engineering feature.

More recently, human interaction with the wilderness includes exploration and recreation; resource extraction; agricultural undertakings; homesteading; engineered canals; military excursions (with associated development of camps and forts); large-scale hydrological modifications and ecological restoration. It is noteworthy that the remains of the thousands of people who lived and died in the wilderness are still present in burial mounds, cemeteries, and burial grounds. Human presence upon this landscape is integral to fully understanding and defining this wilderness.

Up to the establishment of the Everglades National Park in 1947, Indigenous people who identify today with the Miccosukee Tribe of Indians of Florida, Seminole Tribe of Florida, Seminole Nation of Oklahoma, Council of the Original Miccosukee Simanolee Nation Aboriginal Peoples, and Independents were living in camps and practicing traditional activities. After establishment of the park, there was a decline in Indigenous peoples' presence, but traditional activities continue into the present. These traditions included arts, crafts, social institutions, hunting, fishing, gathering plants, practicing religious ceremonies and burying their dead in the wilderness. The land and resources comprising the wilderness are linked to their cultural practices and beliefs. To Indigenous people the landscape holds deeply embedded heritage values important in maintaining and continuing the group's cultural identity.

Based upon documented activities within the wilderness, historical archeological resources include fishing and hunting camps, fish processing facilities and ice plants, tannic acid plants, charcoal production sites, road construction camps, military outposts, sugar cane mill sites, farmsteads, private recreational development, homesteads, ecological restoration, and oil exploration sites. Archeological features associated with historic sites include the remnants of houses, outbuildings, cisterns, and gardens. Associated artifacts commonly include ceramic and glass fragments, metal hardware, tools, and personal items. The location, integrity, and cultural significance of most of these historic archeological resources are currently unknown.

In the early 1900s, canals were constructed as part of the draining of the landscape for agricultural purposes and permanent settlement of the area. These canals were plugged in the 1950s and 1960s as part of the ecological restoration of the wilderness environment.

In East Everglades, several hunting camps (including bunkhouses, sheds, outhouses, and other features) are present on interior tree islands and hardwood hammocks. One example is Duck Camp, constructed around 1950, which was formerly used by the Miami Rod and Gun Club.

Threats to other cultural resources that contribute to this quality include weathering, vandalism, sea level rise, and park management actions, including those associated with Everglades restoration.

OVERVIEW OF NATURAL RESOURCES AT EVERGLADES NATIONAL PARK

Freshwater Resources

Hydrology

The Everglades once covered nearly 4,000 square miles, from Lake Okeechobee to Florida Bay and the Gulf of Mexico (NPS 2010). The original Everglades were a flow-way, where shallow water derived from direct rainwater and from wet season overflows from Lake Okeechobee moved southward as sheet flow, not channelized flow as in rivers and streams. The historic Everglades were part of a much larger drainage system, originating in south-central Florida in what is now known as the Upper Chain of Lakes near Kissimmee, Florida. The lake system formed the headwaters of the Kissimmee River, a 100-mile-long, meandering, low-gradient river that emptied into Lake Okeechobee. The lake, much larger than its present-day surface area of 675 square miles, would spill over its southern rim during high-water events into the northern part of the Everglades, dominated by vast sawgrass plains. Eventually, the southward movement of water through the sawgrass plains formed the source of water for the ridge and slough landscape.

The central feature of the pre-drainage Everglades hydrology was a 30-mile-wide expanse of relatively shallow water moving downstream through the low-gradient wetland landscape (NPS 2010). The pattern of water flow was remarkable for its regional uniformity across such a broad expanse and for the absence of any central drainage channel or of any dendritic drainage pattern. Pine flatwoods formed most of the eastern boundary of this flow, and the western boundary was defined by the Immokalee Rise and the relatively higher wetlands and uplands of what is now the Big Cypress National Preserve. Much of the flow discharged south and west through Shark River Slough, through the mangrove estuaries of the southwestern coast, into the Gulf of Mexico. A portion of the flow was discharged through coastal rivers eastward into Biscayne Bay and the Atlantic Ocean. The remainder of the flow discharged southward through Taylor Slough into Florida Bay. Topography throughout Everglades National Park is characterized by low elevation and broad areas of very low relief (less than 10 feet above sea level) (NPS 2015a). This places the entire park within the 100-year floodplain.

Shark River Slough, the largest slough in the Everglades, supplies fresh water to the southern portion of the greater Everglades system. Shark River Slough is a ridge-slough system that flows in a southwesterly direction toward Whitewater Bay and the Gulf Coast (Redwine et al. 2019). The slough width varies from 9 to 17 miles, with a flow gradient of only 2 to 3 inches per mile (NPS 2010a; Olmsted and Armentano 1997). Shark River Slough includes marshes, tree islands, and ponds; it supports important populations of freshwater fishes, reptiles, and birds. As the

slough reaches the southwestern portions of the park, it gradually disperses into a complex web of small streams that form the coastal mangrove estuaries (Olmsted and Armentano 1997).

Taylor Slough provides the main flows in the eastern portions of Everglades National Park. The headwaters of the slough originate in the Rocky Glades, which forms the hydrologic divide between Shark Slough and Taylor Slough (NPS 1993). Although Taylor Slough is smaller than Shark River Slough, Taylor Slough flows are a critical component of park hydrology. This drainage is the primary source of freshwater flows into the northeastern portions of Florida Bay. Taylor Slough's current flows are reduced from historic conditions but have increased over the past 10 years as a result of restoration efforts and continue to provide important habitat for Everglades plant and animal communities.

The greater Everglades ecosystem has been largely impacted by the multitude of infrastructure projects in South Florida over the last 150 years, which included a series of canals, levees, and other drainage systems that were constructed to drain the landscape for development, as well as the construction of new roadways. The effects of the water management system on the ecological systems of southern Florida are well documented (e.g., Mitchell and Johnson 2013; NPS 2010a; Redwine et al. 2019). Direct effects on the park's hydrology include the disruption or elimination of overland sheet flows, changes in the location and timing of flows, and permanent flooding in some areas and permanent drainage of others (NPS 2015a). During the period from 1980 to 2013, 77% of the total Shark River Slough flow distribution was delivered to West Shark Slough and 23% to Northeast Shark River Slough; the target is for 55% of flows to come through Northeast Shark River Slough (Redwine et al. 2019). From 1980 to 2013, the target for the total annual volume of water delivered to Northeast Shark River Slough was met only one time; flow to Northeast Shark River Slough was generally less than half the target (Redwine et al. 2019).

The Central Everglades Restoration Plan consists of a variety of projects that focus on restoration of the Everglades on a widescale ecological basis. These projects are expected to increase water delivery to Everglades National Park, which elevates concerns of additional flooding in low-lying visitor use areas but also is anticipated to restore historical hydrology to much of the previously impacted regions of Everglades National Park. The total inflow into Everglades National Park for water year (WY) 2023 (May 1, 2022, to April 30, 2023) was 1,735 thousand acre-feet, 162% of the historical average (SFWMD 2024). From June 2022 to April 2023, the monthly inflows into the park for each month were higher than the monthly historical average (SFWMD 2024a). Following trends exhibited by the previous two water years (WY2021–WY2022), dry season water levels in Taylor Slough for WY2023 were elevated compared to water levels before the Florida Bay Initiative (WY2001–WY2016) (SFWMD 2024). The Taylor Slough Flow Improvement Project, completed in 2023, will increase the flow of clean, fresh water through Taylor Slough into Florida Bay, where it is needed to balance salinity levels and promote ecological health. Recently completed and ongoing projects such as the Tamiami Trail Next Steps project will improve water conveyance into the Northeast Shark River Slough area of Everglades National Park and improve the marsh connectivity and sheet flow between Water Conservation Area 3A/3B and the park. Since the implementation of the Combined Operations Plan Water Control Plan in 2020, water levels in Northeast Shark River Slough have started every water year well above the historic daily median (SFWMD 2024).

Water Quality

Before regional urban and agricultural development, South Florida waters were low in nutrients (oligotrophic) such as nitrogen and phosphorus (NPS 2015a). Historically, phosphorus content was approximately 10 parts per billion ($\mu\text{g/L}$) or less (Lodge 2005 in NPS 2015a). The water was also generally highly oxygenated and ranged from “soft” (low in dissolved minerals) and slightly acidic in peat-dominated areas to “hard” (high in dissolved minerals, especially calcium) and alkaline, where it came into contact with limestone bedrock such as in southern portions of the Everglades (Noe et al. 2001). Today, water quality in some parts of the Everglades ecosystem is dramatically different than it was before 1900. Surface water entering the park is almost completely controlled and having drained from agricultural and developed areas, is periodically laden with nutrients, dissolved solids, and trace amounts of pesticides and herbicides (NPS 2015a).

Phosphorus and nitrogen are essential to the existence and growth of aquatic organisms in surface waters. The Everglades Protection Area and, to a larger extent, the Everglades ecosystem, is a phosphorus-limited system (Noe et al. 2001). The native flora and fauna in the Everglades are adapted to nutrient poor conditions; therefore, relatively small additions of nutrients, especially phosphorus, have dramatic effects on the ecosystem. Average phosphorus content at discharge structures in the 1980s and 1990s was 0.1 to 0.25 milligrams/liter, representing a 10-fold increase from historical levels (NPS 2015a). Over the past several federal water years, total phosphorous flow-weighted mean concentrations for Shark River Slough have begun to approach the long-term target of 8 $\mu\text{g/L}$ (although the limit varies seasonally depending on flow conditions), with a long-term average (5 year) between 8.4 and 9.3 $\mu\text{g/L}$ (SFWMD 2024). Inflows to Taylor Slough and Coastal Basins are consistently below the limit and achieving the long-term target concentration of 6 $\mu\text{g/L}$ with 5-year average mean concentrations of less than 6.0 $\mu\text{g/L}$ (SFWMD 2024).

Sulfur is an essential plant macronutrient (Bellinger and Van Mooy 2012) that enters the Everglades ecosystem primarily as sulfate (Orem et al. 2011) from various sources, including the oxidation of peat soil, fertilizer application, atmospheric deposition, and groundwater. Inflow and interior annual mean sulfate concentrations from WY1979 to WY2023 had a statistically significant decline. Annual mean sulfate concentrations at inflow stations and interior stations were 5.5 mg/L and 2.0, respectively, in WY2023, compared to a mean of 17.4 (inflow) and 9.0 (interior) from 1979 to 1993 (SFWMD 2024).

Surface water pesticide data are typically collected biannually for most monitoring locations within the Everglades Protected Area pesticide monitoring network. During WY2023, 10 pesticides or pesticide breakdown products were detected at concentrations above their respective method detection limits in Everglades National Park (SFWMD 2024).

Wetlands

Everglades National Park is predominantly a wetland environment. The classification system used by the National Park Service was created by Cowardin et al. (1979). The most common wetland classifications in the park are the freshwater emergent wetland, freshwater-forested and shrub wetland, estuarine and marine wetland, and estuarine and marine deep waters (USFWS 2004a). The location and extent of these wetland types is determined by the period and depth of

flooding, whether the water is fresh or saline, the degree to which soils have developed specific hydrologic characteristics, and the vegetation community present. For general description of park plant communities, see the “Vegetation” section below, with additional details in the park’s general management plan (NPS 2015a), natural resources condition assessment (Redwine et al. 2019), and vegetation report (Ruiz et al. 2021).

Vegetation

Everglades National Park contains a wide diversity of plants and plant communities that are distinctive in the continental United States and on a global scale. Ground surface elevations in the park range from at or below sea level near the coast to 14.1 feet (4.3 meters) in interior forests and tree islands (Redwine et al. 2019). Vegetation communities are arranged along this narrow elevation gradient, where elevational differences in millimeters not only determine inundation frequency and duration, but also the vegetation community type (Redwine et al. 2019).

The Everglades National Park vegetation mapping project (Ruiz et al. 2021) produced a spatially and thematically accurate terrestrial vegetation map covering an area of 1.108 million acres. Acreage for the five level 1 vegetation classes based on dominant physical structure are summarized below:

- Forested communities account for 18% (172,100 acres) of the terrestrial park area and are the second most dominant community types found on land. Forest types include mangrove forest, swamp forest, cypress forest, and hardwood hammocks.
- Woodland communities account for only 2.3% (21,977 acres) of the total terrestrial area. Woodland types consist of mangrove woodlands, pine woodlands, swamp woodlands, and upland hardwood/palm woodlands. Pine woodlands, consisting primarily of pine rocklands, are the dominant woodland community type mapped.
- Shrubland communities account for 12.8% (121,835 acres) of the total terrestrial area and consist of coastal hardwood shrublands, mangrove shrublands, saw palmetto shrublands, swamp shrublands, and tropical hardwood shrublands. Swamp shrublands are the dominant shrubland community type found in the park.
- Scrub and Dune communities account for 17.8% (169,881 acres) of the total terrestrial area mapped and consist of six different scrub communities: cabbage palm upland scrub, coastal hardwood scrub, mangrove scrub, swamp scrub, cypress scrub, saw palmetto scrub, and upland hardwood scrub; and two dune communities: graminoid dune and herbaceous dune.
- Marsh communities account for 48% (460,961 acres) of the total terrestrial area and consist of 10 discrete types: broadleaf emergent marsh, floating emergent marsh, graminoid freshwater marsh, graminoid freshwater prairie, herbaceous freshwater marsh, mixed graminoid-broadleaf freshwater marsh, open freshwater marsh, graminoid salt marsh, open salt marsh, and succulent salt marsh. Graminoid freshwater marshes are the dominant marsh communities mapped.

Acreage and dominant species for vegetation groups within each of the classes are described in detail in Ruiz et al. 2021. Major community types in the Everglades include marine and estuarine communities, mangrove forests, coastal salt marshes, coastal prairies, cypress swamps, freshwater sloughs, marl prairies, pine rocklands, and hardwood hammocks. The distinguishing characteristics of each habitat are discussed below. This section also reviews the status and impact of invasive nonnative plant species in the park.

Marine and Estuarine Communities

Florida Bay and the offshore portions of the Ten Thousand Islands are the primary marine estuary environments of the park. This marine system has high productivity of plankton and submerged aquatic vegetation but is dominated by relatively few plant species such as seagrasses. Six species of seagrass occur in Florida, three of which are dominant: turtle grass, manatee grass, and shoal grass (Redwine et al. 2019).

Seagrasses are the dominant biological community in Florida Bay and have historically covered more than 90% of the bay; about 7% of the bay is mangrove habitat (Hunt and Nuttle 2007 in Redwine et al. 2019). The seagrass communities usually occur as monocultures or as a mixture of species, appearing as vast meadows on the shallow bottom. Submerged aquatic vegetation communities are an important indicator of ecosystem health because they provide key ecological services, including sediment stabilization, nutrient cycling, and food resources for upper trophic levels, and they provide habitat structure that enhances local biodiversity (Orth et al. 2006 in Redwine et al. 2019). Local variations in salinity, water quality, and sediment properties can produce changes in seagrass populations. Like terrestrial grasslands, these marine meadows support a diverse community of other organisms.

Florida Bay benthic vegetation sampling following the 2015 seagrass die-off and declining water quality after Hurricane Irma in 2017 show that a long-term successional recovery of seagrass is occurring; increases in early-successional seagrass species shoal grass and manatee grass were observed in several basins affected by the die-off, with manatee grass cover abundance nearly doubling since 2019 (SFWMD 2024). However, seagrass community recovery has been spatially variable, especially in western Florida Bay, where sediment resuspension and microalgal blooms were observed coincidentally with slowed increases in the climax seagrass turtle grass and transient increases in macroalgal species (SFWMD 2024).

Mangrove Forests

Mangrove forests develop in coastal areas and are subject to regular or sometimes only occasional tidal flushing, which produces elevated soil salinity. Each mangrove species has a different level of salt tolerance, which in part determines its location within the tidal zone. Mangroves grow best where wave energy is low and freshwater runoff contributes nutrients and helps maintain optimum salinity levels. As a transition zone from land to sea, mangroves serve important ecosystem functions in shore stabilization and nutrient cycling. Mangrove forests also provide foraging and nesting sites for wading birds and nursery habitat for pink shrimp and numerous other fish (Browder and Robblee 2009; NPS 2024a).

In Everglades National Park, mangrove forests extend from the shores of Florida Bay, westward along the coastline, to the northwestern region of the park in the Ten Thousand Islands. Where

the forest canopy has been opened, a mosaic of other plant communities may appear. Patches of salt marsh, salt-tolerant prairie, hardwood hammock, and submerged aquatic vegetation can be found dispersed throughout the forests (USFWS 1999h in NPS 2015a). Invasive species, including Brazilian pepper, and Old World climbing fern form stands in some transition zones between mangrove forests and the prairies of Everglades National Park, and prescribed fire may be an effective tool in managing invasions before they spread to mangrove forests (NPS 2015b). Fire is extremely rare in mangrove forests, while the adjacent coastal prairie ecosystem experiences fire.

Coastal Salt Marshes

Florida's coastal salt marshes develop where land meets the sea in intertidal zones that are at least occasionally inundated with seawater. Because mangrove forests dominate the coastal zones of the park, salt marshes are generally confined to seaward and landward fringes of the mangroves. They occur in areas of low wave energy where the mangroves are not dense enough to create heavy shade.

Coastal salt marshes have both terrestrial and marine characteristics. These communities have been described as periodically flooded grassland. The vegetation consists of nonwoody, salt-tolerant plants that can adapt to the harsh conditions of high tidal exchange and freshwater inflows. Vegetation is often a combination of glasswort, saltwort, salt grass, sea purslane, and sea lavender. Narrow strips of smooth cordgrass occur seaward of some red mangroves, with strips of black needlerush on the landward side.

Despite the appearance of terrestrial plant species, the soils beneath these communities are generally anaerobic, a condition associated with mangrove forests and marine environments. These benthic soils support marine microalgae and phytoplankton, simple plants that provide the basis for a food web that sustains a myriad of crabs and snails.

Coastal Lowland / Coastal Prairie

Coastal prairies occur in saline-brackish zones on the western portion of Everglades National Park, adjacent to Florida Bay. The vegetation of this habitat is characterized by salt-tolerant herbaceous vegetation and shrubs that can withstand saltwater inundation from tropical storms and saltwater intrusion during droughts. Dominant plants are grasses, succulents, and other relatively low-growing plants that can withstand these harsh conditions (Ruiz et al. 2021).

Common nonwoody species of the coastal prairie include West Indian bluestem, saltwort, glasswort, and sea oats. Shrubs of the system are sea grape, Jamaica dogwood, and lantana. This system is considered relatively low in productivity and does not promote formation of peat soils as do the nearby mangrove forests (Johnson and Barbour 1990 in NPS 2015a).

Coastal prairie communities are a long-term landscape that are sometimes established after tropical storms have inundated coastal forests, depositing sediment and killing the mangroves and buttonwood species (NPS 2015a). Once halophytic (salt-tolerant or salt-loving) grasses and shrubs have established, they seem to have the ability to repress recruitment of tree species, creating a stable prairie within the mangrove forest (NPS 2015a).

Cypress

“Cypress swamps” are the most common and widespread of the stillwater swamps. Cypress is a deciduous conifer that can survive in standing water. These trees often grow in one of three distinct formations, which include domes, strands, or sparse dwarf cypress. Cypress domes, with larger trees in the center and smaller trees on the periphery, are commonly found around solution holes. Cypress strands occur where the cypress trees grow in an elongate and linear shape that is parallel to the flow of water. Fires may burn the edges of cypress domes and strands, with the centers burning infrequently. This pattern of fire is thought to maintain cypress dominance by preventing hardwood invasion (NPS 2015b). In less-favorable growing conditions, stunted cypress trees, called dwarf cypress, grow on drier land (NPS 2015b), often scattered within fire adapted prairies.

Freshwater Sloughs

Freshwater sloughs (channels), found throughout the park, are inundated year-round and contain a variety of wetland habitats. The gradual changes in elevation and hydrology within the slough determine the community type, and the landscape varies as these conditions change. Slough channels are dominated by vast stretches of sawgrass, a rhizomatous perennial sedge, with some 14 other species found in this association. The sawgrass marsh transitions to spikerush and maidencane marshes, as subtle changes in substrate, hydrology, and elevation dictate. Sawgrass stands in the Everglades comprise 65% to 70% of the total freshwater slough vegetation cover (SFWMD 1999 in NPS 2015a).

Sawgrass communities range from a sparse 15% ground cover to dense tall sawgrass stands that provide more than 90% ground cover. Sparse sawgrass stands are the most extensive in the slough environment, and these stands have relatively low species diversity, including common spikerush and various periphyton and macrophyte species. With subtle changes in hydrology, elevation, and substrate, sawgrass marshes transition to wet prairies with a greater variety of grass-like plants. Wet prairies over peat include beaksedge, blue maidencane, and spikerush. Wet prairies over marl (a mixture of clay and calcium derived from the underlying limestone) occur in the southern Everglades on the east and west margins of Shark River Slough and Taylor Slough, where bedrock elevations are slightly higher and hydroperiods are shorter (Olmsted and Armentano 1997).

Elevated sites in the sloughs support a variety of tree islands or hammocks (Redwine et al. 2019). Tree islands develop on slightly elevated limestone outcrops in the sloughs and marshes. Four different tree communities are found on the islands: hardwood hammocks, willowhead, bayhead, and swamp forest.

The major species of slough hardwood hammocks are gumbo limbo, hackberry, white stopper, and cabbage palm. Bayheads, which occur in the midsections of tree islands, are closed-canopy forests consisting of species such as swamp bay, red bay, sweet bay, dahoon holly, willow, wax myrtle, cocoplum, and pondapple (Ruiz et al. 2021). The swamp forest species composition is very similar to that of the bayheads, but this community generally occurs at the downstream end of tree islands, with hardwood hammocks occupying the upstream end. The condition of the ridge-slough-tree island varies across the regions of the park (Redwine et al. 2019).

Marl Prairies

Marl prairies (Short hydroperiod prairie) are named for the shallow marl soils on which they occur. Periphyton, comprised of algae, bacteria, and other associated microorganisms, is a characteristic and important component of this community (Gunderson 1986; McPherson 2008). Marl prairies typically occur on the periphery of sawgrass marshes and pine rockland habitats and in the finger glades in the pine rocklands (FNAI 2010). Dwarf cypress (*Taxodium* spp.) is found in some marl prairies and not in others; the reason for this is unknown (FNAI 2010). Marl prairies are a diverse community that may contain approximately 200 species. The majority of vegetation is generally less than 3.3 feet in height, and dominant species may include muhly grass, beak rushes, Florida bluestem, black bogrush, and sawgrass (Ruiz et al. 2021). Hydroperiods are short, with seasonal flooding for approximately two to seven months per year, resulting in the seasonal drying of soils (Ruiz et al. 2021). Longer hydroperiods push the system towards sawgrass dominated prairies with organic soil buildup (NPS 2015b).

Pinelands

Pinelands in South Florida are variously known as pine woodlands, pine flatwoods, pine barrens, and rockland pines (USFWS 1999h in NPS 2015a). Rockland pine forests in South Florida occur on elevated sites with thin soils, atop limestone bedrock ridges and outcroppings. These elevation peaks vary from feet to inches higher than the surrounding lowlands, resulting in varying inundation periods (Snyder et al. 1990). Within the pinelands are a series of transverse glades, marl prairies lower in elevation than the pinelands, which sometimes hold water in the wet season. The pine rockland community is maintained by regular fire, and prescribed fire must be periodically introduced to prevent succession to hardwood hammock, sustain community structure, and maintain the high herbaceous diversity (NPS 2015b).

These islands of pine forest are dominated by a lone canopy species—the South Florida variety of slash pine. These pines are tall and slender, reaching as much as 60 feet in height. Trees may reach a diameter of about 12 inches, but most individuals are much smaller. The pines are widely spaced, leaving an open understory with room for hardy plants that can withstand the shallow soils and periodic drought conditions. The shrubs of the community include cabbage palm, saw palmetto, wax myrtle, strangler fig, and willow bustic. If the shrubs leave room for sunlight to reach the soil, an herbaceous layer will occupy the open spaces. Representatives include angadenia, pineland clustervine, firegrass, and coontie. At least one member of the ancient cycad plant family is also found in the pineland community.

Pinelands were once common along the Miami Ridge, at the eastern edge of the park, but are now the rarest of all South Florida communities and are considered a globally imperiled habitat type. They were the first areas in South Florida to be settled and developed, and they were intensively logged up to the 1940s.

Hardwood Hammocks

The upland hardwood forests of Everglades National Park cover the smallest area of any habitat type and are locally called “hardwood hammocks” or “tree islands.” They occur on the highest elevation sites in the park and on bedrock outcroppings with limited soil development, and they are rarely inundated. Hammocks are relatively small patches of broad-leafed forest surrounded

by other vegetation habitats (Ruiz et al. 2021). Hardwood hammocks cover approximately 5,438 acres of the park (Ruiz et al. 2021).

These tiny forest communities are dominated by hardwoods from both temperate and tropical origins and by native palm trees (Olmsted and Armentano 1997; Ruiz et al. 2021). The overstory species within the Everglades hardwood hammock include gumbo limbo, mastic, live oak, and willow bastic. The tallest trees in the hammock reach 30 to 45 feet. Beneath this canopy is an environment of low light and moderated humidity and temperature. Thus, the interior of an undisturbed hammock supports few shrubs and is notably deficient in herbaceous ground cover (Olmsted and Armentano 1997).

Nonnative and Invasive Plant Species

National Park Service botanists identified approximately 270 nonnative plant species at various infestation levels currently occupying areas in Everglades National Park (NPS 2022). While many of these nonnative species pose lesser impacts on the Everglades biotic community, some plant species have already substantially altered the wilderness landscape and habitats. Of the 270 nonnative plants identified in the park, five nonnative plant species, including Australian pine, Old World climbing, melaleuca, Brazilian pepper, and shoebutton ardisia, have been identified as a high priority for Everglades National Park staff to manage.

The park's Invasive Vegetation Management Program directs limited resources to the treatment of those invasive species where management actions have the greatest likelihood of achieving the desired state. Available funding, current treatment technologies, and the biology, distribution, and accessibility of the particular invasive species (among other considerations) influence how park management prioritizes which species are treated. As of 2019, the number of acres infested by melaleuca and Brazilian pepper was decreasing, but the area of infestation for Old World climbing fern and Brazilian pepper was increasing (Redwine et al. 2019).

The Hole-in-the-Donut area was once privately owned agricultural lands. Past farming practices manipulated the substrate, raising the elevation, shortening the hydroperiod, and adding significant nutrients. The interactions of these factors allowed Brazilian pepper to colonize and dominate all of the previously farmed land and develop into a nearly monotypic Brazilian pepper forest. After the National Park Service acquired the area, the restoration of Hole-in-the-Donut lands was successfully accomplished via the complete removal of the unconsolidated farmed substrate down to undisturbed limestone bedrock. Distinct native species have begun to recolonize areas of Hole-in-the-Donut, including mesic pine community species and marl prairie species (NPS 2021f).

Wildlife

The warm, wet climate and unique habitats in Everglades National Park support more than 40 species of mammals, more than 340 species of birds, 68 species of reptiles (including 27 snakes and 16 turtles), 19 species of amphibians, and a multitude of invertebrate species (Redwine et al. 2019). The text in this section has been updated from the park's general management plan (NPS 2015a).

Upland wildlife. The park's upland habitats range from pine rocklands to hardwood hammocks and coastal prairies. These locations represent the only consistently dry habitats in this marshy system. Most of the truly terrestrial animals in the Everglades, therefore, must use these communities for at least part of the year. Many animals that inhabit the tree islands also use other habitats when water levels are low enough for them to relocate to other areas.

The mammals of the rocklands and hammocks are adaptive creatures, such as raccoon that forage among the trees, the opossum, fox squirrel, marsh rabbits, white-tailed deer, and several species of rodents. The highly endangered Florida panther also uses the cover of the forests to forage and rest.

Pine rocklands and hammocks contain lower densities of birds than the nearby wetland habitats. However, several bird species that inhabit the upland forests also frequent the coastal mangrove habitats (see "Mangrove wildlife" below). The birds of the park's forests forage on the fruit, caterpillars, insects, and small amphibians and reptiles that reside here. Tropical land birds of the forested uplands include the mangrove cuckoo, gray kingbird, smooth-billed ani, Cuban yellow warbler, Antillean nighthawk, the greater Antillean subspecies of the mourning dove, the West Indian cave swallow, and the white-crowned pigeon (NPS 2015a). North American birds common to the area include the red-shouldered hawk, blue-gray gnatcatcher, Carolina wren, pine warbler, and northern cardinal (NPS 2015a).

Reptiles and amphibians in the upland forests can be found on the ground and in the trees. During daylight hours, small lizard-like anoles and geckos, such as the green anole, brown anole, bark anole, and reef gecko, scurry about in search of insects. A nighttime hammock chorus is provided by green and Cuban tree frogs, as well as greenhouse frogs and bufo toads. Forest snakes include the Miami black-headed snake, Florida king snake, black racer, rough green snake, and Burmese pythons. Several of these are nonnative to the area.

Slough and wetland wildlife. Many mammals range between the various wetland habitats and use the resources available in each. The vegetation, tree trunks, canopy, and water provide important cover, food sources, and hydration. The edges of floodplain forests, which provide cover and access to other species in adjacent forest stands, are used by adaptable wildlife such as opossum and white-tailed deer (Ewel 1990 in NPS 2015a). Common terrestrial mammals of river swamps include the southeastern shrew, cotton mouse, and golden mouse. Some mammals commonly observed in sloughs extend their range far beyond the slough edge; the raccoon and Florida panther are known to range throughout most of the park's habitats.

The park wetlands provide important habitat for predatory water birds and raptors. Many of these species prefer cypress savannahs and open marshes for the sparse cover and availability of small fish, amphibians, and reptiles on which they prey. Wood storks and seven heron species, including the great blue heron, are often observed wading through the marsh grasses as they forage. Marshland environments are commonly inhabited by limpkins, white ibises, glossy ibises, and a variety of egrets. Belted kingfishers, anhinga, and double-crested cormorants perch in the trees above sloughs and ponds, searching the water for their meals.

Many birds also congregate in the Everglades for the greater availability of insects and the number of plants bearing fruit and seeds. As a result, the wetlands of the park are also home to at least 14 species of songbirds that breed elsewhere, including the Swainson's warblers and the

common yellowthroat. Slough and marsh habitats are also important foraging and breeding habitats for the swallow-tailed kite and the federally listed endangered Everglade snail kite (Ewel 1990 in NPS 2015a).

Amphibians and reptiles inhabit marsh habitat year-round. Rivers are less-preferred habitat among amphibians and reptiles because of their short floods and occasionally strong flow rates. However, American alligators, aquatic salamanders called “sirens,” striped crayfish snakes, and glossy crayfish snakes can still be found in swamps and marshes (Ewel 1990 in NPS 2015a). Cypress swamps lack understory and are not often used by amphibians and reptiles (except alligators), although still-water swamps are the ideal habitat for all amphibians and frogs because of the wet-dry cycles. Amphibians that occur in the marsh and slough wetlands in the Everglades include the greater siren, Everglades dwarf siren, and several frog species (Lodge 2005).

Freshwater marsh wildlife. Mammals are not very abundant in Florida’s freshwater marshes, and most of those occurring in the marsh habitat are quite small. The representative small marsh mammal is the Florida water rat, which occupies the same niche here that the larger muskrat fills in many North American marshes (Kushlan 1990 in NPS 2015a).

Various bird species reside in freshwater marshes year-round, and many more winter there. Their number and diversity are limited by seasonal high water (Kushlan 1990 in NPS 2015a). The waterbirds most dependent on freshwater marshes are the least bittern, American bittern, green-backed heron, white ibis, glossy ibis, limpkin, king rail, marsh wren, common yellowthroat, red-winged blackbird, and boat-tailed grackle. Several endangered species use the stable, deeply flooded marshes of the Everglades (Kushlan 1990 in NPS 2015a). Wading birds, including wood storks, herons, ibis, and egrets, create mixed-species colonies along the marsh borders as they roost and nest in adjoining forests. Wintering waterfowl, including one species of duck (mottled duck), are uncommon but increasing in the park’s marshes. At least eight waterfowl species live in the Everglades year-round, but the diversity and density of species increases, and may even quadruple, in the winter.

Amphibians and reptiles are abundant in the park’s marshes. They are both predator and prey and provide a chorus of song in the quiet of the park’s night. The park’s most well-known and endemic reptile—the American alligator—is at home in both shallow and deep marshes, creating deep wallows, or alligator holes, in which to hide. Other species common to the marsh include the leopard frog, pig frog, green tree frog, fire-bellied newt, dwarf siren, green water snake, swamp snake, cottonmouth, mud turtle, musk turtle, Florida cooter, and red-bellied turtle (Kushlan 1990 in NPS 2015a).

Salt marsh wildlife. The most common terrestrial mammal to use the salt marsh consistently for both feeding and nesting is the rice rat. Along with raccoons, they are effective egg predators and feed on a variety of bird and reptile eggs in and around the salt marshes. The round-tailed muskrat is also a frequent visitor to the marsh.

Three species of birds are exclusive to salt marshes: clapper rails, long-billed marsh wrens, and seaside sparrows (FWC 2003 in NPS 2015a). These birds use the stems and leaves of salt marsh plants to construct raised nests to avoid all but the highest tides. Other birds that use the marsh for foraging or nesting include the willet, tricolored heron, white ibis, roseate tern, and several species of swallows and wrens (Lodge 2005 in NPS 2015a).

The American crocodile is often found in salt marshes. In addition, salt-tolerant amphibians and reptiles, such as the southern leopard frog and, to a lesser extent, the American alligator, use the salt marshes, as do the diamondback terrapin and salt marsh snake. These species cannot tolerate full-strength seawater and prefer these marshes to the nearby lagoons (Montague and Wiegert 1990 in NPS 2015a).

Mangrove wildlife. Many species of terrestrial mammals depend on the Florida mangrove system for food and shelter, including the raccoon, opossum, river otter, black bear, and striped skunk. The federally listed endangered manatee is commonly sighted in the rivers, canals, and nearshore waters of the mangrove environment (Stith 2006 in NPS 2015a).

Many bird species use mangroves to forage, roost, and nest, including wading birds, shore birds, floating and diving birds, aerial searchers and raptors, and songbirds from northern habitats. Some of these species are also present in the park's hardwood hammocks (see "Upland wildlife" above). The mangrove canopy has traditionally supported large nesting colonies of wood storks, great egrets, colorful roseate spoonbills, and the popular brown pelican.

The reptiles and amphibians of mangrove forests include species found in the park's interior, such as the American alligator and several species of snakes, anoles, and geckos. Alligators are sensitive to saltwater and venture into marine environments only to feed, keeping a freshwater source nearby. The American crocodile is a permanent resident of the ponds and creeks of mangrove estuaries.

Several entities, including South Florida Water Management District, University of Florida, the National Park Service, and Audubon of Florida, track wading bird nesting effort and success. An estimated 24,307 nests were initiated in the Water Conservation Areas and Everglades National Park during 2023, which is just over half (51%) of the decadal average (47,547.3 nests), only 37% of the five-year average (65,516.2 nests), and five times smaller than the banner 2018 nesting season when a record 122,571 nests were produced (SFWMD 2024). The 2023 nesting season ranks toward the low end of the range of annual nesting effort during the past 10 years, and anecdotal evidence from weekly South Florida Water Management District surveys of nesting colonies and foraging flocks suggest that nesting success was relatively poor in 2023 (SFWMD 2024).

Florida Bay wildlife. Florida Bay is a shallow, brackish estuary that contains numerous small islands (keys), seagrass flats, and sandbars. Invertebrates and fishes have historically been abundant in its waters, and the bay also provides excellent habitat for birds, manatees, dolphins, and crocodiles (NPS 2015a). The spotted seatrout, snook, and tarpon are commercially important to both coasts; they inhabit shallow coastal areas such as salt marshes, sand flats, and seagrass beds. Sport fisheries on both coasts depend on the bonefish, tarpon, snook, Florida pompano, mutton snapper, gray snapper, lane snapper, and yellowtail snapper, all of which spend part of their time in inshore marine areas (Livingston 1990 in NPS 2015a). Several sea turtle species occasionally venture into the mangrove estuaries as they forage.

The islands in Florida Bay are important to nesting and roosting bird populations in Florida. Many islands provide roosting and nesting habitat to many birds, including great white herons, great and snowy egrets, white ibises, and roseate spoonbills. Many of the islands are covered

with mangrove trees and hardwoods on the island interior and have little-to-no human activity, which creates ideal breeding sites for several bird species.

Special status species. The park's natural resource condition assessment (Redwine et al. 2019) summarizes the number of species in the park that are listed for special protection by either the State of Florida or the US government. Twenty-six bird species are afforded special protection in one of four categories: species of special concern (16), federally endangered (2), state threatened (3), or federally threatened (5 – one of these, the sandhill crane is listed due to similarity of appearance to the varieties of sandhill cranes that are listed as endangered). Fourteen reptile species have special protection (more than 25% of reptile species in the park) as federally endangered (3), federally threatened (4 + 1 due to similarity of appearance), state threatened (5), or species of special concern (1). Six mammal species are protected (17% of mammals in the park); 5 are federally endangered, and 1 listed threatened by the State of Florida. Two fish species found in the park are listed as species of special concern: the mangrove rivulus and the federally endangered smalltooth sawfish. No amphibians are listed, although there are global concerns about declining amphibian biomass and biodiversity patterns since these organisms are particularly sensitive to aquatic contaminants, fungal infections, and climate change. Three butterflies are listed as federally endangered: Miami blue, Florida leafwing, and Bartram's scrub-hairstreak. Detailed information about the habitat needs of federally listed endangered, threatened, and candidate species are shown in Table 10 of the general management plan (NPS 2015a) and in individual species' recovery plans and status reviews.

Nonnative animals. The following narrative description of nonnative animal species has been excerpted from the park's natural resource condition assessment (Redwine et al. 2019):

The ecological destruction caused by invasive animals is well documented and extensive. The Florida Fish and Wildlife Conservation Commission recognizes the threat that nonnative animal species present to humans and native organisms, and maintains several publicly accessible lists of key animal species that are either prohibited from entry into Florida or allowed conditionally through a permitting process. These lists identify 68 conditionally prohibited species and 721 prohibited species. Burmese pythons and several other large constrictors have been identified as injurious species by the US government under the Lacey Act. The North African python, Argentine tegu, feral hogs, and European starling are known management challenges in the park. Lionfish are an emerging threat to marine areas in the park (and in the region), as are at least 16 other species of nonnative freshwater fish species.

Invasive animals can displace native animal species by eating them, competing with natives for food, destroying native habitat, and/or spreading disease to native organisms. The introduction of top predators such as the Burmese python or the lionfish can have cascading effects throughout the ecosystem, as prey communities shift in density and distribution as a result of novel, intense predation pressure (Salo et al. 2007 in Redwine et al. 2019). While conducting systematic nocturnal road surveys, Dorcas et al. (2012) observed substantial (87%–99%) declines in encounter rates of several species of mammals. Additionally, Dove et al. (2011) identified 25 species of birds from remains of digestive tracts of Burmese pythons collected in Everglades National Park, including 4 species of special concern in Florida and 1 federally endangered species. Invasive animals can also affect habitats through effects on vegetation or soils. When a native species is affected, this can alter how habitats are used, and this can affect

vegetation and/or affect how vegetation responds to other events (like fires, floods, or hurricanes). Altered habitat use by animals can initiate a feedback loop that creates more impacts on native populations over time.

Soils

Most soils in Everglades National Park are geological and biological products that have not had sufficient time to develop into true soils. Marl (calcitic mud), organic matter (peat), sand, and rock outcroppings are the four common substrate types (NPS 2010b).

Marl soils (calcium carbonate mud) are found in areas that are hydrated 2–8 months per year. Three types of marls are identified in the region, and these are differentiated by their average depth (between 15 and 44 inches of marl), color (gray brown or dark brown), and undersurface type (soft or hard limestone) (Redwine et al. 2019). Marl soils can form as a result of the chemical precipitation of calcium from the water column or as a result of weathering of limestones produced by biological properties. These soils were formed in shallow waters with a relatively short period of flooding and, therefore, have high rates of microbial activity and decomposition of organic matter.

Muck (or peat) soils are formed under anaerobic conditions during long periods of flooding, where the volume of decaying plant material exceeds the ability of microbes to decompose it. Once exposed to air, microbe populations increase and decomposition accelerates, leading to soil loss. The major muck types occur either in the main historical flow path of the “river of grass” or along the coast (Redwine et al. 2019).

A hard limestone substrate, commonly called cap rock, is typically located 10–40 inches below the soil surface. The limestone also outcrops at the land surface, particularly in hardwood hammocks. In these areas, the limestone hardens into a white, rocky surface.

The eastern boundary of the park has intermittent, thin, sandy deposits that are likely derived from ancient shorelines. These types of soil are highly permeable and moderately to well drained. As these soils transition to peat and marl, the presence of fine sand and loam (moistened fine sediments) increases, which results in poor drainage and allows the buildup of organic matter. The low-relief marshes, from Florida Bay to Whitewater Bay, generally exhibit increasing depths of sand and mangrove peat. Along the west coast, the Ten Thousand Islands have shallow sandy soils typical of barrier islands (NPS 2010b).

Conditions that support marl formation exist and are stable, and a relatively low percentage of rockland soils have been disturbed (Redwine et al. 2019). Organic soils (muck or peat) have been in severe decline in northeastern Shark Slough and generally declining since the establishment of the park as a result of regional water management infrastructure. However, shifting water patterns due to Everglades restoration efforts may eventually result in improving conditions in muck/peat soils (Redwine et al. 2019).

In the area of Hole-in-the-Donut, since the removal of unconsolidated farmed substrate down to undisturbed limestone bedrock, recently restored areas have little to no soil at all. The long-term, natural process of topsoil development suitable to native wetland plant communities has restarted, and natural topsoil creation and aggradation will occur over time.

Soundscapes

Natural sounds in Everglades National Park include the sounds of blowing wind, bird vocalizations, and many other sounds found in nature. The opportunity to experience an unimpaired natural soundscape is an important part of the overall visitor experience, especially because it contributes to the solitude and wilderness experience that is integral to much of the park.

Natural sounds generally predominate throughout the park. Some of the common natural sounds in the Everglades come from birds, frogs, or insects; sounds produced by bats or porpoises to navigate or locate prey; and sounds produced by physical processes such as wind in the trees, lapping of water, or claps of thunder. Human-generated noise in wilderness areas is predominantly from vehicles, motorboats and airboats, aircraft overflights, and administrative activities that involve motorboat, airboat, and/or aircraft use. These sounds are most common near developed areas, popular boating (or airboating) areas, campgrounds, and major roads but can also be heard throughout the wilderness.

OVERVIEW OF VISITOR USE AND EXPERIENCE AT EVERGLADES NATIONAL PARK

This section describes the existing conditions of visitor use and experience in wilderness at the park. The description of these elements is based on the best professional judgment of NPS staff, existing data, monitoring reports, research and studies, and anecdotal observation from NPS staff and partners. Sources are noted for published referenced only. The term “backcountry” is used at times to describe areas in wilderness that are outside of developed or frontcountry areas.

Everglades National Park is divided into six districts for management purposes: Flamingo, Florida Bay, Gulf Coast, Pine Island, Shark Valley, and East Everglades. The following visitor use and experience elements are described and organized by management district after a wilderness-wide overview:

- Recreational access and opportunities in wilderness
- Quality of visitor experience in wilderness, described throughout the narrative
- Solitude or primitive and unconfined recreation (wilderness character quality)

Everglades National Park preserves the largest subtropical wilderness in the nation, a vast natural area in the southern Everglades and Florida Bay known throughout the world for its unparalleled ecological values, natural hydrologic conditions, vibrant cultural heritage, and unique recreational and educational opportunities. The ecological diversity of the Marjory Stoneman Douglas Wilderness provides an equally diverse array of recreational opportunities. Diverse habitats allow for a variety of recreational opportunities, including, but not limited to, hiking, canoeing, kayaking, boating, fresh and saltwater fishing, bird watching, ranger-led tours, and camping. The 99-mile-long Wilderness Waterway that runs through the western part of the park offers outstanding wilderness boating and camping experiences. Five visitor centers and contact stations provide visitors with orientation, interpretation, and educational information and opportunities for both frontcountry and wilderness opportunities.

With such diverse recreational opportunities, Everglades National Park averages just under 1 million visits per year since 2012. Annual park visitation was just over 1 million in 2022, with nearly 11 million total visits in the last 10 years. While monthly recreation visitation is relatively consistent throughout the year, the dry season (from January to April) experiences higher recreational use than other times of the year. Though visitation averaged around 141,000 recreational visits per month from January to April in 2022, visitation remained high from May through December, averaging nearly 74,000 recreational visits per month. This seasonal trend has been consistent since 2012, when visitation averaged nearly 124,000 recreational visits per month from January to April and nearly 81,000 recreational visits per month from May through December. These visitation averages reflect parkwide data, which includes areas both in wilderness and outside of wilderness (IRMA). For more information on annual and seasonal visitation from a 2008 NPS visitor survey, see pages 255–256 of the 2015 general management plan, volume 1 (NPS 2015a).

Visitor Use Study of the Wilderness Areas of Everglades National Park, 2023

A 2023 visitor use study of the wilderness areas of Everglades National Park was conducted to understand the demographics of visitors to wilderness and their trip itinerary and characteristics. Visitors were also asked about their wilderness values and experiences. The study also sought to understand the relationship that local underserved communities have with the Marjory Stoneman Douglas Wilderness and their perceptions of wilderness character. Surveys were conducted in the park from January 9, 2023, through April 29, 2023, by the University of Montana, the Aldo Leopold Wilderness Research Institute, the NPS Denver Service Center, and park staff with support from volunteers. There were 43 unique sampling days during this time at Lone Pine Key, Flamingo marina, Gulf Coast launch, the Gulf Coast Visitor Center, Caribbean Club in Key Largo, 9-Mile Pond, Hells Bay, and the Coastal Prairie Trailhead. Of the 401 surveys included in the analysis, most were collected in person (60.3%), followed by use of QR codes (34.7%) and e-mail response (5%). Responses did not vary significantly based on the mode of collection (NPS 2023b).

The survey asked visitors to identify their primary destination when visiting the park. Results showed that 44% of visitors surveyed reported Everglades National Park as their primary destination, and 33.1% of visitors surveyed reported wilderness areas in the park as their primary destination. Overnight visitors were significantly more likely to note the wilderness areas as their primary destination compared to day users, with 38.3% visiting for overnight use and 61.7% visiting for day use. Despite minimal signage around the wilderness boundary, most visitors surveyed (84.5%) reported that they knew they were recreating within the boundaries of a wilderness area. For more information on visitor origins and length of stay from a 2008 NPS visitor survey, see pages 256–257 of the 2015 general management plan, volume 1 (NPS 2015a).

The average group size surveyed was 2.69 individuals, and approximately 58.5% of visitors were in a group consisting of themselves and their family. Further, approximately 88.4% of visitors were US residents, among which 29.3% were Florida residents. Of the Florida residents, 66.7% were from six counties in southern Florida. Most visitors identified as White (91.2%), and the average age range of visitors was 45–54 (NPS 2023b).

Recreational Access and Opportunities

Visitors to wilderness can experience solitude, a deep connection with nature, discovery, revitalization, freedom from the pressures of society, or personal challenge and self-reliance. When delivering the invocation at the dedication ceremony for the park, Deaconess Harriett Bedell referred to this area as “a haven not only for the wildlife, but where [visitors] may find the beauties and peace of nature—where they may go apart from the hurry and anxieties of this life.” More than one million visitors visit Everglades National Park annually, but the vast majority never leave the few access roads or developed trails in the park to enter the wilderness (NPS 2022a).

Research results suggest that wilderness visitors participate in a variety of activities. Visitors were presented with a list of 15 activities available in the area and were asked to indicate (1) their primary activity during their trip by selecting just one option and (2) all activities that they participated in by checking all that apply. Wildlife viewing and paddling (including kayaking and canoeing) were most popular, with 23.4% and 16.7% of visitors surveyed reporting these as their primary activities, respectively. Similarly, the most frequently reported activity that visitors participated in was wildlife viewing (71.3%), though the second most frequent activity was on-trail hiking (62.7%). On-trail hiking had the largest difference between visitors who reported it as their primary activity (15%) versus an activity they participated in (62.7%). Other popular primary activities following wildlife viewing, paddling, and on-trail hiking include recreational fishing (11.4%), concessions-operated tours (6.5%), and camping on ground/beach sites (5.5%). Park staff-led tours (1.7%), motorized boating (1.5%), off-trail hiking (slogging) (1%), camping on platforms (0.7%), night sky viewing (0.5%), camping on a boat (0.2%), sailing (0%), and snorkeling/diving (0%) were the least popular primary activities among the visitors surveyed. Following wildlife viewing and on-trail hiking, paddling (43.5%), concessions-operated tours (24%), camping on ground/beach sites (24%), motorized boating (19.5%), night sky viewing (19.5%), and recreational fishing (16.6%) were the most frequently reported activity that visitors participated in. Park staff-led tours (12.4%), off-trail hiking (slogging) (12.2%), camping on platforms (8.3%), snorkeling/diving (3%), camping on a boat (0.6%), and sailing (0%) were the least frequently participated in activities among the visitors surveyed (NPS 2023b).

Located adjacent to the sprawling Miami metropolis and within two hours of many other municipalities, the perimeter of the wilderness is widely accessible, and experiences can vary as much as the visitor themselves. This is a particularly challenging environment for self-reliant recreation, and it provides a unique blend of risks and hazards that contribute to the wilderness experience. Hiking and “slogging” opportunities are boundless. Visitors can depart the road constrained only by the challenges of the wilderness environment itself, including jagged pinnacle rock, deep peat, dense vegetation, and perilous wildlife—all while being surrounded by and immersed in water (NPS 2022a).

Likewise, there are nearly endless opportunities for unconfined paddling. Marked canoe trails do exist, but visitors are not restricted to their confines and may explore at their leisure. Paddling coastal areas among the mangroves can provide some of the richest experiences found in this wilderness. Marine waters in the Gulf Coast, Flamingo, and Florida Bay Districts offer abundant opportunities for both nonmotorized (paddling) and motorized experiences. An aerial survey of boater use in the marine waters of Florida Bay (Flamingo and Florida Bay Districts)

and the Ten Thousand Islands (Gulf Coast District) was conducted in 2008 to understand the extent of boater uses in park waters. The aerial census of boater use in the park was conducted between the fall of 2006 and the fall of 2007, flying 83 missions and completing 85 flight surveys using integrated Global Positioning and Geographic Information recording systems. The study identified 8 vessel classes and were characterized by activity type on the water. The study found that boater use had increased 2.5 times between the 1970s and 2006–2007. The study stated: “Flatsboats and small recreational motorboats (less than 23 ft in length) accounted for the majority of vessels irrespective of day of the week in both Florida Bay and the Ten Thousand Islands, and most vessels were either engaged in fishing or in transit when observed. The principal vessel types engaged in fishing were flatsboats, small recreational motorboats, johnboats, and commercial fishing vessels” (NPS 2008).

Although paddlers may choose to spend the night in their watercraft, primitive camping is generally limited to designated wilderness campsites to preserve the natural quality. These sites also require a wilderness camping permit to resolve capacity issues. Primitive campsites include beach and other ground sites, but the most numerous sites come in the form of elevated camping platforms strategically placed throughout the submerged marine wilderness areas. Elevated camping platforms constitute visitor use facilities in wilderness, but their use is justified by two considerations. First, this watery wilderness is expansive; fully accessing it by primitive forms of transportation would not be possible without high and dry waypoints at which to stop for the night. Second, much of the coastline is dominated by mangroves. These areas are not suitable for ground camping, and clearing them for that purpose would significantly impact both the natural and untrammelled qualities of wilderness (NPS 2022a).

Wilderness camping provides opportunities to experience a side of the wilderness that cannot be encountered during daylight hours. In contrast to urbanized areas where many visitors reside, the wilderness provides relatively clear views of the night sky with little haze and light pollution that plagues many cities. For those who rarely depart metropolitan confines, the enormity and stark contrast of the night sky can be striking. Furthermore, the nighttime soundscape provides an eclectic array of chirps, croaks, grunts, and bellows that can be both fascinating and eerie in the absence of light. With morning comes the sunrise and the dance of color low across the vast horizon, rejuvenating the day, as well as any who observe it. These settings provide an opportunity for self-reflection and can lead to revelations regarding significance and self-worth (NPS 2022a).

Wilderness permits continue to be required for all overnight camping in wilderness. Visitors can make advanced reservations through Recreation.gov. These reservations are available on a rolling basis, three months in advance of the start date. The Recreation.gov confirmation e-mail serves as the wilderness permit for wilderness camping, and visitors are required to either print and bring a physical copy or save a digital copy of the reservation and have it on their person during the trip. The park’s wilderness permit system, as described on pages 53–56 of the 1981 backcountry management plan, helps manage visitor expectations and organize backcountry camping in wilderness in a way that reduces congestion at campsites and mitigates issues associated with a first-come, first-served system. While this system helps manage demand and the availability of sites, visitors who do not get a reservation are not able to use the campsite and may be displaced to another day or time. Some visitors may be inconvenienced by having to

obtain a reservation, as the requirement reduces spontaneity and flexibility in camping in wilderness. Similarly, a backcountry permit is required for camping other than in designated campgrounds, designated campsites, or anchored boats out of sight of elevated camping platforms and 0.25 mile from occupied beach or ground sites per the Superintendent's Compendium. Visitors can apply for the permit directly through the chief ranger's office, and established backcountry permit fees apply.

From 2013 to 2022, nearly 130,000 visitors camped in the wilderness of the park, averaging just under 13,000 overnight stays in wilderness per year. Annual totals and monthly averages of backcountry overnight stays from 2013 to 2022 are presented in figure 2 and figure 3 below, respectively. Overnight stays in the wilderness are calculated from the number of backcountry camping permits issued (IRMA 2024g).

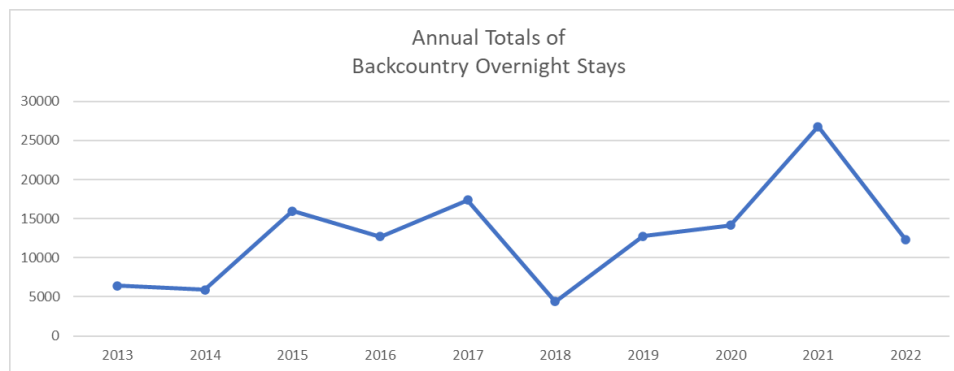


FIGURE 2. ANNUAL TOTALS OF BACKCOUNTRY OVERNIGHT STAYS, 2013–2022

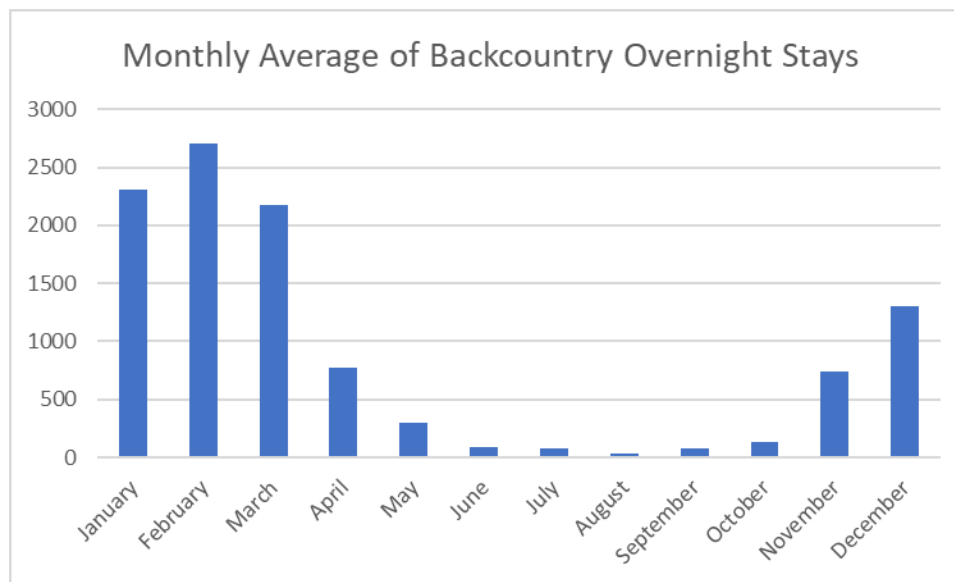


FIGURE 3. MONTHLY AVERAGE OF BACKCOUNTRY OVERNIGHT STAYS, 2013–2022

As of 2019, there are 47 designated wilderness campsites in the park. The Ernest Coe and Ingraham campsites are accessible by foot from the Old Ingraham Highway. East Clubhouse Beach and Clubhouse Beach are accessible by both boat and foot trail from Flamingo. The remaining 43 sites lie along boating corridors and are accessible only by water. There are a total

of 16 ground sites, 17 elevated camping platforms (13 doubles [12 people] and 4 singles [6 people]), and 15 beach sites. Combined, these designated sites can accommodate up to 146 groups at one time or the equivalent of up to 671 visitors at one time. Two of the designated wilderness campsites are located in the Pine Island District. Twenty-one are located in the Gulf Coast District, while the remaining 24 are located in the Flamingo District, which includes the Key Largo, Florida Bay, and Cape Sable campsites (NPS 2019).

The available wilderness permit data for 2019 illustrates the relative levels of use at various wilderness campsites throughout the park. Approximately one-third (14) of all wilderness campsites accommodated approximately two-thirds of all overnight stays in wilderness (62%) in calendar year 2019. The top nine campsites visited in 2019 were all beach campsites and accounted for 49% of all overnight stays in wilderness. Furthermore, 26 campsites accounted for 85% of all overnight visits in wilderness. A 2023 visitor use study of the wilderness areas of Everglades National Park found that among visitors surveyed, the mean number of nights stayed was 3.62 with a maximum of 15 nights in wilderness (NPS 2019a).

For a list of existing wilderness campsites, including the site name, site type, platform type (single or double, if applicable), and district location, see Table 1. For a list of total wilderness campsites by district, see Table 2.

Solitude or Primitive and Unconfined Recreation (Wilderness Character Quality)

Visitors will find ample opportunities to experience solitude when recreating in this wilderness. If they so wish, they can lose themselves in the vastness, avoiding contact with others for days at a time. Here, visitors have the opportunity to commune with nature on a fundamental level unlike anywhere else. Whether secluded in a hardwood hammock as a flock of wading birds flies low overhead, every beat of their wings heard on the wind, or drifting along surrounded by a tangle of mangrove trees, consumed by the tranquil sounds of nature, this wilderness provides settings that allow the burdens of everyday life to fade away. Visitors can return home with a refreshed spirit and a greater appreciation of the majesty and beauty that lies within this wilderness (NPS 2022a).

Even so, visitors will likely encounter some actions and practices that diminish this quality. Reminders of modern civilization (e.g., installations, structures, use of motorized equipment, landing of aircraft) affect the setting visitors associate with the wilderness, regardless of the utility these tools have for preserving other elements of wilderness character. The visual and auditory presence of motorboats, although allowed above the submerged marine land wilderness, influences the wilderness setting, as does the occurrence of routine aircraft overflights and specialized helicopter operations, which are typically authorized for research and monitoring. Airboat use for research, monitoring, law enforcement, and recreation (the latter limited to portions of the East Everglades Addition) also impacts opportunities for solitude. The sounds of these motorized activities can be difficult to ignore. Likewise, elevated camping platforms affect both the natural setting and recreational experience, despite having become part of the Everglades culture and an expected part of the visitor experience. The very duality of this quality (i.e., solitude and primitive/unconfined recreation) can often be at odds. Wilderness camping permits and designated campsites impose a confinement on recreation but

help facilitate opportunities for solitude. Appropriate management of this quality, as with the other qualities, requires a delicate balance of action and restraint (NPS 2022a).

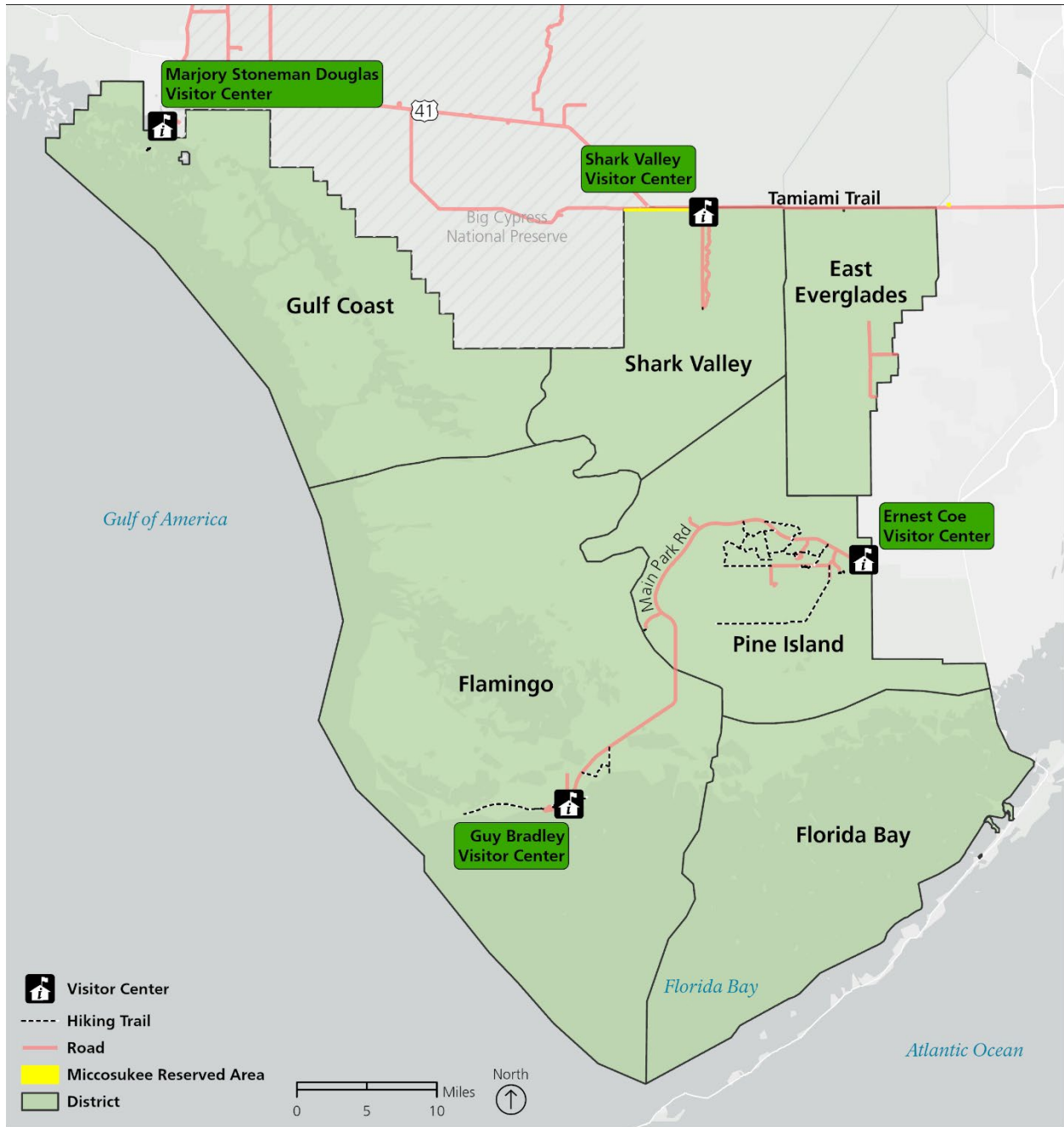
Visitors were asked to rate the importance of 15 wilderness values on a scale of 1 (not at all important) to 5 (extremely important). Of the 15 wilderness values, 7 values had means of 4.5 or greater, including protecting wildlife habitat, preserving unique wild plants and animals, protecting water quality, knowing that future generations will have wilderness areas, preserving an undeveloped landscape, protecting air quality, and preserving natural areas for scientific study. Providing scenic beauty, just knowing that wilderness areas exist, providing opportunities for primitive forms of recreation, providing opportunities for solitude, and providing opportunities for unconfined recreation (freedom to explore with minimum human restraints) all had means between 4.1 and 4.4. Wilderness values with the lowest means of 3.5 and 2.6 were providing spiritual inspiration and supporting my personal or family's economic livelihood, respectively. Overall, there was widespread agreement that wilderness values were very important, with those related to preserving and protecting wildlife and their habitats ranking the highest (NPS 2023b):

Visitors' motivations to visit were examined by asking them to indicate how true various statements were on a scale of 1 (not at all true) to 5 (completely true). When the statements were categorized into motivation domains, nature appreciation was the strongest motivator for visitors with a mean of 4.2. (NPS 2023b)

Finally, visitors were presented with 14 statements related to management actions within Everglades Wilderness areas. They were then asked to indicate how important each statement was for their acceptance of management actions within these areas on a scale of 1 ('Not at all important') to 5 ('Extremely important'). The statement with the highest mean response was 'Actions that preserve or improve natural environmental conditions,' whereas the statement with the lowest mean response was 'Actions that limit recreational facilities.' Overall, actions that enhance, protect, or preserve the environment and consider science in decision-making were considered the most important for visitors' acceptance. (NPS 2023b)

Park Districts

In this document, Flamingo and Florida Bay Districts are combined into one section because visitor use in the two districts is closely interconnected. Existing conditions for visitor use and experience are described below by district since visitor access, quality, and opportunities for solitude and unconfined recreation vary in each district.



MAP 3. PARK DISTRICTS

Flamingo and Florida Bay Districts

Florida Bay is the largest marine body of water within Everglades National Park, containing approximately 393,000 acres of designated submerged marine wilderness; that is, the sea floor is under traditional wilderness protection, but the water column is nonwilderness. The Flamingo and Florida Bay Districts provide a variety of land- and water-based visitor opportunities to enjoy and learn about wilderness, including wildlife viewing, boating, camping, hiking, and fishing.

The Guy Bradley Visitor Center at Flamingo, about 38 miles south of the park entrance at the southern end of the Florida peninsula, is the gateway to exploring Florida Bay, Whitewater Bay, and backcountry experiences in wilderness. Though the visitor center lies within the frontcountry, it offers wilderness interpretation and education via educational displays, informational brochures, and orientation from park rangers. Visitors can also obtain wilderness permits here. Visitors can also learn about the park's boater education program and pick up wilderness camping permits in the visitor center. Frontcountry opportunities that provide access to wilderness include the campground, public boat ramps, and boat rental facilities, and frontcountry experiences adjacent to wilderness include hiking and canoeing trails near the visitor center.

Visitors have access to NPS ranger-led programs year-round at various locations in wilderness throughout the districts. Park ranger-led programs include guided birding and wet walks (slough slogs), ranger-guided canoe trips on the Nine Mile Pond Canoe Trail, ranger-led kayaking on Florida Bay, ranger-guided plant walks, evening programs, and guided boat tours. Two different commercial operator-run boat tours are available for visitors to experience and learn about the wilderness in Flamingo: (1) a Backcountry Boat Tour up the Buttonwood Canal into the mouth of Whitewater Bay or (2) the Florida Bay Boat Tour. Other commercial services provided to access and experience wilderness include a marina with boat rentals (motorized and nonmotorized vessels) and guided backcountry fishing opportunities in wilderness. Commercial operations also provide visitors with a range of full liveries for wilderness excursions. In addition, the Everglades Institute, an NPS partner, offers guided programs, including daily interpretive and educational paddling and boating programs. Visitors can choose from a half-day paddle on the scenic Nine Mile Pond or an Eco-Adventure to Cape Sable.

Visitors can enjoy miles of hiking in the Flamingo District. The Coastal Prairie Trail is a 7.5-mile (one way) out-and-back trail that begins at the rear of Loop C in the Flamingo Campground and ends at Clubhouse Beach. Though the trail remains open to visitors, it is not currently being maintained due to the potential of damage to critical habitat for the Cape Sable thoroughwort, a small herb in the sunflower family. Visitors should be prepared to encounter rough terrain with vegetation, branches and other flora and fauna that could affect the hike. Hiking opportunities in this district include the West Lake Trail, Snake Bright Trail, Eco Pond Trail, Guy Bradley Trail, Christian Point Trail, Bear Lake Trail, Bayshore Loop, and Rowdy Bend Trail, many of which are adjacent to wilderness and/or provide a viewing area to observe wilderness. Adjacent to the canoe/kayak launch at the West Lake Canoe Trail Trailhead, visitors can enjoy walking and wildlife viewing opportunities on the West Lake Boardwalk. There are no hiking trails available in the Florida Bay District currently.

Flamingo serves as a major boat access point to Florida Bay, Whitewater Bay, and numerous rivers and bays in wilderness, some of which include designated campsites and elevated camping platforms. In the Flamingo District, visitors have opportunities to enjoy several paddling trails, including Nine Mile Pond, Noble Hammock, Hell's Bay, Florida Bay, Bear Lake, Mud Lake Loop, and West Lake. However, the launch for the Bear Lake paddling trail is in disrepair, and the trail has not been maintained in many years. Visitors can access designated paddling trails from launch areas in the Flamingo marina or along the main park road approaching Flamingo. To access paddling trails from the main park road, visitors can launch at the West Lake Canoe

Trailhead, the Hells Bay Canoe Trailhead, the Noble Hammock Canoe Trailhead, Coot Bay Pond, and the Nine Mile Pond Canoe Trailhead. Visitors can also launch at the Flamingo Marina, the southern-most launch in the district that provides access to the Wilderness Waterway and Florida Bay. Here, visitors can rent canoes and kayaks from the concessioner Flamingo Adventures.

In addition to the paddling trails listed above, visitors have opportunities for motorized and nonmotorized boating on the Wilderness Waterway and the Everglades Paddling Trail, both located in the Flamingo District. In the Florida Bay District, visitors can experience several major boating routes that run east to west from Key Largo to Flamingo, including The Boggies to Eagle Key, Eagle Key to Crocodile Dragover, Jimmie Channel, Jimmie Channel to Buttonwood Keys, and Ironwood Channel to Gopher Keys. The areas around Little Madeira Bay and other connected ponds and creeks, except for Joe Bay and Snag Bay, are closed to public use and managed as a special protection zone for the Crocodile Sanctuary.

A 2008 aerial survey of boater use in marine waters found that small motorboats were distributed throughout the flight survey domains in Florida Bay, while large motorboats were mostly observed along park boundaries. The survey stated that “Flatsboats accounted for the majority of vessels irrespective of day of the week inside park waters of Florida Bay. In terms of disposition, the majority of vessels observed inside park waters were engaged in fishing” (NPS 2008).

Opportunities for overnight use in the Flamingo and Florida Bay Districts include 24 wilderness campsites. Of the 24 campsites, 7 are ground campsites, 5 are beach campsites, and 12 are elevated camping platforms. Of the 12 elevated camping platforms, 3 are single and 9 are double. Clubhouse Beach and East Clubhouse Beach campsites are accessible by foot trails and by boats; the remaining 10 campsites are accessible by boat only (NPS 2019a).

Most camping opportunities are in the Flamingo District, as the North Nest Key campsite is the only designated camping site in the Florida Bay District. The North Nest Key campsite is one of only two keys open to camping in Florida Bay. North Nest Key is popular with boaters, as it is accessible to powerboats at all tides. Given the distance required to travel over open water, visitors are unlikely to attempt to access this site by paddling. In the Flamingo District, visitors can access the Canepatch Campsite by canoes and powerboats with shallow draft and low clearance. At the site, visitors have opportunities to observe, but not collect, unique vegetation, including bananas, limes, papayas, and wild sugarcane.

In the Flamingo District, visitors have opportunities for fishing at Nine Mile Pond, located along the Main Park Road (accessed through the city of Homestead). Nine Mile Pond is the dividing line between salt water and fresh water. As such, visitors are required to have a freshwater fishing license if fishing at Nine Mile Pond and/or north of Nine Mile Pond and are required to have a saltwater fishing license if fishing anywhere south of Nine Mile Pond.

The Flamingo District offers visitors the unique opportunity of equestrian use, per the Superintendent's Compendium, on the Coastal Prairie Trail.

Gulf Coast District

The Gulf Coast District is a key visitor interpretive and recreation destination for short and multiday wilderness experiences. This district provides a variety of land- and water-based visitor opportunities, including wildlife viewing, boating, and fishing activities.

The Gulf Coast visitor access area serves as the gateway for exploring the park's western wilderness and the Ten Thousand Islands, a maze of mangrove islands and waterways that extends to Flamingo and Florida Bay, accessible only by boat in this region. The Gulf Coast Visitor Center, which provides wilderness education, interpretation, and permits, is currently undergoing a major renovation. Current visitor services include the use of the canoe and kayak launch, parking lot, and covered pavilion. Drinking water is currently unavailable, and visitors wishing to enter wilderness from this area should be prepared to bring their own water and snacks.

Visitors have access to NPS ranger-led programs year-round at various locations throughout the wilderness. Dry season NPS ranger-led programs include guided paddle trips, walks, talks, and other special programs, often occurring on Sandfly Island in potential wilderness. Visitors have opportunities to explore the mangrove islands and paddle inland through the waterways, with occasional island walks, if the tide and weather allow, via NPS ranger-led paddle trips above the submerged wilderness. For these trips, visitors must provide their own canoe or kayak or rent one from the concession.

Everglades National Park Adventures provides opportunities for visitors to experience the popular Ten Thousand Islands Boat Tour. On the tour's 49-passenger pontoon boat led by trained guides and joined occasionally by NPS rangers, visitors can experience the natural and cultural resources of the Ten Thousand Islands and the historic landmarks along the Barron River. The two-hour tour launches from 2 miles north of the Gulf Coast Visitor Center at 929 Dupont Street in Everglades City.

Other commercial service opportunities include a full-service livery for wilderness excursions and day-use drop-off and pick-up services. These experiences include transporting visitors to the desired location, such as drop-offs at mid-wilderness waterways, and providing the necessary rental equipment for a safe experience.

From the Sandfly Island Canoe Trail, visitors can access this district's only hiking trail, which lies in potential wilderness. Only accessible by water, the Sandfly Island hiking trail is just under 1 mile and takes visitors an average of 40 minutes to complete. Visitors should anticipate hiking on bare ground, with opportunities to see turtles, mangrove tree crabs, and birds.

Visitors can access paddling trails in the Gulf Coast District from Everglades City, launching canoes or kayaks at the public nonmotorized launch on the Gulf Coast Visitor Center grounds or along the road approaching Chokoloskee. Private boat ramp use is available in Everglades City and Chokoloskee for a fee. Visitors can also rent canoe and kayaks nearby through private businesses in Everglades City (NPS 2024h).

Visitors can enjoy several designated paddling trails in this district, including the Sandfly Island Loop, Turner River, and Halfway Creek. Visitors can access the Halfway Creek and Loop Trails

from the Gulf Coast Visitor Center in Everglades City or from the Big Cypress Welcome Center on Sea Grape Drive off US Highway 41. Visitors can use the public canoe/kayak launch behind the Gulf Coast Visitor Center to paddle to the Sandfly Island Canoe Trail and are advised to time their trips to take advantage of rising and falling tides.

In addition to the paddling trails listed above, visitors have opportunities for motorized and nonmotorized boating on the Wilderness Waterway and the Everglades Paddling Trail. Visitors can access the northern end of the Wilderness Waterway from the Gulf Coast Visitor Center in Everglades City, entering Lopez River and following the Wilderness Waterway trail markers. The Wilderness Waterway is designated as submerged wilderness and is used by canoers, kayakers, and powerboaters. The trail is 99 miles long and terminates at Flamingo. Most paddlers allow at least eight days to complete the trip. If desired, visitors can use point-to-point shuttle services provided by concessioners or commercial use authorization (CUA) holders to be transported from one end of the Wilderness Waterway to the other.

A 2008 aerial survey of boater use in marine waters found that small motorboats were distributed throughout the flight survey domains in the Ten Thousand Islands, while large motorboats were mostly observed along park boundaries. The survey found that the “Highest average daily vessel use of the Ten Thousand Islands occurred during spring followed by winter for both midweek and weekend and holiday time periods, with lowest use in fall and summer” (NPS 2008).

Rangers are available to assist with wilderness permit reservations at the Gulf Coast Visitor Center in Everglades City during normal operating hours. Visitor center staff provide detailed maps, navigation tools, and information on current conditions to help visitors orient to and prepare for experiencing the wilderness.

Opportunities for overnight use in the Gulf Coast District include 21 wilderness campsites. Of those, 7 are ground campsites, 10 are beach campsites, and 4 are elevated camping platforms. Of the 4 elevated camping platforms, 3 are single and 1 is double. All 21 campsites in this district lie along boating corridors and are only accessible by water (NPS 2019a). The Hog Key and Pavilion Key beach campsites are under a partial long-term closure due to the presence of sensitive resources, though visitors can still access the beach to camp in areas that remain open. Similarly, the Rabbit Key, Tiger Key, and Turkey Key beach campsites have significant erosion damage due to frequent flooding, though they are still available for visitors to camp.

Visitors engaging in saltwater fishing at Gulf Coast (in Everglades City) are required to have a saltwater fishing license.

Pine Island District

A short drive from Homestead and Florida City, the Pine Island District serves as the gateway to the Everglades for many visitors coming from the southeast Miami metro area. When crossing the park boundary, Ingraham Highway becomes the Main Park Road, which travels westward through the Pine Island District before turning south to connect visitors with opportunities in the Flamingo District. Along the way, visitors have access to a range of recreational opportunities, including hiking, education and interpretation, accessible boardwalks, and more.

Interpretive turnouts at attractions along the main park road provide information about wilderness.

The Ernest F. Coe Visitor Center is just inside the main park entrance near Homestead. Though the visitor center lies within the frontcountry, it offers wilderness interpretation and education via educational displays, informational brochures, and orientation from park rangers. Here, visitors can learn more about opportunities in the adjacent wilderness, and the center is a short distance from many popular hiking trails.

Traveling westward on Main Park Road, the Royal Palm Visitor Center, though located in the frontcountry, provides wilderness interpretation, education, and orientation to wilderness for visitors. From this visitor center, visitors can access the Gumbo Limbo and Anhinga frontcountry trails. In addition, other short interpretive frontcountry trails in this district include Pinelands Trail, Pahayokee Overlook, and Mahogany Hammock Trail, which provide interpretive waysides and observation opportunities of the adjacent wilderness. These waysides, combined with the adjacent wilderness viewshed, allow visitors to observe and connect with wilderness from more accessible areas of the park.

In addition to wilderness-adjacent frontcountry hiking, visitors have opportunities for self-guided and ranger-led hiking in wilderness on the Long Pine Key trails, including the Long Pine Key 3-in-1 Trail and on the Old Ingraham Highway. Many visitors camping in the concessions-operated Long Pine Key Campground venture into wilderness when exploring the Long Pine Key trails, more so in the dry season when camping is a popular use. Similarly, up to 120 students participate in hiking on the Long Pine Key trails per week, especially during the dry season when trails are more accessible. Park ranger-led opportunities include wet walking and slough sloggng, the average group size being 15 visitors per walk. In addition, an average of 35 people per day engage in commercially guided and private slough sloggng, for an average of 50 people slough sloggng per day.

The historic Old Ingraham Highway was the first motorway to Flamingo but now provides at least 10 miles (one way) of backpacking into the heart of the Everglades. This packed gravel historic road can be flooded during the wetter months but allows uninterrupted vistas of wilderness, including the Taylor Slough and tree islands looming in the distance. Old Ingraham Highway can be accessed from Royal Palm Road and provides opportunities for hiking and birding in potential wilderness. Currently, the Old Ingraham Highway is primarily used by visitors for bird-watching, with an observed average of up to 10 bird-watching visits per day. Upon completion, the Hole in the Donut restoration project would provide additional daytime hiking opportunities in this district, offering vistas of native marsh vegetation (NPS 2024i).

On the east side of the district, a network of administrative airboat trails provides visitors paddling access to Taylor Slough. Though public launch sites are limited and not widely known, visitors who use the administrative airboat trails to paddle to Taylor Slough paddle through open trails that make for simple navigation. Venturing beyond these airboat trails in Taylor Slough, visitors encounter dense sawgrass that at times has conditions too challenging to paddle and requires pushing a canoe or kayak through the grass. Given current paddling conditions and access, it's rare for visitors to paddle in this area, averaging 0 paddling visits per day and less than 5 paddling trips per year.

Opportunities for overnight use in the Pine Island District include two designated wilderness ground campsites in potential wilderness. Both the Ernest Coe and Ingraham campsites can be accessed by foot from the Old Ingraham Highway. Current use for the Ernest Coe and Ingraham campsites is two permits per year. Canoe and kayak camping requires visitors to obtain a special use permit per the Superintendent's Compendium. Visitors camping overnight on their canoe or kayak experience dark night skies and sounds of frogs, birds, and insects throughout the night.

Freshwater fishing opportunities in wilderness are available at Sisal Pond, a freshwater borrow pit approximately 15 miles from the park entrance. Visitors can access Sisal Pond through the Long Pine Key Nature Trail or from the unpaved Sisal Pond Access Road off the Main Park Road. Visitors are required to have a freshwater fishing license to fish here. Current freshwater fishing use in this analysis area is one angler per day.

This district offers visitors opportunities for equestrian use in the frontcountry, potential wilderness, and designated wilderness per the Superintendent's Compendium. Visitors seeking equestrian experiences in wilderness find opportunities along Old Ingraham Highway (potential wilderness) and on the Long Pine Key trail system (designated wilderness). Visitors seeking a frontcountry experience in which they can observe and interpret the adjacent wilderness find opportunities on the road shoulder of Research Road.

Shark Valley District

The Shark Valley District is a key visitor interpretive and recreational destination for short nonwilderness experiences surrounded by designated wilderness. The Shark Valley Visitor Center on Tamiami Trail (US 41), about 25 miles west of the Florida Turnpike, is in the heart of the park's freshwater ecosystem, including the Northeast Shark River Slough.

Direct access to wilderness is not available from the Shark Valley tram road. However, visitors can learn about the diverse animals and plants of the Everglades on the educational tram tours, complete with a stop at the accessible Shark Valley Observation Tower to observe wilderness from afar. Fluctuating water levels can make the tram road inaccessible at times when water levels are high, temporarily displacing visitors who want to experience this wilderness-adjacent area via hiking or biking the tram road.

From the visitor center, visitors can hike or bike a 15-mile paved road loop trail in the frontcountry to observe the adjacent wilderness. A wilderness wayside provides additional interpretive information to help visitors orient to the adjacent wilderness. At the southern end of the loop, the accessible Shark Valley Observation Tower provides stunning views of the surrounding wilderness, with interpretive panels explaining the history and significance of the area. The tower's 45-foot-high observation deck gives visitors an opportunity to experience panoramic views of the River of Grass and Shark Valley Slough, extending outward 20 miles in all directions. A comfort station is available to visitors adjacent to the base of the tower. Park staff report this area is popular among locals. Though primarily a day-use area, many local visitors visit at night for dark night sky viewing.

Currently, there are no maintained wilderness hiking trails in this district.

Currently, there are no maintained wilderness paddling trails in this district. The Shark Valley Tower airboat launch is maintained as an administrative launch site.

To access freshwater paddling experiences in wilderness, visitors launch canoes or kayaks at informal launches through the L67 extension canal or from under bridges along the Tamiami Trail (US 41). The L67 extension canal currently provides access to East Everglades District and Shark River Slough in the Shark Valley District. Though located in frontcountry areas, the L67 canal and bridge launch sites currently provide access to paddling in wilderness. Additionally, researchers from local universities use the existing airboat trails frequently.

Though there are no designated wilderness campsites within the Shark Valley district, some visitors camp overnight on their boats. To camp in areas other than in designated sites, including on their boats, visitors must obtain a special use permit per the Superintendent's Compendium.

East Everglades District

Currently, the northwest portion of the East Everglades District, where much of the private and commercial airboat use typically occurs, is managed as the frontcountry zone. Almost all the remaining area is managed as wilderness (nonmotorized), providing the classic Everglades wilderness experience of solitude and adventure. The Chekika day-use area is managed as a developed zone. All of the wilderness areas in this district are either proposed or proposed potential wilderness, and the southeast portion of the frontcountry area is proposed potential wilderness. Though the frontcountry and developed zones do not contain any wilderness, they provide access and serve as a gateway to wilderness.

Visitors have opportunities to experience concessions-operated airboat tours in the northwestern portion of this district within the approximately 16,400 acres zoned as frontcountry. At Coopertown Airboats, Everglades Safari Park, and Gator Park, visitors can take advantage of airboat tours that operate seven days a week along with an on-site restaurant and giftshop at each location. All three airboat tours are conveniently located along Tamiami Trail (US 41) between Miami and Shark Valley. Though operated within the frontcountry, visitors have opportunities to observe, interpret, and learn about adjacent wilderness during these airboat tours.

Permitted visitors with privately owned airboats can launch at the designated public boat ramps at US 41 (next to Coopertown). Visitors with canoes/kayaks can launch at the Coopertown boat launch located off Tamiami Trail. From this launch site, visitors can access airboat trails for paddling opportunities. Visitors occasionally launch at Frog City and Coopertown for paddling opportunities in the Shark Valley District.

Currently, there are no maintained wilderness hiking or paddling trails in this district.

Currently, there are no designated wilderness camping opportunities in this district.

This district offers visitors opportunities for equestrian use, per the Superintendent's Compendium, on Context Road (proposed wilderness).

OVERVIEW OF CULTURAL RESOURCES AT EVERGLADES NATIONAL PARK

Cultural resources in wilderness tell the human story of a place, illuminate the historical, cultural, social, and spiritual values embedded in wilderness landscapes, and impart important scientific information. They provide touchstones to a place's history and culture, create opportunities for discovery and learning, and enhance connections to past generations. For Traditionally associated people, cultural resources also enshrine and sustain cultural practices. In wilderness, preserving and protecting cultural resources must be addressed within the context of preserving wilderness character and integrated into a park's wilderness and cultural resources planning efforts. As part of this process, wilderness managers must also consider and fully comply with sections 106 and 110 of the National Historic Preservation Act (PL 89-665), National Environmental Policy Act (PL 91-190), Archeological Resource Protection Act (PL 96-95), Native American Religious Freedom Act (PL 95-341), and other related statutes that guide the management of cultural resources (NPS Reference Manual 41 [NPS 2022d]). The Wilderness Act of 1964 (PL 88-577) does not take precedence over these laws, regulations, and policies guiding cultural resource management. Park managers affirm their continued commitment to existing legal and policy requirements regarding cultural resource management and the adequacy of existing guidance for managing cultural resources in this plan.

While archeological resources, historic structures, cultural landscapes, and ethnographic resources are present throughout Everglades National Park, few actions in this plan may impact these resources. This section describes, at a high level, the cultural resources in the park, and readers are encouraged to consult the cited references for additional details beyond the scope and actions of this wilderness stewardship plan.

Archeological Resources

Archeological resources are “the physical evidences of past human activity, including evidences of the effects of that activity on the environment” (NPS 1998). What makes archeological resources significant are their identity, age, location, and context in conjunction with their capacity to reveal information through the investigatory research designs, methods, and techniques used by archeologists (NPS 1998). At the time of the 2015 general management plan, over 250 archeological sites had been recorded in the park's Archeological Sites Management Information System, now recorded in the NPS Cultural Resources Inventory System. Of these sites, 196 archeological sites had been listed in the National Register of Historic Places, including one national historic landmark (Mud Lake Canal, designated in 2006 [Wheeler 2005]), either as individual sites or as part of larger districts such as the multiple property documentation of archeological resources within the park and the Shark River Slough Archeological District (Schwadron 1996a and 1996b). As of this wilderness stewardship plan, 331 archeological sites had been recorded in the NPS Cultural Resources Inventory System. No new sites have been listed in the national register, either as individual sites or as part of larger districts.

The 2015 general management plan provides a succinct description of archeological resources and site types, as well as a history of archeological investigations in the park. For a comprehensive understanding of archeological resources in the park, see pages 237–240 of the general management plan, volume 1 (NPS 2015a). The range of precontact archeological sites in

the park typically falls into several distinct categories, such as middens, earthworks, shell works, and burial mounds (NPS 2015a). The shell works, complex sites reflecting a unique maritime hunter-gatherer tradition, are one unique archeological feature in the Marjory Stoneman Douglas Wilderness and other lands managed as wilderness at Everglades National Park (Schwadron 2010).

Shell works, artifacts, and features in the Marjory Stoneman Douglas Wilderness and other lands managed as wilderness at Everglades National Park show a history of human habitation from the late Archaic period to the 20th century. In general, archeological sites associated with Indigenous peoples' occupation of the Everglades and into Florida Bay and the Florida Keys are commonly found along the margins of coastal rivers, in coastal mangrove swamps, on isolated inland hammocks and tree islands. Some sites that were in formerly upland areas have become inundated and submerged due to rising sea levels, damming, dredging, and other environmental changes. Inundated sites may be associated with all cultural periods of the Everglades (Colombo 2014; Lodge 2024; NPS 2022a, 2015a; Page 1986).

Historic archeological resources, representing sites primarily associated with non-Indigenous people who arrived in South Florida after the 16th century, are also present in the park, including the Florida Bay and the Florida Keys. While the following resources are associated with European Americans, Indigenous people have continued to be present and shape the Everglades landscape after European and European American arrival. The Ten Thousand Islands Archeological District was the scene of post-Civil War settlement by European Americans (between AD 1870 and 1947). These settlements usually occurred on the high ground left over from the Indigenous peoples' occupations of centuries before, and European American occupation areas are often marked by cisterns constructed of shell and mortar (Schwadron 2006). Among the site types known (or anticipated) to exist are fishing and hunting camps, fish processing facilities and ice plants, tannic acid plants, charcoal production sites, road construction camps, military outposts, sugar cane mill sites, farmsteads, private recreational development, oil exploration sites, and domestic settlements with structural features such as the remnants of houses, outbuildings, cisterns, and gardens. The integrity and cultural significance of most of these historic archeological resources is currently unknown, and no systematic effort to identify historic period archeological sites in the park has yet been made (Blythe 2017; NPS 2015a; Page 1986). However, some research in the park is underway to identify, document, and assess historic period sites for their national register eligibility.

Two determinations of eligibility for the national register were recently completed: the Royal Palm Historic District and the Main Park Road, both located in developed zones of Everglades National Park. The Royal Palm Historic District and the Main Park Road were determined to be eligible for the national register (Muzzey, Watson, and Brazill 2023; Watson and Muzzey 2023). The Royal Palm Historic District includes archeological resources, as well as the Old Ingraham Highway, which contributes to the historic district (Muzzey, Watson, and Brazill 2023). While located in a developed zone, the Old Ingraham Highway serves as a boundary between the Hole-in-the Donut restoration area and potential wilderness and designated wilderness (NPS 2015a). While located in a developed zone, the Main Park Road and its contributing properties, including Sisal Pond, provide access to both frontcountry and designated wilderness areas in the Pine Island District and Flamingo District (NPS 2015a; Watson and Muzzey 2023).

In 2022, Hurricane Ian impacted Everglades National Park. The Resource Advisors assembled for this emergency damage assessment, assessed a sample of the most vulnerable coastal sites within the Ten Thousand Islands by boat and pedestrian survey from Flamingo up to the Everglades City area. Emergency stabilization was recommended for one site (Sandfly Island), and the remaining sites were assessed for damage and documented. Most sites experienced erosion, with some severe scarping and beach loss and severe tree defoliation and damage, which will lead to additional erosion and site loss (Schwadron et al. 2022).

Flamingo and Florida Bay District

In 2017, Hurricane Irma damaged four established historic hiking trails on Cape Sable in the vicinity of the Flamingo Visitor Center. Known collectively as the Flamingo Trails, these trails include Snake Bight (8MO6663), Rowdy Bend (8MO6664), Christian Point (8MO6665), and the Coastal Prairie (8MO6666) Trail. The Bayshore Loop is part of the Coastal Prairie Trail (NPS 2024c). Snake Bight Trail follows the route of a former road constructed at the same time as the neighboring Snake Bight Canal (EVER-196) circa 1920 (Echazabal and White 2020; Watson et al. 2023). The historic Snake Bight Canal (EVER-196) is a different site and feature from the Snake Bight Canal (8MO29), an Indigenous peoples' canoe canal possibly dating to the Glades I late or early Glades II periods (Echazabal and White 2020; Watson et al. 2023; Wheeler 2005). Rowdy Bend Trail, Christian Point Trail, and Coastal Prairie Trail follow remnants of roads constructed in Everglades National Park by the US Department of Agriculture beginning in the 1930s, during programs to eradicate the pink bollworm, an invasive species in Florida (Echazabal and White 2020).

In 2020, these trails were documented and evaluated for their eligibility for the national register and were determined to be eligible for inclusion under criterion A. The Snake Bight Trail is considered eligible in the areas of community planning and development and settlement. The Rowdy Bend Trail, Christian Point Trail, and Coastal Prairie Trail are considered eligible in the areas of community planning and development and conservation (Echazabal and White 2020).

Additionally in 2020, a reconnaissance pedestrian survey of each trail was conducted to document the modern route and use of each trail, as well as to identify any potential cultural resources. Some previously recorded archeological sites were relocated during this survey, and other sites were initially identified and documented. The survey also noted the presence of social trailing from the main trails; in some areas, the social trails were attempts to bypass impassable portions of the main trails (Echazabal and White 2020).

Historic Structures and Installations

Historic structures are “constructed work[s] . . . consciously created to serve some human activity” (NPS 1998), and in wilderness areas, historic structures are considered specifically for intended human occupation or their possessions and are left behind when the builder leaves the wilderness. Historic installations include “anything made by humans that is not intended for human occupation and is left unattended or left behind when the installer leaves the wilderness” (NPS 2022d). Historic structures and installations are usually immovable, although some have been relocated and others are mobile by design. They include structures, nautical vessels, bridges, fences, and ruins of all structural types.

The 2015 general management plan provides a description of historic structures in wilderness and nonwilderness areas. Some descriptions of various installations in wilderness and nonwilderness areas are also documented in this plan and include monitoring devices, culverts, bridges, and others (NPS 2015a). The park's administrative history discusses the history of science and environmental monitoring in the park, beginning in the late 1930s, and provides information on other types of historic structures and installations supporting this research. These historic structures and installations include water gauging stations; hydrology stations; instrumentation stations; research stations in the park and outside of the park boundary (such as at Pigeon Key); and research stations, laboratories, and offices such as those at the old Iori Farms located in the Hole-in-the-Donut area. Additionally, historic water control features associated with the development of intensive agriculture and urban growth are in the surrounding area (Blythe 2017; Kolipinski and Higer 1966; NPS 2015c). For a more comprehensive understanding of the historic structures and installations in nonwilderness areas, consult the plans above.

East Everglades Addition

Several former modern camps are on the hammocks and tree islands of the East Everglades; they were used by hunters and various airboat tour companies (Smith, Perlman; Reed 2011). These properties came into NPS ownership in 2002. Camp structures include bunkhouses, sheds, outhouses, and other features that are generally in poor condition and, in some instances, present visitor safety issues and environmental hazards (NPS 2015a). In 2004, park and regional staff examined nine of the campsites to provide a preliminary assessment of their historical significance. With the exception of the Duck Camp (constructed around 1950), the camps are thought to be less than 50 years old. The abandoned Duck Camp was formerly used by the Miami Rod and Gun Club and is considered the only camp possibly eligible for the national register (NPS 2015a). An update to this preliminary assessment may be needed for restoration activities, per the general management plan. No actions in this wilderness stewardship plan are anticipated to affect these camps.

Two modern park structures are located in the Chekika day-use area: a maintenance building and the entrance gate building, both of which are in a ruinous state. No actions in this wilderness stewardship plan are anticipated to affect the ruins of these modern structures, though future analysis may be necessary should the park explore how facilities in the Chekika day-use area could support wilderness recreational opportunities.

Flamingo and Florida Bay Districts

Historic structures and historic installations in wilderness areas or potential wilderness areas may be found on the scattered keys and in the submerged marine land wilderness (Blythe 2017; NPS 2015a). As noted under archeological resources, human presence in the Flamingo and Florida Bay Districts (including the Florida Keys) is associated with Indigenous peoples' occupation of the area and later non-Indigenous people who arrived in the 16th century (Blythe 2017; Colombo 2014; NPS 2015a; Page 1986).

Much of Flamingo is in nonwilderness areas; however, Flamingo provides a gateway to wilderness. The Flamingo area, including the Cape Sable area, which is within wilderness, was populated by Indigenous people before European contact. By the late 1800s, White Americans

were living in the Flamingo area year-round, engaging in plume hunting and fishing. Historic structures at Flamingo were few, as the population, which included White and Black residents, was small. Subsequent hurricanes have damaged or destroyed these historic structures and others from the early 20th century (NPS 2022c; Page 1986). When President Harry S. Truman dedicated Everglades National Park on December 6, 1947, the park boundary extended around the village of Flamingo. By March 1949, tension with residents over the operation of fish houses led the National Park Service to end private landholding in the Flamingo area. After legal appeals, residents were ordered to vacate Flamingo by June 1, 1951 (NPS 2021b). The end of commercial fishing in the park in 1985 also added to the historical tension between Flamingo residents and the park (Blythe 2017).

The National Park Service converted some existing primitive roads used by Flamingo residents since the 1920s to administrative roads/trails, many of which are located, in part or in whole, in wilderness areas today. The Coastal Prairie Trail, completed around the same time as the opening of the Flamingo Visitor Center, originally ran 7.5 miles from the Flamingo Visitor Center toward near East Cape Sable. The 1.8-mile-long Snake Bight Trail follows the route of an old marl-surfaced road that ran from Ingraham Highway to Snake Bight (Blythe 2017), adjacent to the historic Snake Bight Canal (EVER-196), which was dug in the early 20th century (Echazabal and White 2020). Bear Lake Road, 1.85 miles long, is a remanent of Old Ingraham Highway that runs north to south and parallels the Buttonwood Canal. In the 1960s, rangers led autocades on some of these roads/trails. From the 1970s through the 1990s, the concessioner at Flamingo ran trams on the Snake Bight Trail (Blythe 2017).

A comprehensive 2018 assessment provides documentation of all Mission 66 resources in the park as part of a parkwide Mission 66 national register district. Mission 66 was a 10-year systemwide program (1956–1966) aimed at improving park facilities and visitor access while also promoting conservation of our nation’s natural and cultural heritage. As the Mission 66 program was being developed, Everglades was selected as one of the pilot projects used to test ideas about how the program was implemented. Everglades National Park underwent significant development during the Mission 66 period. The 2018 assessment identified two contributing Mission 66-era resources that are located in the wilderness area in the Flamingo District: Paurotis Pond and Nine Mile Pond. Both of these ponds were originally excavated to provide oolite fill to construction of the main park road, and both were included as stops along the park’s self-guided tour in a 1959 brochure. For more comprehensive information about all Mission 66 resources parkwide, see the 2018 assessment (Wiss et al. 2018).

A draft 2021 survey of wilderness campsites describe Canepatch and Graveyard Creek, two campsites located in the Flamingo District. Opened in winter 1962–63, these campsites were the first two backcountry campsites in the park. Canepatch was occupied in the early 1900s with unique vegetation still growing, including bananas, limes, papayas, and wild sugarcane. Graveyard Creek derived its name from a feud between rival racoon hunters, who were supplying pelts for the coat craze of the 1920s. In the early 1930s, one pair of hunters killed and buried another pair, giving the area its name. The draft report also makes note of a reported bark factory for making tannin that was run by “colored laborers” on an island near the south side of Shark River (Blythe 2017; NPS 2021e).

Gulf Coast District

Within the Gulf Coast District, Watson Place and Darwin's Place, two backcountry campsites, are located on or near historic homesteads in the region and associated with some of the park's last remaining private residents. The Watson Place campsite is built near the old homestead of Ed Watson, who grew vegetables and refined sugarcane at the turn of the 20th century. Historic objects can still be located including: a cement cistern, a sugarcane syrup cauldron, and farm machinery (NPS 2021d). Ed Watson's two-story frame house, built on a shell mound near the mouth of the Chatham River, was the most substantial settler's house standing at the time of the park's establishment. Ed Braddock of Miami continued to use Watson Place as a sportfishing camp until the winter of 1959–60. In September 1960, Hurricane Donna virtually destroyed the house at Watson Place, and the National Park Service hauled away the debris, but landscape features remained (Blythe 2017). Darwin's Place, located at Possum Key, was a homestead built from shell and cement by Arthur Darwin, who lived there from 1945 to 1971 and was the last private resident on park lands (Blythe 2017; NPS 2021a).

Historic structures and installations can also be found in this district that are associated with commercial shell fishing, which began in the Ten Thousand Islands region in the 1880s. The early centers of commercial activity were near Coon Key, Clam Point, Alligator Point, Lostmans River, and from Rabbit Key to Pavilion Key. The Burnham Clam Cannery, opened in 1904 in Caxambas, employed about 25 people to dig clams at Pavilion Key, where they would camp and harvest clams, wading into the water at low tide. In 1905, a mechanical clam dredge was developed that could operate in water up to 12 feet deep and harvest more than 500 bushels of clams in a 12-hour period. This dredge was used at Pavilion Key until it sank in a storm in 1929 (Page 1986).

Finally, as also noted under archeological resources, repeated occupation of Indigenous peoples' settlements occurred in this region. People in the vicinity of Chokoloskee Island, Turner River, Chatham River, and other places along the coast reused Indigenous mounds to start small farms. The added elevation of the mounds helped protect crops and buildings from storms and hurricanes (Page 1986).

Pine Island District

Old Ingraham Highway and Associated Canals

The Old Ingraham Highway passes through a portion of nonwilderness near the Royal Palm Visitor Center and the Hole-in-the-Donut restoration area. The 41-mile long Ingraham Highway (named in honor of James E. Ingraham) was constructed between 1915 and 1922 to link Homestead with Flamingo and Cape Sable, and it was the first road to penetrate the Everglades. Railroad companies, agricultural companies, and private clubs sought to promote the settlement and development of this area, as well as use it for pursuing leisure activities. Other clubs and groups wanted to protect the Everglades from this development. To these ends, Royal Palm State Park was established in 1916 by the Florida Federation of Women's Clubs. The Ingraham Highway was initially extended as far as Royal Palm for the 1916 dedication of the state park (NPS 2015a).

The approximately 50-mile-long Homestead Canal was excavated alongside the roadway to provide drainage and fill material for road construction. The East Cape and Buttonwood Canals (completed in the early 1920s) were part of the canal network constructed to drain Cape Sable for development and to provide road building material. This canal network forms part of the park's Wilderness Waterway (NPS 2015a; Page 1986).

A Cultural Resource Assessment of the Old Ingraham Highway and Homestead, East Cape and Buttonwood Canals (Buttram et al. 2009) provides documentation and condition assessments of the highway and its associated resources and evaluates the eligibility of these resources for the National Register of Historic Places as a historic district. The physical integrity of these historic structures has been altered in varying degrees over the years by the removal of road sections, paving, erosion, widening, and the placement of canal plugs to impede the flow of salt water into interior waterways. However, the Old Ingraham Highway and the East Cape, Homestead, and Buttonwood Canals are considered eligible for the national register for their historical associations with the development of South Florida and subsequent conservation efforts (e.g., the establishment of Royal Palm State Park, Everglades National Park, and recent restoration undertakings). The district's period of significance is recommended to extend from 1915 to the present (Buttram et al. 2009). The Florida state historic preservation office concurred with the national register eligibility of these properties (NPS 2015a).

As mentioned under archeological resources, a recently completed determination of eligibility for the Royal Palm Historic District found that the district was eligible for inclusion in the national register for its significance in conservation, social history, recreation, architecture, engineering, community planning and development, landscape architecture, and politics and government, under criteria A, C and D. The district's period of significance begins in 1916—the date of construction of its earliest property, the Old Ingraham Highway—and ends with the national register program's 50-year cutoff, currently 1973 (Muzzey, Watson, and Brazill 2023). The Royal Palm Historic District includes archeological resources, as well as the Old Ingraham Highway, Deer Feeding Station and Pen, Access Road and Parking Area, Royal Palm Visitor Center, Anhinga Trail and Retaining Wall, and the Gumbo Limbo Trail, which contribute to the historic district (Muzzey, Watson, and Brazill 2023). While located in a developed zone, the Old Ingraham Highway serves as a boundary between the Hole-in-the Donut restoration area, potential wilderness, and designated wilderness (NPS 2015a).

Main Park Road and Contributing Resources

In the 1960s, the National Park Service constructed the new main park road running from the eastern park entrance west toward Long Pine Key, eventually connecting with the Old Ingraham Highway. This new park road was designed to bring motorists to significant natural areas after the National Park Service had judged the existing Ingraham Highway unsafe and uninspiring. Most of the first 12 miles and last 17 miles of the paved section of the Ingraham Highway were incorporated into the park road from Florida City to Flamingo. The National Park Service abandoned 12.5 miles of the old highway south of the current park road. Some of the abandoned road sections were adapted for administrative roads and trails. Portions of the Ingraham Highway crossing Taylor Slough were removed in the 1990s to create more natural hydrologic patterns and restore ecosystem functions (Blythe 2017; NPS 2015a).

The comprehensive 2018 assessment of all Mission 66 resources in the park, noted earlier under the Flamingo and Florida Bay Districts header, also identified contributing Mission 66-era resources within the wilderness area in the Pine Island District: Pa-Hay-Okee Overlook and Overlook Trail. Pa-Hay-Okee interpretive area was established at Joree Hammock, west of Pinelands, to provide visitors with an expansive view of one of the most dramatic natural features of Everglades National Park—the sawgrass prairie. The Overlook Trail, completed in 1959, includes sections of an elevated boardwalk and forms a loop that extends northwest from the Pa-Hay-Okee parking area. Pa-Hay-Okee quickly became a popular attraction for park visitors, and park staff conducted various interpretive programs at the location. Although the site was damaged during Hurricane Betsy in 1965 and Hurricane Andrew in 1992 (Wiss et al. 2018), the 2024 determination of eligibility found that Pa-Hay-Okee is eligible for inclusion in the National Register of Historic Places for its significance in conservation, recreation, architecture, engineering, landscape architecture, and community planning and development under criteria A and C (Muzzey et al. 2024). For more comprehensive information about all Mission 66 resources parkwide, consult the 2018 assessment (Wiss et al. 2018).

As mentioned under archeological resources, a recently completed determination of eligibility for the Main Park Road and contributing resources (Pinelands Trail, Pa-ha-okee Overlook, Mahogany Hammock, Paurotis Pond, Nine Mile Pond, Mrazek Pond, West Lake Comfort Station, Coot Bay Pond, Borrow Ponds, Royal Palm Access Road and Parking, and Access Road and Parking at Long Pine Key Campground) found that the district was eligible for inclusion in the national register for its association with the Mission 66 program, as well as its use of modern auto-based engineering and landscape architectural planning and designs. A majority of the current structures, buildings, and infrastructure located in the park were designed, constructed, and opened within the 10 years that the Mission 66 program operated. Mission 66 can be seen as the push that made Everglades into the park it is today and that helped shape the Mission 66 landscape across the country. The period of significance for the Main Park Road Historic District is 1955 to 1965, which encompasses the beginning of construction to the wrap up of the project (grading and signage), as well as the completion of associated Mission 66 projects along the road, which concluded in 1965. Some of these projects include the excavation of borrow pits to provide oolite fill for the Main Park Road’s construction. Pine Glades Lake, Sisal Pond, Ficus Pond, and Sweet Bay Pond were excavated in 1956–57. Unlike Paurotis and Nine Mile ponds, these four ponds were not developed as interpretive stops for visitors. These ponds remain relatively unchanged and as designed, appearing to be part of the natural landscape; however, they maintain all aspects of integrity and contribute to the Main Park Road Historic District (Watson and Muzzey 2023). While located in a developed zone, the Main Park Road and its contributing properties provide access to both frontcountry and designated wilderness areas in the Pine Island District and Flamingo District (NPS 2015a; Watson and Muzzey 2023).

The old Iori Farm buildings, located in the Hole-in-the-Donut, a potential wilderness area, were constructed in 1955. They were extensively remodeled in the late 1970s for the benefit of the park’s science program. Due to these modifications and the fact that farming is no longer active in the Hole-in-the-Donut, the Iori Farm buildings do not convey their historic use and are not eligible for the National Register of Historic Places (Blythe 2017).

Cultural Landscapes

By NPS definition, a cultural landscape is a reflection of human adaptation and use of natural resources and is often expressed in the way land is organized and divided, patterns of settlement, land use, systems of circulation, and the types of structures that are built. The character of a cultural landscape is defined both by physical materials such as roads, buildings, walls, and vegetation, and by use reflecting cultural values and traditions (NPS 1998, 2015a).

The 2015 general management plan provides a description of cultural landscape categories, historic districts, and cultural landscapes that had been identified to date. Two of these cultural landscapes are the Flamingo Mission 66 Developed Area and the Nike Missile Base Site HM-69, both of which are located in nonwilderness (NPS 2015a). Since the completion of the general management plan, other cultural landscapes have been identified. These include the 2022 determination of eligibility for the resource groups of the Shark Valley Developed Area and the 2023 determination of eligibilities for the resource groups at the Royal Palm Historic District and the Main Park Road, all three of which are located within developed zones of Everglades National Park. The Shark Valley Developed Area, Royal Palm Historic District, and the Main Park Road and contributing resources were determined to be eligible for the national register (Muzzey, Watson, and Brazill 2023; Watson and Muzzey 2023; Vadas et al. 2022).

There are other potentially significant cultural landscapes associated with other Mission 66 projects completed across the park, properties associated with the Gladesmen, shell work sites in the Ten Thousand Islands area, and archeological districts and ethnographic resources. The level of integrity among these landscape resources is expected to vary according to the nature and extent of subsequent development disturbance and other environmental factors at these locations (NPS 2015a, 2022b; Schwadron 2010; Simmons and Ogden 1998; Smith, Perlman, Reed 2011).

Another potentially significant cultural landscape may be associated with the history of scientific research and monitoring in the Hole-in-the-Donut, a 9,900-acre tract of heavily farmed land acquired by the park in the mid-1970s. Once agricultural activity ceased on these lands, nonnative Brazilian pepper trees, brought to the United States in the late 1890s, overwhelmed the area. In the late 1980s, an intensive eradication program began, and the final acreage of the area has been cleared. This intensive eradication program may be significant in the future as part of the history of ongoing science, compliance, and ecological restoration at the park. Additionally, in 1977, the former Iori Farm buildings became the site of the South Florida Research Center (now the South Florida Natural Resource Center), the first major research center in a national park. The research center had five program areas, with a strong focus on hydrology and wildlife ecology. The establishment of the research center was a pioneering move within the National Park Service and gave science a greatly enhanced status at Everglades (Alarcon 2020; Blythe 2017; Brown 2010; Repanshek 2022).

Continuing efforts to identify and evaluate cultural landscapes in accordance with the criteria of national register significance will further the park's comprehensive cultural resource management objectives and be an important consideration for any new development proposal affecting the park's historic and cultural resources (NPS 2015a).

Ethnographic Resources

The National Park Service defines ethnographic resources as a site, structure, object, landscape, or natural resource feature assigned traditional legendary, religious, subsistence, or other significance in the cultural system of a group traditionally associated with it. (NPS 1998). Ethnographic resources typically hold significance for traditionally associated groups whose sense of purpose, existence as a community, and development as an ethnically distinctive people are closely linked to particular resources and places. The groups for whom ethnographic resources hold significance may include park neighbors, traditional residents, and former residents who have moved from the area but maintain their former attachments. Ethnographic resources may include burial locations; places important for spiritual or ceremonial purposes; plant materials and procurement areas; migration and travel routes; and sites associated with events, beliefs, and traditional stories (NPS 2015a). Readers should consult the general management plan for a comprehensive understanding of ethnographic resources in the park up to the 2015 publication of the plan. New knowledge has been gained since 2015, however, and the general management plan does not reflect this new knowledge.

A baseline ethnographic overview and assessment has not been completed for the park nor are ethnographic resources well documented in the NPS Cultural Resources Inventory System database. Identifying and preserving ethnographic resources are hindered because of these data gaps.

Tribal Nations

According to Miccosukee oral tradition, the Miccosukee were resident in the gulf coastal wetlands of North Florida since time immemorial, in the area near Lake Miccosukee, near Tallahassee. Miccosukee oral histories, as well as the oral histories of the Seminole population (which included refugees from the Creek War as well as other prior inhabitants of Florida such as the Yamasee, Apalachee, or Timucua) maintain the Everglades as the southernmost extent for their traditional lands (Miccosukee Tribe of Indians of Florida, 2026 pers. comm.).

During the early 19th century, Tribal towns of the Miccosukee and Seminole alliance were pushed from Georgia and North Florida to the southernmost extent of their traditional lands in South Florida. The Seminole Wars that occurred during the first half of the 19th century resulted in the dramatic depopulation and forced removal of the Seminole people, but also saw the integration of many other aboriginal populations remnant in Florida into the two modern Tribes. While this conflict is often divided into three main war periods, conflict was constant throughout this time and can be seen as a single, long-duration War (Seminole Tribe of Florida, 2024a, 2024b). Those surviving Tribal members who resisted relocation to Oklahoma reservations took refuge among the protective hammocks and swamplands of present-day Everglades National Park and Big Cypress National Preserve. Today, the federal government recognizes two Tribes of Florida which survived the removal period, the Seminole Tribe of Florida and the Miccosukee Tribe of Indians of Florida. These Tribes were federally recognized in 1957 and 1962, respectively. The Seminole Nation of Oklahoma represents the descendants of Tribal members who were forcibly removed to Oklahoma from Florida during the Seminole War.

Some ethnographic resources in the park have particular significance to the culturally associated Tribal nations. Park staff regularly consult with the associated Tribal nations regarding undertakings, projects, and issues of mutual interest. Ongoing consultation is important to ensure the appropriate management of ethnographic resources and to ensure that resources are not inadvertently disturbed by park-related activities and proposed development. The locations of these ethnographic resources are not publicly disclosed in efforts to respect Tribal preservation and privacy concerns (NPS 2015a).

Due to general Tribal concern for maintaining confidentiality through consultation, park managers are charged with protecting ethnographic resources when information may be limited regarding the presence, nature, and location of these resources. However, the Tribal nations that Everglades National Park routinely consults with regard all archeological sites that may retain Tribal/cultural associations (e.g., middens, village mound sites, burial locations) as having cultural and/or sacred importance, and they believe that these sites should be protected and left undisturbed.

African Americans

During late 18th century, some enslaved Africans sought freedom and escaped to Spanish-controlled Florida. There, these freedom seekers established self-sustaining and culturally distinct settlements and communities, often referred to as *maroon* communities. Some of these maroon communities were located near or within Indigenous communities and close, mutually beneficial relationships were formed between the maroons and the Indigenous people. Maroon settlements near Seminole communities gradually became known as Black Seminoles, and the Indigenous Seminole and Black Seminole people became allies during the Seminole Wars of the 19th century, which reached into the Everglades (NPS 2023a).

In the early 20th century, African Americans were documented living and working in the Flamingo and Cape Sable areas of what would later become Everglades National Park. In December of 1902, the Florida East Coast Railway began an exploratory survey of the Cape Sable region to determine if it would be the best route for the rail's extension to Key West. The Cape Sable survey party included African American men. US census records reveal African Americans living in the Flamingo area in 1910 and that many of them were born in the Bahamas and Jamaica. The census also shows African American families and workers living and farming in the Long Pine Key and Royal Palm State Park agricultural areas before and during the Great Depression (NPS 2020).

In the wake of the Great Depression, President Franklin D. Roosevelt enacted the Civilian Conservation Corps (CCC)—a New Deal work relief program that employed young, low-income men to complete conservation work on the nation's various state and national parks. Although most of the CCC camps employed White workers, a few early CCC camps were somewhat integrated. However, this changed when the national CCC administration established separate camps for Black workers. One of these camps for Black workers was located in Everglades National Park at Flamingo where, for six months out of the year, corpsmen helped to eradicate a species of native wild cotton infected with the invasive pink bollworm that was posing a risk to the cultivated cotton crop (NPS 2020, 2021c).

In 1942, following the attack on Pearl Harbor, the Roosevelt administration disbanded the CCC program and directed all federal programs to emphasize the war effort. The US Department of Agriculture continued the wild cotton eradication project in Everglades National Park into the early 1970s despite concerns from park management. Ultimately, the National Park Service determined that the project was ineffective and ended it in 1972 (NPS 2020).

Park managers and staff are still learning about African American experiences in the park, which are not well documented. Through the Civil Rights Commemoration Initiative, the park has received funding from Congress to pursue research projects that have relevance to African American civil rights and experiences, including slavery, resistance, Reconstruction, and the American Civil Rights Movement of the 20th century and beyond (NPS 2020).

Other Historical Uses

Gladesmen

Recent ethnographic investigations have also identified the importance of the Everglades to the “Gladesmen,” a group primarily comprising Anglo-American settlers in South Florida who historically subsisted on the resources of the wetland environment from the mid-19th century to the early to mid-20th century. Many Gladesmen were skilled at navigating the difficult waterways of the interior Everglades in small skiffs. They hunted and fished for extended periods, living in temporary encampments. They also engaged in illegal activities such as poaching, moonshining, and bootlegging, since access to and within the Everglades was difficult. Due to the challenging terrain, the Gladesmen were often valued as guides by explorers and researchers because of their keen observations of nature and knowledge of the Everglades ecosystem (NPS 2015a; Simmons and Ogden 1998).

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Chapter 3

General Management Direction

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CHAPTER 3: GENERAL MANAGEMENT DIRECTION

OVERVIEW

This chapter outlines the general wilderness stewardship direction for Everglades National Park. The management plan provides high-level guidance on how the park will be managed. This chapter expands on the general management plan and answers the question, “What are we managing for?” with regard to visitor use and includes descriptions of desired conditions.

DESIRED CONDITIONS

Desired conditions outline the vision for resource conditions, visitor experiences and opportunities, and facilities and services that an agency strives to achieve and maintain in a particular area. They help park managers answer the question, “What are we trying to achieve?” Desired conditions focus on fundamental resources and values (see chapter 1); the visitor experience opportunities associated with them; and the types and levels of management, development, and access that would be appropriate in a particular location.

Desired conditions for this plan were initially developed by an interdisciplinary planning team. Those draft desired conditions were then refined with input from operating partners and additional park staff. Public input to inform desired conditions, actions, and strategies was collected via a robust civic engagement process that included the public, Tribal Nations, and other stakeholders. This input was incorporated in the desired conditions descriptions below.

Desired conditions are articulated for designated, potential, proposed, and proposed potential wilderness in the Marjory Stoneman Douglas Wilderness and the East Everglades Addition.

MARJORY STONEMAN DOUGLAS WILDERNESS

The Marjory Stoneman Douglas Wilderness was designated in 1978. Within wilderness, desired conditions parallel those stated in the Wilderness Act as it defines the qualities of wilderness character.

Designated Wilderness

Untrammeled Quality

- Authorized actions that manipulate the biophysical environment are minimized and only conducted if actions are necessary for the long-term preservation of wilderness character.
- Activities that manipulate wilderness and other unauthorized actions are minimized.

Natural Quality

- The wilderness has a strong, healthy, and resilient ecological system in a changing climate.
- Native species are present in their natural abundances, behaviors, distributions, and diversity as driven by natural processes and can fulfill their ecological roles.
- Invasive species are managed at or below levels at which they do not affect native species, and the natural quality of resources and experience is maintained.
- The air quality of the wilderness area meets the standards for a Class I area under the Clean Air Act.
- Water resources are managed to mimic naturally occurring variability in quality, quantity, and distribution.
- Fire and fire effects on the landscape resemble a natural fire regime.
- Impacts from internal and external activities and developments are minimized to protect dark night skies and natural soundscapes.

Undeveloped Quality

- Sweeping views across the Everglades are largely uninterrupted by human developments, allowing spectacular sights of the region's unique and diverse ecosystems, including its flora and fauna.
- Installations, structures, and other developments in wilderness are limited to the minimum necessary, and their design and location are carefully considered to reduce impacts on wilderness character.
- The administrative use of mechanized transport, motorized vehicles, and motorized equipment are minimized and conducted in accordance with the minimum requirements concept.
- All park management activities in wilderness are conducted in accordance with the Wilderness Act and applicable policies.

Opportunities for Solitude or Primitive and Unconfined Recreation Quality

- Impacts from internal and external activities and developments are minimized to protect dark night skies and natural soundscapes.
- Visitors have opportunities for a wide range of primitive recreation that offer a sense of timelessness, reflection, self-reliance, and adventure.
- Visitors have outstanding opportunities to disconnect from modern civilization and experience solitude, revitalization, and a deep connection with nature.

- Visitors have opportunities to be self-reliant and experience personal challenge, discovery, and freedom to explore to the extent practicable and consistent with the Wilderness Act and other requirements.
- Visitors develop personal connections and an appreciation of wilderness resources through educational and recreational opportunities.
- Wilderness campsites are provided to protect and preserve the wilderness' unique features while supporting outstanding opportunities in remote areas where visitors can experience the natural sights and sounds of the Everglades.

Other Features of Value Quality

- Cultural features and stories of significance, such as Indigenous landscape elements, historic sites, and archeological artifacts, are interpreted, protected, and preserved.
- Park managers consult with Tribal nations to interpret Indigenous traditional practices, uses, and beliefs, which are exemplified in education and outreach programs.
- The continuity of Indigenous traditional uses and practices on lands and waters are supported, respected and protected.

Submerged Marine Land Wilderness

Desired conditions from the designated wilderness areas apply in addition to the following:

- Submerged marine land wilderness is maintained in a near-natural condition, supporting healthy interaction among human, plant, and wildlife communities.
- Visitors are informed of and abide by poll/troll and no-motor zones, which provide opportunities for solitude for visitors recreating in adjacent wilderness areas.

Potential Wilderness

Desired conditions from the designated wilderness areas apply in addition to the following:

- Nonconforming uses are inventoried, assessed, and removed or eliminated, as appropriate, to facilitate conversion to designated wilderness.

EAST EVERGLADES ADDITION

Portions of the East Everglades Addition was proposed for wilderness designation in 2015 by the general management plan / East Everglades wilderness study. Desired conditions from the designated wilderness areas apply in addition to those below.

Proposed and Proposed Potential Wilderness

1. Park management will seek and encourage wilderness designation as appropriate.

Proposed Potential Wilderness

1. Nonconforming uses are inventoried, assessed, and removed or eliminated, as appropriate, to facilitate conversion to proposed or designated wilderness.



Chapter 4

Management Strategies and Actions

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CHAPTER 4: MANAGEMENT STRATEGIES AND ACTIONS

OVERVIEW

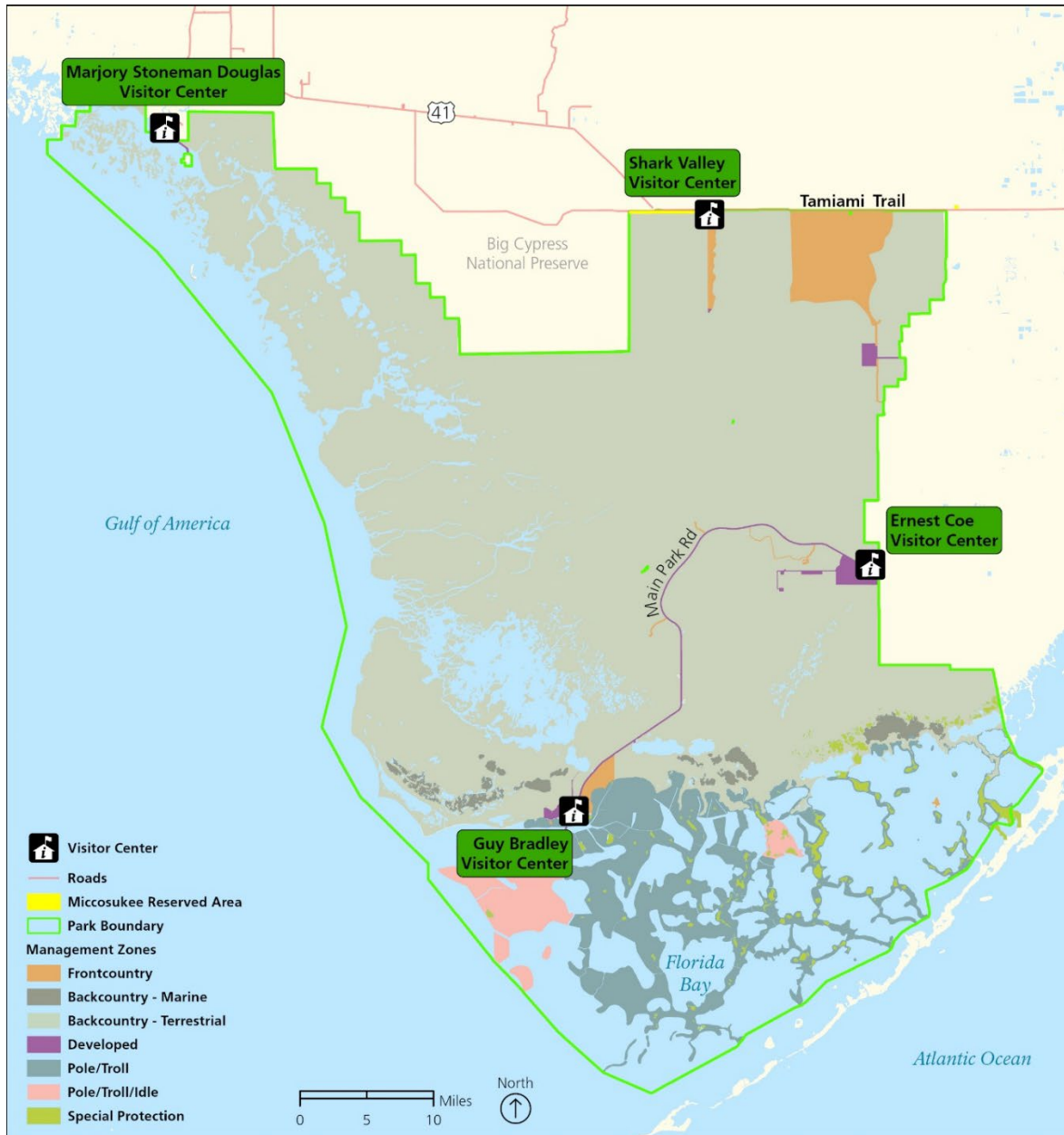
This chapter identifies management strategies and actions to achieve and maintain the desired conditions described in chapter 3 related to visitor use and resource protection and to address issues and opportunities described in chapter 1. This chapter begins with management strategies that are taken at a parkwide programmatic level and then presents strategies by park district.

This chapter describes current management of the park's wilderness areas as directed by the park's backcountry management plan (NPS 1981), general management plan (NPS 2015a), and NPS Management Policies (2006). This chapter also includes actions that have not yet been implemented but provide management direction. The actions in this plan are described in this section based on near-term (within 10 years) and long-term (more than 10 years) action items. When identifying which actions would be implemented in the near term, NPS staff considered input from Tribes, public comments, the feasibility of implementation, sustainability, relation to parkwide priorities, and the connection to the plan's purpose and need.

Actions in this plan and subsequent implementation plans would take years to accomplish, and updates would be needed. Future funding needs for actions would be evaluated on a case-by-case basis; however, there is no guarantee that the actions proposed in this plan would be funded. The National Park Service will continue to look for creative and diverse funding opportunities, and the implementation of proposed actions are subject to available funding. Budget restrictions, requirements for additional data or regulatory compliance, and competing national park system priorities may prevent the implementation of some actions.

PARKWIDE AND GENERAL ACTIONS / COMMON TO ALL OR MULTIPLE DISTRICTS

Management Zones



MAP 4. MANAGEMENT ZONES FOR EVERGLADES NATIONAL PARK

Everglades National Park has an approved set of management zones that were developed as part of the general management plan (NPS 2015a). Each management zone description includes desired conditions for natural and cultural resources, visitor opportunities and experiences, appropriate facilities, and management/research activities. Important or sensitive natural and cultural resources are found parkwide and, therefore, occur in multiple zones. The management

approach identified for these resources can vary as indicated in the desired resource conditions presented for each zone.

The National Park Service would continue to use management zone types, desired resource conditions, and route/designation types established by the general management plan. The National Park Service would continue to use adaptive management to fine-tune the zone locations—including idle and slow speed designations—over time. Although designated wilderness is not present in the developed and frontcountry zones, these zones provide access to wilderness. Brief zone descriptions are included below; refer to the general management plan for full descriptions.

Developed zone. This zone comprises the main visitor facility and service areas, including facilities and services related to visitor orientation and information. This zone also accommodates NPS operational facilities. This zone does not occur in designated wilderness.

Frontcountry zone. This zone consists of easily accessible attraction areas that provide opportunities for many visitors to enjoy and learn about the park. This zone does not occur in designated wilderness.

Backcountry (nonmotorized) zone. This zone is the wildest, providing opportunities for tranquil, nonmotorized wilderness experiences on land and water. This zone may occur in designated wilderness (land) or above (overlying) submerged marine wilderness.

Pole/troll zone. This water zone protects vulnerable shallow marine areas while allowing watercraft propelled by paddles, poles, or trolling motors. This zone may occur above (overlying) designated submerged marine wilderness.

Pole/troll/idle zone. This water zone protects sensitive shallow marine areas while allowing watercraft propelled by paddles, poles, trolling motors, and combustion engines operating at idle speed when there is sufficient water depth. This zone occurs in areas of the bay with variable water depths that can occasionally accommodate engine motors operating at idle speeds. This zone occurs on surface waters above (or overlying) designated submerged marine wilderness.

Boat access zone. This water zone provides access to various types of recreational watercraft, including motorboats. This zone may occur on surface waters above (overlying) designated submerged marine wilderness.

Special protection zone. This land or water zone protects key sensitive wildlife areas or areas serving as long-term ecological benchmarks for research. The areas are managed to protect the physical structure of habitats and ecological processes. This zone may occur in designated wilderness (land) or above (overlying) submerged marine wilderness.

This plan updates the management zone map from the general management plan to reflect the descriptions and desired conditions for management zones established by the general management plan, as follows:

- The four keys (Little Rabbit, North Nest, Carl Ross, and Bradley) in Florida Bay where visitor use is allowed would be zoned as backcountry.

- In the area of the Shark Valley frontcountry and developed zones, the boundary of the surrounding backcountry zone would follow the designated wilderness boundary.
- In the area of the Pine Island developed zone, the boundary of the surrounding backcountry zone would follow the designated wilderness boundary.

Visitor Use and Experience

The National Park Service would continue to provide a wide variety of recreational opportunities in wilderness, including paddling, fresh and saltwater fishing, overnight wilderness camping, wildlife and scenic viewing, horseback riding, and hiking.

Through this wilderness stewardship plan, the National Park Service would seek to enhance the diversity and quality of visitors' wilderness experiences; refer to the district sections to see district-specific strategies.

Accessibility

The National Park Service is committed to providing access to programs, facilities, and experiences for people of all abilities. Achieving accessibility in outdoor environments presents challenges and constraints posed by natural terrain and other factors. Where opportunities exist, the National Park Service would evaluate and carry out strategies to increase access to wilderness experiences. For example, as existing trails and trail infrastructure are modified or new trails are developed, the National Park Service would implement appropriate accessibility improvements to the extent practicable. Where physical access to wilderness or backcountry may not be possible because of terrain or other factors, the National Park Service would consider strategies to provide accessibility via programmatic means. These strategies could include immersive multimedia virtual tours or audio and video recordings.

Near-term actions:

- The National Park Service would improve trailhead signage to include information about the trail conditions and difficulty (e.g., trail length, surface type, tread width, running slope, cross slope, pinch points) that would enable visitors of all abilities to make informed decisions about which trails to use. Improvements would also be made to web-based social media, printed media, and visitor center resources regarding opportunities for persons with disabilities.

Boating

The National Park Service would continue to implement and enhance the Everglades mandatory boater education program established by the general management plan. The program provides boaters with information to help them avoid or minimize the risk of boat-boat collisions, boat-wildlife collisions, groundings, and other impacts on the submerged marine wilderness. The National Park Service would continue to use education, enforcement, and signage to prevent the dredging and use of human-created channels in mudflats.

Near-term actions:

- Develop and share guidance with visitors who are using motorboats to access wilderness (e.g., beaches, elevated camping platforms) to prevent unauthorized use of motorized equipment (e.g., generators on land) in wilderness.

Indicators, Thresholds, and Visitor Capacity

Near-term actions:

- The National Park Service would implement management strategies associated with indicators and thresholds and strategies to manage to visitor capacities. For more information, refer to chapter 5.

The National Park Service would conduct periodic wilderness visitor use surveys.

Wilderness Information, Interpretation, and Education

A park wilderness education strategy has been developed that complements this plan and would enhance these efforts. The wilderness education strategy would be updated periodically to address emerging issues and include new best practices. The National Park Service would also incorporate the NPS Wilderness Interpretation and Education Strategy (NPS 2023c) into park interpretation and education efforts.

The National Park Service would continue to provide interpretive and educational activities that assist the visitor in understanding wilderness values and ethics, as well as the qualities and benefits of wilderness. The National Park Service would continue to provide digital and in-person information about wilderness trip planning, including potential hazards, recommended precautions, Leave No Trace skills and ethics, park guidelines and regulations, and the benefits of a wilderness experience.

Near-term actions:

- Work with partners to provide additional outreach venues in local communities, including, but not limited to, local libraries, Florida Bay Forever, Bass Pro Shops, and county parks.

In communications to the public about wilderness trails, park staff would continue to set expectations for the conditions to be expected on wilderness trails. To ensure the public remains informed on current conditions to better manage their expectations, park managers would establish clear and consistent lines of communications across divisions.

Commercial Services

The National Park Service would continue to allow a variety of commercial services that are proper in wilderness through concession contracts and commercial use authorizations.

Commercial services support and, where appropriate, enhance recreational activities such as paddling, fresh and saltwater fishing, wilderness camping, wildlife and scenic viewing, and wet walking or hiking. Some of these commercial services occur outside wilderness but support accessing wilderness or contribute to public education and visitor enjoyment of wilderness values.

Through this wilderness stewardship plan, the National Park Service would pursue additional commercial services to improve visitor access to and experiences in wilderness through concession contracts and/or commercial use authorizations. Refer to the district sections to see district-specific strategies. This plan identifies appropriate commercial services through an extent necessary determination process (see the “Extent Necessary Determination” section in chapter 5 for more information). Any future commercial services would be evaluated through the same process.

Special Park Uses

Per NPS Management Policies 8.6.1.1, each request to permit a special park use or renew the authorization of an existing use will be reviewed and evaluated using criteria and procedures outlined in NPS Director’s Order 53: *Special Park Uses* according to the terms of applicable legislation, regulations, and this and other park management planning documents. Permit requests would continue to be handled on a case-by-case basis. When considering permit requests, the National Park Service would take into account the potential for adverse impacts on wilderness character.

Frontcountry Facilities to Support Wilderness Access and Use

The National Park Service would continue to maintain a variety of frontcountry facilities that support wilderness access and use. Through this wilderness stewardship plan, the National Park Service would seek to enhance the quality of frontcountry facilities that support wilderness access, education, and orientation. Refer to the district sections to see district-specific strategies.

Signage

Consistent with NPS Management Policies (2006), only those signs necessary for visitor safety or to protect wilderness resources, such as those identifying routes and distances, would be permitted. Where signs are used, they would be compatible with their surroundings and the minimum size possible.

Hiking and paddling trails would continue to be marked with the minimum markers necessary, in conjunction with online and published maps, brochures, and navigational aids (NPS 1981).

Long-term actions:

- The National Park Service would develop and implement a sign plan that includes standards for signs in wilderness to ensure appropriate uniform appearance. When

developing these standards, the National Park Service would look for opportunities to minimize the impact of signs on wilderness character. The plan would address trailhead signs, trail markers, wilderness campsite signs, wilderness boundary markers, regulatory markers, aids to navigation, and other signs as appropriate. The National Park Service would adopt an adaptive approach to sign management and reevaluate the number and placement of markers and signage whenever necessary. Where appropriate, the National Park Service would incorporate the use of digital/virtual markers.

Trails and Trail Maintenance

Trail Network

The National Park Service would continue to provide opportunities for hiking, horseback riding, and paddling on existing trails in wilderness.

Through this wilderness stewardship plan, the National Park Service would seek to enhance the trail network to better facilitate access into wilderness and support opportunities for primitive recreation. Additional trails would be established in the Gulf Coast, Pine Island, East Everglades, and Shark Valley Districts; see those sections for more details. The National Park Service would continue to assess the condition and use of hiking and paddling trails and the level of maintenance required.

Trail Maintenance

The National Park Service would continue to conduct a program of preventative and rehabilitative trail maintenance to provide opportunities for hiking, horseback riding, and paddling on existing trails in wilderness.

Vegetation management actions would continue to be carried out by park staff, volunteers, and/or contractors. All activities would occur on existing hiking and paddling trails, and any modifications would be limited to rerouting small sections of trail to avoid hazards or resource impacts. Activities would continue to include routine maintenance, as well as maintenance to reopen trails and maintenance following tropical storms or other events that periodically impact trails within wilderness.

Trails in wilderness areas would continue to provide visitors with a primitive setting that may differ from trails located outside wilderness. While the presence of trails facilitate access into wilderness and support opportunities for primitive recreation, they would convey a setting appropriate for wilderness areas. In other words, trails in wilderness would not be reminiscent of manicured trails that may be found elsewhere. Instead, wilderness trails would embrace the spirit and integrity of the experiential values associated with wilderness, including discovery, personal challenge, and self-reliance. Expectations of visitors should be that wilderness trails may be more challenging, with rocky or uneven tread or occasional obstacles that may need to be navigated.

The minimum required trail dimensions outlined below would continue to generally apply to those trails or portions thereof that are closed in and impassable. There would be no requirement to trim areas that are open and/or passable in wilderness areas. While portions of

any given trail may naturally be wider or more open, vegetation trimming would not exceed the desired conditions described below.

Hiking Trails

Most hiking trails would continue to be maintained to a minimum tread width not to exceed 2–3 feet. This maintenance would include trails comprising native soil and old roadbeds where vegetation has encroached (i.e., Bear Lake and Coastal Prairie Trails). The Old Ingraham Highway would be maintained at the width of the existing roadbed. Minimum maintained clearance height would not exceed 7–8 feet. This height would accommodate most people and is consistent with the interagency trail design parameters for the maintenance of trails based on their design use and trail class. For trails on which equestrian use is allowed, particularly the Coastal Prairie Trail, the clearance height would likely approach the upper limit of this range, based on an average height of horse and rider of 7 feet, 9 inches (per industry standard design dimensions for a horse and rider from Architectural Graphics Standards adopted by the USFS *Equestrian Design Guidebook*). Desired conditions for these trails would be reviewed and approved before implementation.

Paddling Trails

Where applicable, the width of paddling trails would continue to generally be maintained at the shoreline or mangrove prop roots, whichever is closest to the trail. Essentially, trails would follow the natural landscape. However, this may not apply for all trails or portions thereof. Paddling trails that were once wider but have since closed in may be trimmed beyond the current prop root location to reestablish the trail to facilitate appropriate activities for which it is intended (i.e., paddle craft only or a combination of motorized vessel and paddle craft). Additional consultation would be completed, if required, before extensive mangrove trimming. Desired conditions for these trails would be reviewed and approved before implementation. Once reestablished, trails would be routinely maintained at that width. Where applicable, the width of paddling trails would coincide with existing trail markers.

The minimum required clearance height for paddling trails would continue to be dependent on the size of the largest vessel that is appropriate for passing through the area and once identified, would not be exceeded. All heights would be in relation to mean high tide. The minimum required maintenance height for trails, or portions thereof, designed for paddle craft only would be 4–5 feet, which would accommodate the height of the average person's torso plus minimum paddle clearance. Trails, or portions thereof, designed for a combination of motorboat and paddling use would be cleared to an appropriate height to facilitate the passage of motorboats that are acceptable for the trail section being trimmed. This also applies to waterways through which the maintenance barge (approximate clearance height of 8 feet) would need to travel to service campsites. The Everglades Paddling Trail would be maintained as though it is primarily for paddlers (i.e., 4–5-foot clearance height) except for areas where the maintenance barge needs to access and service campsites.

Maintenance Season and Frequency

Vegetation maintenance would continue to generally occur annually but also on an as-needed basis dependent on trail conditions. The maintenance of most trails would typically occur in

October or November, before the busy winter season. This timing would ensure for the greatest opportunity for solitude for the maximum number of wilderness visitors. However, some trails, such as the Coastal Prairie and Bayshore Loop Trails, are typically flooded during these times. Therefore, maintenance of these seasonally flooded trails would typically occur in January or February when conditions are as dry and cool as possible. Maintenance times for all trails are considered best practices, and trimming may be conducted at any time of year, depending on vegetation growth and its impact on the trail or for post-storm recovery.

Any trail maintenance, particularly if it is to occur during the busy visitor use season, would continue to attempt to avoid work on weekends and holidays to minimize impacts on visitors. Trail crew leaders would coordinate with the Flamingo and Gulf Coast Visitor Centers in advance, where staff could either avoid issuing permits for campsites near the area planned for trimming or make visitors who wish to camp near these areas aware of proposed activities so they could plan accordingly. Notifications would be posted at the entrance station, trailhead, website, and other appropriate locations to notify visitors of trail closures and/or trimming operations so they could plan accordingly.

Campsites and Campsite Maintenance

Campsites

The National Park Service would continue its overnight wilderness camping program at the park, providing this opportunity through designated campsites in a variety of different settings (e.g., vegetation communities) and geographic areas of the park (NPS 1981). The National Park Service would continue to maintain ground, beach, and elevated camping platform campsites (Table 1) to make it possible for hikers, equestrians, paddlers, and boaters to make extended overnight trips and experience the vast wilderness resource. Campsite names and facilities can be found in each of the district sections. The National Park Service would continue to conduct campsite monitoring.

Table 1. Existing Wilderness Campsites

Site Name	Site Type	Elevated Platform Type	District
Alligator Creek	Ground	-	Flamingo
Broad River	Ground	-	Gulf Coast
Camp Lonesome	Ground	-	Gulf Coast
Canepatch	Ground	-	Flamingo
Clubhouse Beach	Beach	-	Flamingo
Crooked Creek	Elevated camping platform	Double	Gulf Coast
Darwin's Place	Ground	-	Gulf Coast
East Cape Sable	Beach	-	Flamingo
E. Clubhouse	Beach	-	Flamingo
Ernest Coe	Ground	-	Pine Island

Site Name	Site Type	Elevated Platform Type	District
Graveyard Creek	Ground	-	Flamingo
Harney River	Elevated camping platform	Double	Flamingo
Hell's Bay	Elevated camping platform	Double	Flamingo
Highland Beach	Beach	-	Gulf Coast
Hog Key	Beach	-	Gulf Coast
Ingraham	Ground	-	Pine Island
Jewell Key	Beach	-	Gulf Coast
Joe River	Elevated camping platform	Double	Flamingo
Johnson Key	Elevated camping platform	Double	Flamingo
Lane Bay	Elevated camping platform	Single	Flamingo
Lard Can	Ground	-	Flamingo
Little Rabbit Key	Ground	-	Flamingo
Lopez River	Ground	-	Gulf Coast
Lostman's Five	Ground	-	Gulf Coast
Middle Cape Sable	Beach	-	Flamingo
Mormon Key	Beach	-	Gulf Coast
New Turkey Key	Beach	-	Gulf Coast
North Nest Key	Ground	-	Flamingo
North River	Elevated camping platform	Single	Flamingo
NW Cape Sable	Beach	-	Flamingo
Oyster Bay	Elevated camping platform	Double	Flamingo
Pavilion Key	Beach	-	Gulf Coast
Pearl Bay	Elevated camping platform	Double	Flamingo
Picnic Key	Beach	-	Gulf Coast
Plate Creek	Elevated camping platform	Double	Gulf Coast
Rabbit Key	Beach	-	Gulf Coast
Roberts River	Elevated camping platform	Double	Flamingo
Rodgers River	Elevated camping platform	Double	Gulf Coast
Shark Point	Elevated camping platform	Double	Flamingo
Shark River	Elevated camping platform	Single	Flamingo
S. Joe River	Elevated camping platform	Double	Flamingo
Sweetwater	Elevated camping platform	Double	Gulf Coast

Site Name	Site Type	Elevated Platform Type	District
Tiger Key	Beach	-	Gulf Coast
Turkey Key	Beach	-	Gulf Coast
Watson's Place	Ground	-	Gulf Coast
Watson River	Elevated camping platform	Single	Flamingo
Willy Willy	Ground	-	Gulf Coast

Table 2. Total Existing Wilderness Campsites by District

Type of Campsite	Flamingo	Gulf Coast	Pine Island	Total
Ground	7	7	2	16
Beach	5	10	0	15
Elevated camping platforms	13	4	0	17
Total	24	21	2	47

New campsites would be established in the Flamingo and Gulf Coast Districts (NPS 2015a). See those sections for more details on location and facilities.

The National Park Service would also establish new campsites in the Shark Valley and Pine Island Districts. See those sections for more details on location and facilities.

Camping Permits

Wilderness permits would continue to be mandatory for overnight camping at all designated wilderness campsites at Recreation.gov. The National Park Service would allow wilderness permits to be reserved in advance through an online reservation system.

No wilderness permits or special use permits would be required when camping or sleeping in the submerged marine wilderness area aboard boats that are anchored out of sight of elevated camping platforms and 0.25 miles from occupied beach or ground sites. A shorter distance may be authorized at specific sites per the Superintendent's Compendium.

The National Park Service would continue to allow camping in wilderness areas other than a designated campground, designated campsite, or areas specifically closed to camping through special use permits (see the "Special Park Uses" section above) specified in the Superintendent's Compendium (NPS 1981).

To protect cultural and/or natural resources and visitor experiences, the following areas of the park would continue to be designated as areas where wilderness camping is not permitted (NPS 1981):

- All keys except those having designated wilderness campsites. Many keys are or may be used as rookery and feeding sites by bird populations and, as such, are set aside to provide undisturbed areas for such use.

- Within 0.5 miles of any developed area, paved road or the park boundary, and/or within sight of same. This prevents the intrusion of backcountry camping within view of main visitor points.
- All firebreaks except those having designated wilderness campsites. Unscheduled administrative use of these firebreaks could impact visitor safety and experience.
- Any area for which a notice has been given of a prescribed burn.
- Within 0.25 miles of occupied beach or ground sites campsites or within sight of elevated camping platforms.
- All of Long Pine Key except at designated wilderness campsites. The portion of the pinelands east of the Long Pine Key campground receives a large amount of day use for hiking, bicycling, and scheduled interpretive hikes.
- All hammocks except at designated wilderness campsites. The hammocks of the pinelands and elsewhere contain many rare and endemic plants, as well as organic soils very susceptible to compaction. They are thus open to disturbance, and camping would not be permitted unless it is determined through study that these areas can support use without significant damage to the soils or destruction of the rare plant habitat.

Additional areas would be closed to wilderness camping, as follows:

- All tree islands

The list of closed areas may change as other sensitive areas, such as archeological sites, become known or new information justifies the opening of previously closed sites. In addition, some areas may be subject to temporary closures (e.g., any area for which a notice has been given of a prescribed burn).

Visitors would continue to be allowed to temporarily occupy designated wilderness campsites for day use as long as the campsite is not already in use by the permit holder (NPS 1981).

Fires and Grills

In wilderness, ground fires would continue to be permitted only at sites specified in the Superintendent's Compendium. No designated grills or fire rings would be provided at wilderness campsites. Portable grills and stoves must meet the requirements specified in the Superintendent's Compendium. Use of portable grills or stoves would only be permitted in areas specified in the Superintendent's Compendium.

Picnic Tables

Picnic tables would be provided at campsites only where they are necessary for resource protection and when documented and approved through a minimum requirements analysis (NPS 1981).

Sanitation

Per NPS Management Policies 6.4.3.2, Leave No Trace principles and practices would continue to be applied. Currently, there are no trash cans in wilderness areas, and none would be placed. Wilderness users would continue to be required to carry out all refuse as defined in 36 CFR 1.4. The National Park Service would continue education and visitor contacts where necessary to ensure compliance with the policy.

The National Park Service would continue to use vault-type toilets at wilderness campsites where those facilities are needed to protect human health and safety and preserve park resources. The color of the vaults would be uniform and a natural color that reduces impacts on wilderness character. Toilets would continue to be placed at the edge of the site or on a dock to make them more accessible to maintain.

The National Park Service would continue to implement risk management strategies to mitigate backcountry vault toilet exposure during storms to the extent possible and would continue exploring ways to mitigate post-hurricane impacts related to vault toilets. The National Park Service would continue to research and pursue new opportunities to improve systems for managing human waste.

Vegetation Maintenance at Wilderness Campsites

The National Park Service would continue to conduct a program of preventative and rehabilitative maintenance and preservation to (1) provide a safe, sanitary, environmentally protective, and aesthetically pleasing environment for park visitors and employees; (2) protect the physical integrity of facilities; and (3) preserve or maintain facilities in their optimum sustainable condition to the greatest extent possible. This program includes routine maintenance, as well as maintenance following tropical storms or other events that periodically impact campsites in the park. Vegetation management actions would be carried out by park staff, volunteers, and/or contractors. All activities would occur at existing primitive campsites, including elevated camping platforms and ground and beach sites.

Elevated Camping Platforms

Some elevated camping platforms are situated adjacent to mangrove vegetation, which may require periodic trimming to prevent damage to the structures. In these situations, the minimum maintained vegetation clearance around elevated camping platforms would extend no more than 10–15 feet from the structure.

Beach Sites

Any trimming at these sites would be minimal. Desired conditions for these campsites would be reviewed and approved before implementation.

Ground Sites

Encroaching shrubs and trees would be trimmed back or removed to maintain the cleared camping areas at these sites. Vegetation encroaching on the docks and camping platforms at these sites would be cut back to 2–3 feet beyond the structure, and plants growing through the deck and railings would be pulled or cut. The size of the maintained area would vary among

ground sites based on current and historical extent, as well as current and desired campsite capacity. Initially, ground sites would be maintained at the existing footprint. Over time, ground sites that were once larger but have since closed in may be trimmed beyond the existing footprint to align the size of the site with the established visitor capacities. Once reestablished, campsites would be maintained at that footprint. Additional consultation would be completed when required before extensive mangrove trimming. Desired conditions for all campsites would be reviewed and approved before implementation.

Maintenance Season and Frequency

Vegetation maintenance would generally occur annually but on an as-needed basis, dependent on campsite conditions. Campsite maintenance would typically occur in October or November, before the busy winter season. This timing would ensure the greatest opportunity for solitude for the maximum number of wilderness visitors. However, maintenance times for all campsites are considered best practices, and trimming may be conducted at any time of year, depending on vegetation growth and its impact on the campsite or for post-storm recovery.

Any campsite maintenance, particularly if it is to occur during the busy visitor use season, would attempt to avoid work on weekends and holidays to minimize impacts on visitors. Crew leaders would coordinate with the Flamingo and Gulf Coast Visitor Centers in advance where staff could avoid issuing permits for campsites planned for trimming and notify visitors who wish to camp near these areas of proposed activities so they can plan accordingly. Notifications would be posted at the entrance station, trailhead, website, and other appropriate locations.

Campsite Management

The National Park Service would adaptively manage wilderness campsites to mitigate resource degradation, ongoing impacts from climate change, and other changes.

Near-term actions:

- Establish and implement protocols for monitoring impacts at campsites and identify adaptive strategies for how park staff would respond based on flooding frequency, climate change, and impacts on natural and cultural resources. Examples of adaptive strategies include, but are not limited to, temporary closures, site rehabilitation, installing camping platforms to provide a dry place for tents, or establishing elevated camping platforms in areas where beach or ground sites are no longer sustainable.

Long-term actions:

- Evaluate existing campsites for permanent closures or relocation.
- Evaluate existing campsites for active or passive restoration to natural conditions based on flooding frequency, impacts from climate change, and impacts on natural and cultural resources.

If a designated campsite is lost to natural processes, it may be reestablished and/or relocated. If a designated campsite does not meet established standards or if there is another environmentally preferred location, it may be relocated, unless the relocation would cause a greater overall impact on the area. A campsite may be relocated if it is necessary for natural and cultural

resource protection or to meet other desired conditions for wilderness. Campsites that are being impacted by climate change (e.g., ground sites that are being flooded; elevated camping platforms that are damaged or lost to hurricanes) may also be relocated. Relocations would be evaluated on an individual basis. The type of campsite may be changed (e.g., a ground site to an elevated camping platform). When considering potential new areas for campsite relocation, the National Park Service would use the wilderness campsite selection criteria listed below. Appropriate compliance, consultation, and civic engagement would be conducted if a campsite is to be relocated or a new campsite established.

Future Wilderness Campsite Selection and Relocation Criteria

The National Park Service would continue to use the following criteria for new wilderness campsite selection (NPS 1981):

- **Accessible by paddlers, hikers, and/or equestrians.** An objective of this plan is to locate wilderness campsites that would provide for nonmotorized forms of travel. Sites exposed to rough water or which require traversing long distances over open water are regarded as unsuitable.
- **Accessible by maintenance barge (specific to Gulf Coast and Florida Bay sites).** Campsites that have closed vault-type toilets must be pumped periodically by a barge. This barge requires 2 feet of water in which to run and a creek width of 15 feet to maneuver, plus an overhead clearance of 6 feet.
- **Apart from heavily traveled powerboat and airboat corridors.** One cannot escape totally from the possibility of meeting up with a motorized vessel; however, this potential can be minimized by the location of sites apart from heavily traveled boat corridors.
- **Exposure.** Prevailing winds are from the southeast. An open exposure offers some relief from insects and sites would be selected to take advantage of southeast winds. Consideration would also be given to protection from the colder north-northeast winds associated with winter fronts. In addition, factors such as vegetation and elevation in the area are important, as they apply to insect concentrations. Future elevated camping platforms would be located an appropriate distance from shore and/or vegetation to attempt to lessen insect problems. Tides would also be considered, as they affect access to the site both for visitors, as well as the maintenance barge.
- **Adheres to “nodal” concept.** This concept has particular advantages over a “string” or linear placement of sites. A collection of sites in a node offers ease in maintenance of the self-contained toilet and makes the patrol function easier by having all the sites nearby in relationship to one another. In particular, this concept would save energy and labor during the patrol and maintenance function. It also leaves the intervening areas free of developments.
- **Endangered and threatened species.** New wilderness campsites should not be located in areas where the use and/or maintenance of the campsite would jeopardize the survival of a threatened or endangered species.

- **Cultural resources.** New wilderness campsites would not be developed on sites identified as significant cultural resources or where the potential for cultural resource disturbance is great.
- **Effect on adjacent resources.** New wilderness campsites would not be located in areas sensitive to disturbance (e.g., rookeries, sensitive vegetation) by visitors using the sites. How the site fits in with the surrounding area would be considered.

Additional criteria would be established, as follows:

- **Ethnographic resources.** New wilderness campsites would not be established on sites known to have significant ethnographic resources or where the potential for disturbance to ethnographic resources is great.
- **Maintenance and resources required.** New wilderness campsites would not be located such that extra maintenance and resources would be required to keep the site in place. For example, future elevated camping platforms would be located in areas that are less vulnerable to hurricanes, if possible.
- **Future water levels.** Consideration should be given to expected future water levels (including sea level rise, storm surge, and changes in water flow going through the sloughs) and how those could affect access to a site or the possibility of flooding.

Cultural Resources Management

The National Park Service would continue to implement a comprehensive cultural resource management program (NPS 2015a). The National Park Service would continue to protect and maintain cultural resources according to the pertinent laws, policies, and plans using management methods that are consistent with the preservation of wilderness character and values. This includes implementing fire management, invasive plant management, and invasive nonnative animal programs; see those sections below for more information. Using the minimum requirement analysis, cultural resource surveys would be conducted as needed in wilderness areas (NPS 2015a, 177). The National Park Service would continue to consult Tribes early and often on the management of cultural resources that they are associated with and would consider and incorporate traditional Indigenous Knowledge into agency actions, as guided by policy.

The National Park Service would continue to strive to protect and preserve historic properties in accordance with all applicable laws, policies, and guidelines. However, instances may occur in which park managers cannot reasonably preserve a historic structure because of safety concerns or other conflicting and/or compelling management considerations (e.g., ecosystem restoration requirements). In those instances, the decision to remove or allow a structure to “molder” through benign neglect would only be carried out following review and approval by the regional director and consultation conducted in accordance with section 106 of the National Historic Preservation Act. Park staff would consult with the Florida state historic preservation office, associated Tribes, and other interested parties, as appropriate. As part of the mitigation, adversely affected properties would be documented and recorded according to the standards of the Historic American Buildings Survey / Historic American Engineering Record / Historic American Landscape Survey program (NPS 2015a).

As appropriate, the National Park Service would incorporate NPS guidance for considering and managing historic structures and installations from NPS Reference Manual 41 when planning for and managing cultural resources in wilderness.

Stewardship Partnerships

The National Park Service would continue to participate in and encourage ongoing partnerships with Tribal nations; local, state, and federal agencies; and nongovernmental organizations to enhance natural and cultural resource protection. The National Park Service would explore shared stewardship opportunities with Tribal nations as Tribal interest and capacity permits.

Natural Resources Management

The National Park Service would continue to implement a comprehensive natural resource management program (NPS 2015a). The National Park Service would continue to protect and maintain natural resources according to the pertinent laws, policies, and plans using management methods that are consistent with the preservation of wilderness character and values. Natural resource management activities, including the management of endangered species and critical habitat, would be carried out using the minimum requirements analysis process and would generally be undertaken to address the impacts of past and current uses or influences originating outside wilderness boundaries (NPS 2015a).

Fire Management

The National Park Service would continue to implement the Everglades National Park Fire Management Plan and its annual updates (NPS 2024e) to maintain and enhance the wilderness character of the Marjory Stoneman Douglas Wilderness and other areas of eligible, potential, and proposed wilderness by maintaining fire as a natural ecological process to the landscape and increasing the long-term naturalness of the area. Restoring and maintaining natural communities and protecting flora, fauna, and natural habitats at risk from unwanted fire impacts maintains fire-adapted vegetation communities and biological diversity, also improving the natural quality of wilderness character. The fire management plan is a detailed, comprehensive program of action to implement fire management policy principles and goals, consistent with park management objectives. The plan provides details on fire policy, park vegetation and fire regime, wildland fire management goals, fire management units, wildland fire operational guidance, and additional information.

The National Park Service would continue to employ a variety of fire management strategies to manage unplanned wildfires. Wildfires would be managed to protect life and property and to meet both protection and resource objectives. The strategies to manage fire include the following:

- Full suppression – a strategy used to achieve control of a fire and prevent it from exceeding a defined perimeter,
- Point/zone protection – a variety of suppression actions taken to protect a specific point or areas from fire usually by tactics that constrain progressive fire encroachment away from identified resources and values at risk, and

- Monitor/confine/contain – management actions conforming to a strategy that periodically checks to ensure it continues to meet established objectives.

The National Park Service would continue to plan prescribed fire fuels treatment as part of a multiyear fuels treatment plan. The multiyear fuels treatment plan includes the prioritization, selection, review, and update of fuels treatment projects. Prescribed fires would continue to be used to enhance and maintain the natural quality of wilderness, achieve hazard fuel reduction objectives, protect wildland-urban interfaces, and to meet resource management goals.

Per the Wilderness Act, permanent roads are prohibited in wilderness. Firebreaks that were historically used as logging roads would be maintained and treated as trails within wilderness, as consistent with NPS Management Policies 6.3.10.1. Motor vehicle access may be permitted as needed via a minimum requirements analysis.

Wilderness would continue to be considered within the multiyear fuels treatment plan with an associated programmatic minimum requirement analysis. This revolving multiyear scope of work would continue to be reviewed and updated annually as part of the annual fire management plan review update. Best management practices and mitigation measures would be used to prevent or minimize potential adverse effects associated with the plan.

Evidence indicates that fires have occurred in the Everglades for the past 5,000 years and that many fires could be attributed to Indigenous people (NPS 2015b). The National Park Service would continue working with local Tribal communities to incorporate traditional Indigenous knowledge into the fire-planning process. The National Park Service would also explore opportunities to incorporate cultural burning into the park's fire management program if appropriate; cultural burning refers to the Indigenous practice of using fire to clear areas for crops and travel, manage the land for specific species of both plants and animals, hunt game, or for other important uses (NPS 2024d).

Invasive Plant Management

The National Park Service would continue to implement the South Florida and Caribbean Parks Exotic Plant Management Plan (NPS 2010b) to maintain and enhance the wilderness character of the Marjory Stoneman Douglas Wilderness and other areas of eligible, potential, and proposed wilderness by reducing the impact of invasive plants on native plant and animal communities. Through that plan, the National Park Service would continue to apply a systematic approach that prioritizes invasive plants for treatment, monitors the effects of those treatments on invasive plants and park resources, and mitigates any adverse effects on park resources, as determined through the monitoring program. The National Park Service would continue to employ an adaptive management strategy using the results of monitoring to adjust treatment methods or mitigation methods to reach the desired future condition of treat areas in the park.

The National Park Service would continue to use decision tools to determine areas that are appropriate for active restoration, such as park areas that have been previously disturbed or areas with potential threatened and endangered species habitat or sensitive vegetation communities where a more rapid recovery is desirable. Other areas in the park would be left to

recover passively, i.e., native plant species are left to reestablish naturally from the presence of seeds in the soil or from the propagation of native plants in adjacent habitats.

The National Park Service would continue to complete minimum requirement analyses for invasive plant treatment projects and would pursue programmatic minimum requirement analyses where appropriate and feasible.

Invasive Nonnative Animal Management

The National Park Service would continue to work with partner agencies and nongovernmental organizations to understand the impacts that invasive nonnative animals have on the park's natural and cultural resources and to identify and implement effective management strategies to minimize their impacts. The minimum requirement analysis process would be applied as appropriate.

Restoration and Continued Management of Restored Areas

The National Park Service would continue to conduct small- and large-scale restoration projects in the park that enhance the natural quality and/or undeveloped quality of wilderness character (NPS 2015a). These projects include, but are not limited to, the restoration of disturbed sites to natural conditions, the restoration of extirpated native species or redistribution of native species, and the management and/or removal of invasive nonnative plants and animals from large areas.

Consistent with NPS Management Policies 6.3.7, these management actions would be attempted only when the knowledge and tools exist to accomplish clearly articulated goals. Minimum requirement analyses would be conducted to determine whether each proposed project is administratively necessary and, if it is, to select the minimum activity. Restoration activities that occur outside of wilderness would still require minimum requirement analyses if the action would be undertaken with the intent that the action would affect wilderness. As appropriate, the National Park Service would incorporate the NPS guidance for ecological interventions in wilderness from Reference Manual 41. The National Park Service would continue to develop and implement restoration plans that would be consistent with the preservation of wilderness character.

The National Park Service would continue to restore areas disturbed by past land uses to more natural conditions to enhance the natural quality and/or undeveloped quality of wilderness character (NPS 2015a). Such areas are generally concentrated in the East Everglades and Pine Island areas of the park and include former agricultural areas, airstrips, residential fill pads, roads, borrow pits, canals, and other human-made features on lands incompatible with ecosystem restoration purposes and fulfilling park goals. These projects would attempt to restore natural topography and habitats and may involve demolishing and removing nonhistoric structures, removing materials (including fill material), filling in borrow pits, and controlling and removing invasive nonnative vegetation.

The National Park Service would continue site restoration and resource management activities in the Hole-in-the-Donut area. See the Pine Island District section for specifics.

There is a long-standing, cooperative effort among federal, state, and local government agencies, Tribes, environmental organizations, universities, businesses, and local citizens to preserve and restore the greater Everglades ecosystem. Many ongoing and planned restoration projects outside of the park exist that are independent of and complementary to this wilderness stewardship plan. The National Park Service would work with cooperating agencies to minimize adverse impacts on wilderness character from external restoration projects.

Research and Monitoring

Consistent with NPS Management Policies 6.3.6.1, the National Park Service would encourage and continue to support appropriate scientific activities in wilderness. Even scientific activities (including inventory, monitoring, and research) that involve a potential impact on wilderness resources or values should be allowed when the benefits of what can be learned outweigh the impacts on wilderness resources or values.

Minimum requirement analyses would be conducted to determine whether each proposed project is the minimum requirement necessary to administer the area for the purpose of wilderness and, if it is, to select the minimum tools. Structures proposed for installation in wilderness must be temporary and designed to have no long-term impacts. New technology and techniques would be encouraged if they are less intrusive and cause less impact.

Consistent with NPS Management Policies 6.3.6.1, research and monitoring installations located in wilderness would be removed when determined to be no longer essential. Existing research and monitoring installations would be identified and evaluated for removal. The National Park Service would identify strategies to hold researchers accountable for the removal of research and monitoring installations once they are no longer being used for research purposes.

The National Park Service would continue wilderness character monitoring and looking for ways to improve monitoring (e.g., data quality) in the future.

Administrative Facilities and Activities

Administrative Facilities

Consistent with NPS Management Policies, administrative facilities may be allowed in wilderness only if they are determined to be the minimum requirement necessary to carry out wilderness management objectives and are specifically addressed in this wilderness stewardship plan or other planning documents. New roads would not be built in wilderness. Temporary roads and temporary vehicular access may be permitted only to meet the minimum requirements of emergency situations. Where abandoned roads exist in wilderness, they would be redesignated and used as trails, restored to natural conditions, or managed as a cultural resource as appropriate. Areas closed to visitor access would continue to be demarcated by pilings or other markers determined to be the minimum tool necessary.

The National Park Service would continue to maintain the minimum airboat trails necessary for administration of the area as wilderness. Administrative airboat use would continue to be evaluated using the minimum requirement concept.

No permanent heliports, helipads, or airstrips would be allowed in wilderness. Temporary landing facilities may be used to meet the minimum requirements of emergency situations. Site improvements determined to be essential for safety reasons during individual emergency situations may be authorized, but no site markings or improvements of any kind may be installed to support nonemergency use.

Consistent with NPS Management Policies, permanent storage caches would be prohibited in wilderness unless necessary for health and safety purposes or when such caches are determined necessary, justified, documented, and approved through a minimum requirements analysis.

The National Park Service would continue to maintain plugs on House and Slagle Ditches and Raulerson, East Cape, and Homestead Canals to limit the unnatural exchange of salt and fresh water through human-made canals and stabilize the natural function of the interior wetlands. Future plug maintenance or repair would be completed in compliance with the minimum requirements concept.

Administrative Activities

Activities necessary for the administration of wilderness (e.g., ranger patrols and operations, maintenance, resource management activities) would continue to be allowed in wilderness. If actions propose a Wilderness Act section 4(c) prohibited use or have the potential to adversely affect wilderness resources, the actions would be evaluated through a minimum requirements analysis.

Consistent with NPS Management Policies, the administrative use of motorized equipment, motor vehicles, or mechanical transport in wilderness will be authorized only if

- determined by the superintendent to be the minimum requirement needed by management to achieve the purposes of the area, including the preservation of wilderness character and values, in accordance with the Wilderness Act; or
- needed in emergency situations (for example, search and rescue, homeland security, law enforcement) involving the health or safety of persons actually within the area.

The National Park Service would pursue programmatic minimum requirements analyses for administrative activities that are routine, such as replacing elevated camping platforms or repairing and replacing hydrological monitoring stations.

Minimum Requirement

Per Management Policies 6.3.5, all proposed management actions in wilderness would be consistent with the minimum requirement concept. This concept is a documented process used to determine if administrative actions, projects, or programs undertaken by the National Park Service or its agents and affecting wilderness character, resources, or the visitor experience are necessary, and if so how to minimize impacts.

When determining minimum requirements, the potential disruption of wilderness character and resources will be considered before—and given significantly more weight than—economic efficiency and convenience. If a compromise of wilderness resources or character is

unavoidable, only those actions that preserve wilderness character and/or have localized, short-term adverse impacts would be acceptable.

The National Park Service would not require a minimum requirement analysis to use boat anchors in the submerged marine wilderness because (1) they do not meet the definition of installation in NPS Reference Manual 41, 3.1: “anything made by humans that is not intended for human occupation and is left unattended or left behind when the installer leaves the wilderness,” and (2) impacts on the submerged marine wilderness from proper use of boat anchors are very small compared to the size of the wilderness.

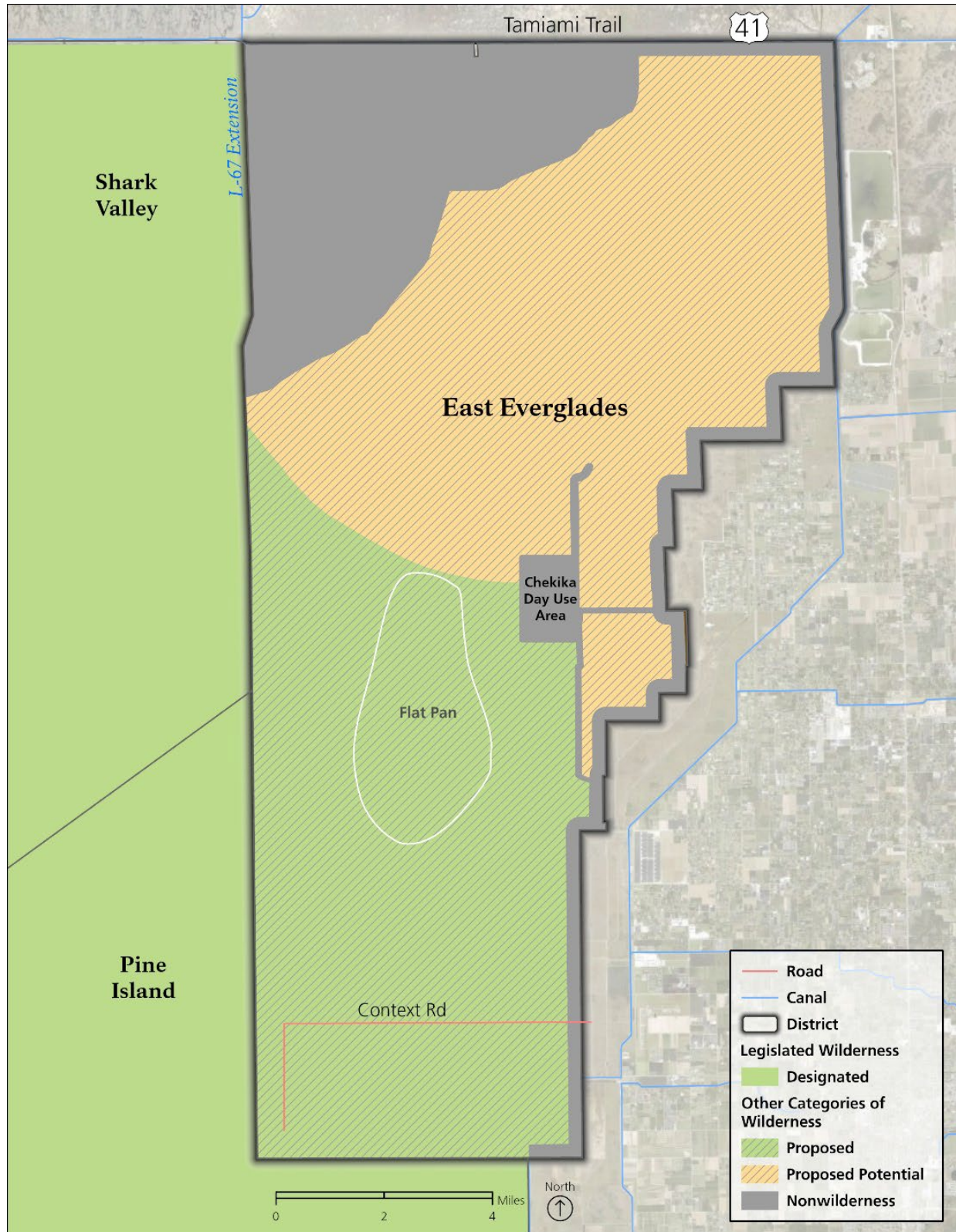
Tribal Relationships

The National Park Service recognizes that the continued relationship between Indigenous people and the landscape and resources of Everglades National Park is as much a part of the park’s wilderness character as the wetlands, sawgrass prairie, and biodiversity of this rich and unique ecosystem. Management strategies for the wilderness areas of Everglades National Park would consider that the landscape has supported humans since time immemorial and that humans have supported the landscape; incorporate Indigenous Knowledge; and facilitate ongoing connections between Indigenous people, their ancestors, and the landscape to ensure that the Everglades remains a living community. This plan would advance the park’s commitment to honoring Everglades homeland concepts, enhancing relationships between the agency and Tribal nations, and collaborating on natural and cultural resource stewardship of the wilderness areas of Everglades National Park.

Traditional Tribal Activities

The National Park Service would continue to encourage appropriate uses in wilderness by associated Tribes; appropriate uses would be determined through Tribal consultation. Examples of some current appropriate uses include, but are not limited to, arts, crafts, social institutions, and practicing religious ceremonies. The National Park Service would continue to accommodate access to and the ceremonial use of Indigenous sacred sites to the extent practicable and would avoid affecting the physical integrity of such sacred sites. This plan does not propose changes in these types of current uses or regulations in wilderness areas. Finally, as appropriate, the National Park Service would negotiate and enter into agreements with federally recognized Tribes for the gathering of plants or plant parts, per 36 CFR 2.6 and NPS Policy Memorandum 24-01.

EAST EVERGLADES DISTRICT



MAP 5. EAST EVERGLADES DISTRICT

Management Zones

Zone Descriptions

- **Frontcountry zone.** This zone comprises attraction areas that are easily accessible and provide opportunities for many visitors to enjoy and learn about the park. This zone does not occur in designated wilderness.
- **Developed zone.** This zone comprises the main visitor facility and service areas, including facilities and services related to visitor orientation and information. This zone also accommodates NPS operational facilities. This zone does not occur in designated wilderness.
- **Backcountry (nonmotorized) zone.** This zone is the wildest, providing opportunities for tranquil, nonmotorized wilderness experiences on land and water. This zone may occur in designated wilderness (land) or above (overlying) submerged marine wilderness.

For more information on the desired conditions for conditions and experiences in each zone, see the general management plan, volume 1, pages 49–51.

The northwest portion of the East Everglades District, where much of the private and commercial airboat use typically occurs, is managed as the frontcountry zone. Almost all the remaining area is managed as backcountry (nonmotorized), providing the classic Everglades wilderness experience of solitude and adventure. The Chekika day-use area, which includes Grossman Hammock, is currently managed as a developed zone. All of the backcountry area in the East Everglades Addition is either proposed or proposed potential wilderness. The southeast portion of the frontcountry area in the East Everglades Addition is proposed potential wilderness. Upon designation (and end of nonconforming uses), this plan would propose a zone redesignation of the proposed potential wilderness area from frontcountry to backcountry. The frontcountry and developed zones do not contain any wilderness but provide access to and serve as a gateway to wilderness.

Visitor Use and Experience

Private airboating by those eligible according to the 1989 East Everglades Expansion Act would continue in the frontcountry zone, which includes nonwilderness and proposed potential wilderness (NPS 2015a). No private recreational airboating occurs in designated wilderness.

In the future, the National Park Service would consider how facilities in the East Everglades District can support wilderness recreational opportunities such as the following:

- canoe/kayak launch locations to support future short- and long-distance paddling routes into wilderness
- hiking routes that extend into wilderness

New wilderness camping opportunities would be established in the East Everglades District (see “Campsites and Campsite Maintenance”).

New trails would be established to enhance opportunities for hiking and equestrian use (see “Trails and Trail Maintenance”). The use of horses would continue to be allowed in this district at specific locations identified in the Superintendent’s Compendium.

Wilderness Information, Interpretation, and Education

Education opportunities would be expanded in the East Everglades District, particularly education and recreation programs focused on park natural and cultural resources and ecosystem restoration efforts (NPS 2015a). The National Park Service would continue to look for new opportunities along the Tamiami Trail to provide wilderness information, interpretation, and education and to enhance wilderness information at existing turnouts. Interpretive and educational information for airboat tour visitors would continue to be guided by park interpretive and educational standards and coordinated with the park’s interpretive staff.

Commercial Services

Commercial airboats would continue to operate within the nonwilderness area of the frontcountry zone under NPS concession contracts (NPS 2015a). Only services and facilities that are necessary and appropriate to Everglades National Park, consistent with NPS concessions management laws and policies, would be provided.

The National Park Service would enhance commercial services in the East Everglades District to support wilderness recreational opportunities.

Long-term actions:

- Provide opportunities for paddlers to be dropped off by airboat at a canoe/kayak launch point near the southern end of the L67 extension canal or other locations where commercial airboats are authorized to operate outside of and adjacent to the wilderness boundary.
- Provide point-to-point shuttle service for paddlers and their equipment to existing and future canoe/kayak launch sites on the Tamiami Trail highway corridor (e.g., the L67 extension canal).

Frontcountry Facilities to Support Wilderness Access and Use

The National Park Service would continue to maintain a public boat ramp at Coopertown.

The L67 extension canal currently provides access to the East Everglades Addition and Shark River Slough. As the US Army Corps of Engineers (USACE) moves forward with the project to remove the levee and backfill the canal, the National Park Service would reevaluate how the levee and canal support visitor experiences in the East Everglades District.

Long-term actions:

- Evaluate existing and potential future launch sites along the Tamiami Trail highway corridor as hydrologic conditions and access along the highway corridor change.

Trails and Trail Maintenance

Currently, there are no maintained hiking or paddling trails in wilderness in this district.

Per the Everglades National Park Protection and Expansion Act of 1989, approximately 9,000 acres of the proposed potential wilderness area would continue to allow limited individual, private airboat use as provided for in section 103(c)(2) (although airboat use is an otherwise prohibited use in wilderness).

Within the East Everglades Addition, designated routes/trails (based on the existing airboat trail network) and the conditions under which they could be used would be identified for a variety of purposes (e.g., airboating for administrative, resource management, and research/monitoring purposes; private recreational airboating (per section 103(c)(2) of the Everglades National Park Protection and Expansion Act of 1989); concessioner airboat tours; nonmotorized recreational paddling). Future refinements to this network would be based on adaptive management and user capacity programs that evaluate ecosystem and park resource conditions (natural, cultural, wilderness) and visitor experiences over time and identify ways to improve resource conditions and visitor enjoyment of this area (NPS 2015a).

The National Park Service would enhance hiking and equestrian opportunities in the East Everglades District.

Long-term actions:

- Depending on the extent of future hydrologic conditions in the area, establish a new hiking/equestrian trail that uses “Context Road.” This trail would use the existing “road” corridor to allow for hikers and equestrians while retaining the ability for administrative vehicles to use the road when determined to be the minimum tool necessary. Little-to-no changes would occur in alignment, configuration, materials, or design. The trail would be minimally signed.
- Educate visitors about off-trail hiking opportunities available in East Everglades (e.g., Grossman’s Ridge, Flat Pan). National Park Service staff would provide information so people can plan safe visits (timing, general directions, conditions).
- Long-distance wilderness paddling routes (unmarked) would allow visitors to connect from the East Everglades District through Shark River Slough to the main park road, Everglades Paddling Trail, or Whitewater Bay / Gulf of Mexico (NPS 2015a). In the future, the National Park Service would consider appropriate paddling routes based on the proximity of sensitive natural and cultural resources, changing hydrologic conditions, and feasible access points.

Campsites and Campsite Maintenance

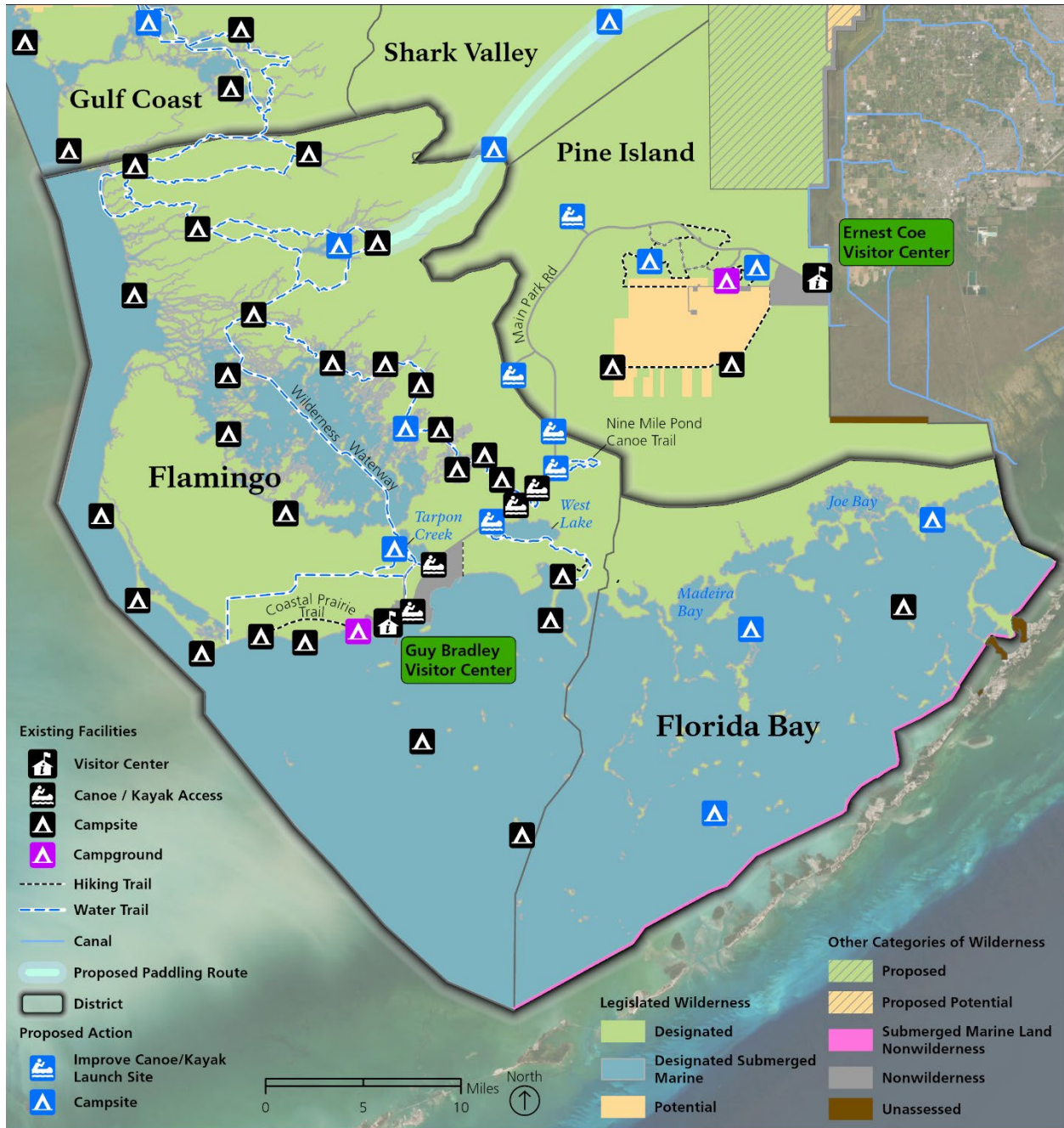
Currently, there are no NPS established and maintained campsites in this district.

In the future, the National Park Service would consider other appropriate wilderness campsite locations based on the proximity of sensitive natural and cultural resources, changing hydrologic conditions, and feasible access points.

Restoration

Restoration would continue to be conducted in the East Everglades District to restore degraded or damaged areas to natural conditions (NPS 2015a). This includes, but is not limited to, removing improved and unimproved roads, agricultural fields, canals, ditches, and other nonnatural features. Localized areas may be closed to public use for restoration purposes. These projects are not part of actions proposed in this wilderness stewardship plan and would be (or have been) covered under separate environmental compliance documents as appropriate.

FLAMINGO AND FLORIDA BAY DISTRICTS



MAP 6. FLAMINGO AND FLORIDA BAY DISTRICTS

Management Zones

This district contains portions of each of the management zones established by the general management plan. In this district, the frontcountry and developed zones do not contain any wilderness but provide access to and serve as a gateway to wilderness.

- **Developed zone.** This zone comprises the main visitor facility and service areas, including facilities and services related to visitor orientation and information. This zone also accommodates NPS operational facilities. This zone does not occur in designated wilderness.
- **Frontcountry zone.** This zone consists of easily accessible attraction areas that provide opportunities for many visitors to enjoy and learn about the park. This zone does not occur in designated wilderness.
- **Backcountry (nonmotorized) zone.** This zone is the wildest, providing opportunities for tranquil, nonmotorized wilderness experiences on land and water. This zone may occur in designated wilderness (land) or above (overlying) submerged marine wilderness.
- **Poll/troll zone.** This water zone protects vulnerable shallow marine areas while allowing watercraft propelled by paddles, poles, or trolling motors. This zone may occur on surface waters above (or overlying) designated submerged marine wilderness.
- **Poll/troll/idle zone.** This water zone protects sensitive shallow marine areas while allowing watercraft propelled by paddles, poles, trolling motors, and combustion engines operating at idle speed when there is sufficient water depth. This zone occurs in areas of the bay with variable water depths that can occasionally accommodate combustion engine motors operating at idle speeds. This zone occurs on surface waters above (or overlying) designated submerged marine wilderness.
- **Boat access zone.** This water zone provides access to various types of recreational watercraft, including motorboats. This zone may occur on surface waters above (or overlying) designated submerged marine wilderness.
- **Special protection zone.** This land or water zone protects key sensitive wildlife areas or areas serving as long-term ecological benchmarks for research. They are managed to protect the physical structure of habitats and ecological processes. This zone may occur in designated wilderness (land) or above (overlying) submerged marine wilderness.

For more information on the desired conditions for conditions and experiences in each zone, see the general management plan, volume 1, pages 49–51.

Visitor Use and Experience

Flamingo would continue to serve as the southern portal of the Wilderness Waterway and the Everglades Paddling Trail (NPS 2015a). The area is a major center for wildlife viewing, boating, camping, and fishing activities. Flamingo provides a variety of land- and water-based visitor opportunities to enjoy and learn about the park. Flamingo serves as a major boat access point to Florida Bay, Whitewater Bay, and numerous backcountry rivers and bays, some of which include designated ground campsites and elevated camping platforms. Park operations for western Florida Bay, Whitewater Bay, and Cape Sable would continue to remain at Flamingo. Increased education and recreational opportunities are based out of Flamingo and include more guided tours and land and water vendor services. Flamingo, like other entryways to park marine

waters (the upper keys and Everglades City / Chokoloskee), is an important location for contacting boaters and fulfilling the boater education requirement.

Motorboat access to Florida Bay would continue via existing channels/access routes, as identified on Everglades National Park Boater's Guide, NOAA charts (paper or electronic), and other products developed as part of the boater education program (such as GPS electronic charts) (NPS 2015a). Routes in Florida Bay would continue to include those already marked and maintained by park staff that would allow on-plane, idle speed, or slow speed transit, depending on the resource, visitor experience, and safety considerations. The park's designated channel/access routes would continue to be marked. The channel/access routes are often "gated" to indicate how boaters should enter and navigate through the corridor to avoid or minimize natural and wilderness resource impacts and ensure safe transit to the maximum extent possible. Responsibility for defining the channels to be marked, setting priorities, and placing and maintaining channels/access routes would be coordinated through park management and leadership.

Pole/troll and pole/troll/idle zones would continue to be minimally marked to preserve the scenery and aesthetics of Florida Bay and minimize maintenance requirements. Boaters would rely primarily on navigation skills, global positioning system (GPS) technology, marine charts, and materials developed for the boater education program to comply with the zone requirements.

A 300-foot idle speed buffer, no-wake area was designated along the mainland shoreline from Middle Cape eastward to Shell Creek (west end of Long Sound) by the 2015 general management plan. The purpose of this designation was to reduce shoreline erosion from motorboat wakes, improve safety and visitor experience for those on the shoreline or boating close to the shoreline, and better protect wildlife. This area would also continue to serve as a buffer that would improve the natural soundscapes in the adjacent backcountry and wilderness areas. In many places along the shoreline, the idle speed, no-wake designation is superseded by the more restrictive pole/troll zones. Visitors are expected to abide by pole/troll zone, pole/troll/idle zone, backcountry zone, and idle-speed requirements, except in emergency situations.

All areas of Crocodile Sanctuary (Little Madeira Bay and numerous other connected ponds and creeks) except Joe Bay and Snag Bay, as discussed below, would remain closed to public use and managed as a special protection zone (NPS 2015a). Joe Bay includes the smaller area to the east known as Snag Bay, and the two areas make up roughly 48% of Crocodile Sanctuary. Joe Bay and Snag Bay would remain closed to motorized use. An adaptive management program would be developed and implemented to evaluate the success of the opportunity in achieving desired resource and visitor experience conditions.

The four keys in the bay now open to visitor use—two that allow overnight stays (Little Rabbit and North Nest Keys) and two that are for day use only (Carl Ross and Bradley Key)—would remain open. All other keys would be in the special protection zone and remain closed to public use to protect nesting and roosting birds.

The use of horses would continue to be allowed in this district at specific locations identified in the Superintendent's Compendium.

Wilderness Information, Interpretation, and Education

The Guy Bradley Visitor Center would continue to provide visitor information, orientation, the boater education program, and wilderness camping permits (NPS 2015a).

The National Park Service would enhance visitor information and interpretation for wilderness in the Flamingo and Florida Bay Districts.

Near-term actions:

- Provide additional online interpretation and education opportunities for boater education and permit programs.
- To enhance wilderness paddling experiences, provide information about the Everglades Paddling Trail, which provides more opportunities for solitude, as an alternative to the Wilderness Waterway. Visitors would be encouraged to discover and explore a variety of other paddling options on their own.

Opportunities would continue for visitors to enjoy and learn more about Florida Bay via the many guided fishing trips and ecotours offered in this vast, complex area (NPS 2015a).

Commercial Services

Frontcountry concession services that support access to opportunities in wilderness would continue and include overnight accommodations, food service, a marina with boat rentals (motorized and nonmotorized vessels), the campground, backcountry fishing, van tours, and guided boat tours operated by commercial operators (NPS 2015a). The National Park Service would continue to work with concessioners, CUA holders, and other partners to support enhanced recreational and educational opportunities consistent with the goals of the general management plan.

The National Park Service would continue to support concessioners providing visitors with rental equipment and dropping visitors off for self-guided excursions.

The National Park Service would enhance commercial services to support wilderness recreational opportunities in the Flamingo and Florida Bay Districts.

Near-term actions:

- Consider new commercial services opportunities at North Nest Key that are “necessary and appropriate” by examining current visitor use patterns and cumulative impacts to resources.

Long-term actions:

- Work with concessioners to offer a full-service livery for wilderness excursions.

Frontcountry Facilities to Support Wilderness Access and Use

New facilities at Flamingo would be designed to be sustainable and elevated, hardened, and/or relocatable (NPS 2015a). Overnight guest accommodations provided via concession operations

include elevated lodges, houseboats, and year-round ecotents. The visitor center would continue to provide visitor information, orientation, ranger-led programs, the boater education program, and wilderness camping permits. The concessioner would continue to provide NPS-approved naturalist programs and tours in wilderness.

The National Park Service would enhance frontcountry facilities to support wilderness access and use in the Flamingo and Florida Bay Districts.

Near-term actions:

- Design and establish an accessible launch opportunity at the Nine Mile Pond paddle launch site to provide adaptive paddlers with a safe and accessible way to get on and off the water.
- Replace and relocate the Snake Bight Boardwalk to improve views of Florida Bay and birds along the shore.

Long-term actions:

- Design and establish an accessible launch opportunity and/or improvements at West Lake in coordination with other site improvements to provide adaptive paddlers with a safe and accessible way to get on and off the water.
- Pursue partnership opportunities for additional public boating launch sites that provide access to northern Florida Bay, including Long Sound and Joe Bay. For example, consider options at Manatee Creek or elsewhere on Manatee Bay.

Trails and Trail Maintenance

The National Park Service would continue to maintain and/or reopen the following existing water trails in this area as staff capacity and conditions allow: Wilderness Waterway, Everglades Paddling Trail, Bear Lake Canoe Trail, Mud Lake Canoe Trail, West Lake Canoe Trail, Noble Hammock Canoe Trail, Hells Bay Canoe Trail, and Nine Mile Pond Canoe Trail (NPS 2015a).

The National Park Service would continue to maintain the following existing land trails in this area: Coastal Prairie Trail, Bayshore Loop Trail, Bear Lake Trail, and Nest Key Trail.

The Wilderness Waterway would continue to be marked with the minimum markers necessary, in conjunction with online and published maps, brochures, and navigational aids (NPS 1981).

The Everglades Paddling Trail would continue to be minimally marked to preserve scenery and minimize maintenance requirements (NPS 2015a). The section of the trail in this district would be described by GPS waypoints with no trail markers. Most segments of the Everglades Paddling Trail would be in the boat access zone, and continued relatively infrequent use of these segments by motorboat would be expected. To provide wilderness paddling experiences, a few segments would be seasonally treated as backcountry (nonmotorized) zones during the peak winter and early spring seasons based on narrowness or shallowness of the water, low clearance to mangroves, and available alternate routes for motorboats.

Campsites and Campsite Maintenance

The National Park Service would continue to maintain the existing campsites and features listed in in Table 3.

**Table 3. Existing Campsites and Features in the
Flamingo / Florida Bay / Key Largo Area as of October 2023**

Name	Type of Campsite	Toilet	Dock
Alligator Creek	Ground	-	-
Canepatch	Ground	1	1
Clubhouse Beach	Beach	-	-
East Cape Sable	Beach	-	-
E. Clubhouse	Beach	-	-
Graveyard Creek	Ground	1	-
Harney River	Elevated camping platform (double)	1	-
Hell's Bay	Elevated camping platform (double)	1	-
Joe River	Elevated camping platform (double)	1	-
Johnson Key	Elevated camping platform (double)	1	-
Lane Bay	Elevated camping platform	1	-
Lard Can	Ground	1	1
Little Rabbit Key	Ground	2	1
Middle Cape Sable	Beach	-	-
North Nest Key	Ground	2	1
North River	Elevated camping platform	1	-
NW Cape Sable	Beach	-	-
Oyster Bay	Elevated camping platform (double)	1	-
Pearl Bay	Elevated camping platform (double)	1	-
Roberts River	Elevated camping platform (double)	1	-
Shark Point	Elevated camping platform (double)	1	-
Shark River	Elevated camping platform	1	-
S. Joe River	Elevated camping platform (double)	1	-
Watson River	Elevated camping platform	1	-

The National Park Service would continue to mitigate access challenges at Little Rabbit Key associated with routine flooding through facility upgrades and/or replacement (e.g., replacing the dock, extending the boardwalk).

The National Park Service would enhance camping opportunities and campsite maintenance in the Flamingo and Florida Bay Districts.

Near-term actions:

- Build three additional elevated platform campsites in the Florida Bay District and three additional elevated camping platforms in the Flamingo District to reduce the travel distance between campsites to a more reasonable length (i.e., 10–12 miles) (NPS 2015a). The platforms would be constructed in the water at the locations listed in Table 4 (Figures 4, 5).

Table 4. Locations of Constructed Platforms

Site Location	Type of Campsite	Toilet	Dock
Tarpon Bay	Elevated camping platform	1	-
Lane River	Elevated camping platform	1	-
Coot Bay	Elevated camping platform	1	-
Black Betsy Keys	Elevated camping platform	1	-
Long Sound	Elevated camping platform	1	-
Crab Keys	Elevated camping platform	1	-

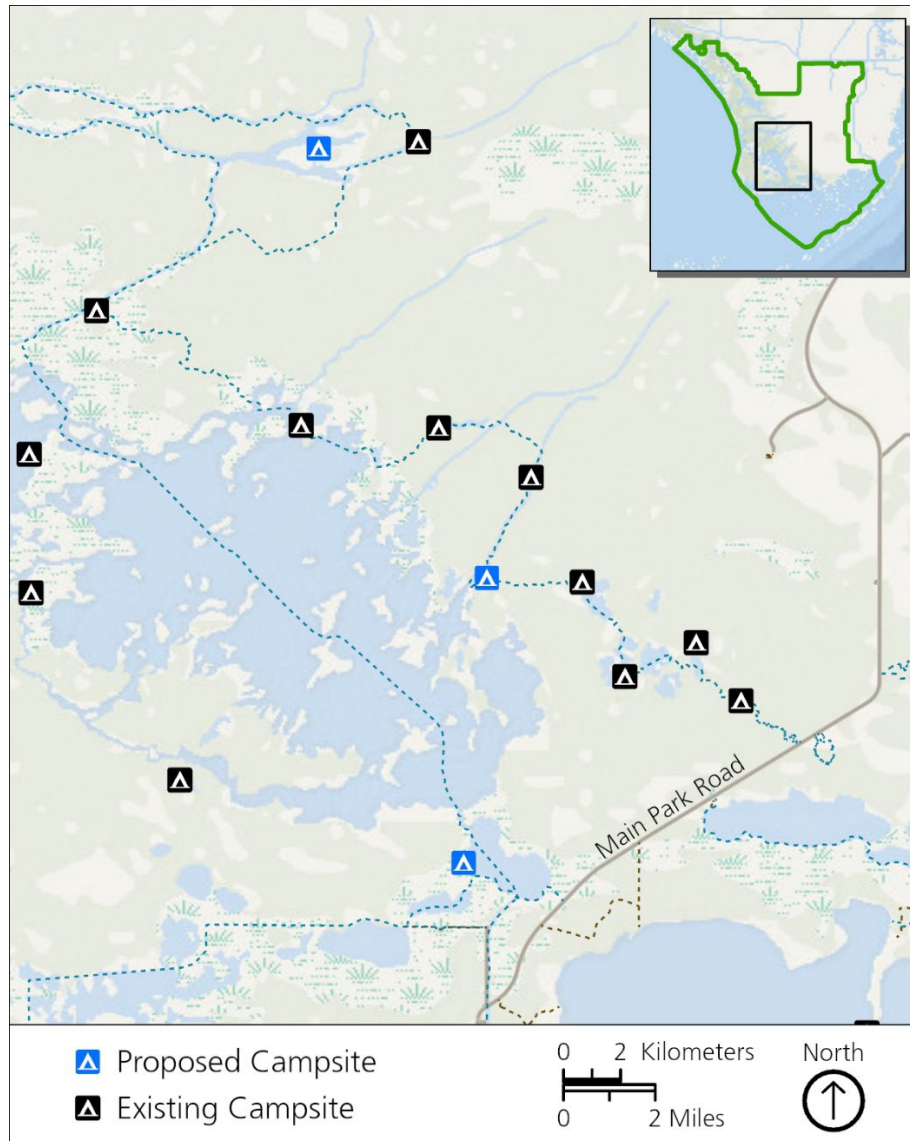


FIGURE 4. LOCATIONS OF NEW WILDERNESS CAMPSITES IN FLAMINGO DISTRICT



FIGURE 5. LOCATIONS OF NEW WILDERNESS CAMPSITES IN FLORIDA BAY DISTRICT

Long-term actions:

- Modify select campsites to be accessible (Architectural Barriers Act Accessibility Standards).

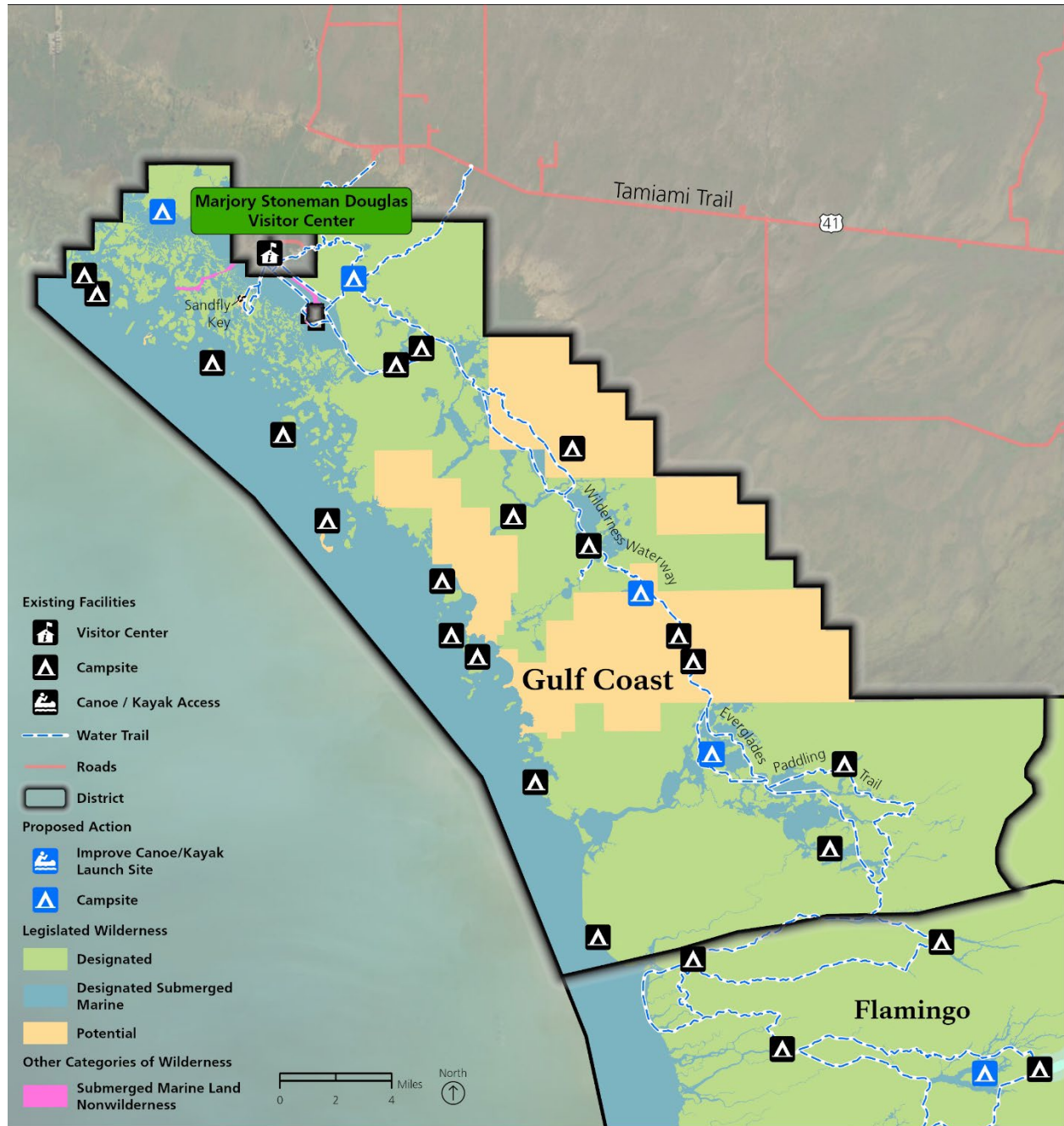
Restoration

Long-term actions:

- Implement monitoring and restoration efforts at North Nest Key to address visitor-caused impacts on natural resources.
- Establish a comprehensive seagrass restoration plan that would allow the park and partners to efficiently implement actions to address damage to submerged marine and wilderness resources from boat groundings and propeller scarring (NPS 2015a). Once

completed, the plan would provide the framework for partnerships with organizations and volunteer groups to help park managers restore important resources in the park.

GULF COAST DISTRICT



MAP 7. GULF COAST DISTRICT

Management Zones

This district contains portions of two management zones established by the general management plan:

- **Backcountry (nonmotorized) zone.** This zone is the wildest, providing opportunities for tranquil, nonmotorized wilderness experiences on land and water. This zone may

occur in designated wilderness (land) or above (overlying) submerged marine wilderness.

- **Boat access zone.** This water zone provides access to various types of recreational watercraft, including motorboats. This zone may occur on surface waters above (or overlying) designated submerged marine wilderness.

The boat access and backcountry zone would continue to have additional route types and designations identified by the general management plan. The manatee speed zones, along with signage, law enforcement commitments, and small, short, idle speed, no-wake areas for safety purposes would remain in the Gulf Coast / Ten Thousand Islands area. These areas would continue to be refined through the adaptive management process, and their current boundaries are available on the park website.

For more information on the desired conditions for conditions and experiences in each zone, see the general management plan.

Visitor Use and Experience

This area would continue to serve as a key visitor interpretive and recreational destination for short and multiday wilderness experiences focused on the area's natural and cultural resource diversity (NPS 2015a). The area is a major center for wildlife viewing, boating, and fishing activities.

The Marjory Stoneman Douglas Visitor Center and canoe/kayak launch, located in Everglades City, would continue to function as a major portal to wilderness areas in the western portion of the park, and visitors would continue to have access to the numerous designated campsites in marine and estuarine portions of the park (NPS 2015a). The Gulf Coast District of Everglades National Park would also continue to serve as the northern portal of the Wilderness Waterway and the Everglades Paddling Trail.

Wilderness Information, Interpretation, and Education

The National Park Service would enhance visitor information and interpretation for wilderness in the Gulf Coast District.

Near-term actions:

- Develop and install accessible exhibits about wilderness at the Marjory Stoneman Douglas Visitor Center that showcase different ways to interact with and receive information, from sensory exhibits to tactile maps and media.
- To enhance wilderness paddling experiences, provide information about the Everglades Paddling Trail, which provides more opportunities for solitude, as an alternative to the Wilderness Waterway. Visitors would be encouraged to discover and explore a variety of other paddling options on their own.
- Replace interpretive signs on Sandfly Island with regulatory signs and develop a strategy for alternate options to interpret natural and cultural resources present at Sandfly Island.

Commercial Services

Concession operation would continue and would offer expanded opportunities to visit the Ten Thousand Islands, the Gulf Coast, and the Wilderness Waterway through boat tours and canoe/kayak rentals (NPS 2015a). Other commercial services would be pursued to provide visitors with more opportunities, such as interpretive, fishing, and paddling tours.

The National Park Service would continue to work with concessioners, CUA holders, and other partners to offer point-to-point shuttle service from one end of the Wilderness Waterway to the other.

The National Park Service would continue to work with concessioners, CUA holders, and other partners to offer a full-service livery for wilderness excursions and day-use drop-off and pick-up services. This includes transporting visitors to the desired location, such as drop-offs along paddling trails, and providing the necessary rental equipment for a safe experience.

Frontcountry Facilities to Support Wilderness Access and Use

The Marjory Stoneman Douglas Visitor Center would continue to focus on interpretation, education, orientation, and concessions to address visitor opportunities in the western portion of the park, the protection of resources, and the issuance of wilderness permits (NPS 2015a).

Waterfront facilities would continue to provide public access and use and to support NPS and concession operations (NPS 2015a).

Trails and Trail Maintenance

The National Park Service would maintain the following existing water trails in this area: Wilderness Waterway, Everglades Paddling Trail, Halfway Creek Canoe Trail, Halfway Creek Loop Trail (located in Big Cypress National Preserve), and Turner River Canoe Trail (NPS 2015a). Everglades National Park staff would coordinate with Big Cypress National Preserve staff for portions of trails in the park unit.

The National Park Service would continue to maintain one land trail in this area: the Sandfly Island Trail (NPS 2015a).

The Wilderness Waterway would continue to be marked with the minimum markers necessary in conjunction with online and published maps, brochures, and navigational aids (NPS 1981).

The Everglades Paddling Trail would continue to be minimally marked to preserve scenery and minimize maintenance requirements (NPS 2015a). The section of the trail in this district would be described by GPS waypoints with no trail markers. Most segments of the Everglades Paddling Trail would be in the boat access zone, and continued, relatively infrequent use of these segments by motorboat is expected. To provide wilderness paddling experiences, a few segments will seasonally be treated as backcountry (nonmotorized) zones during the peak winter and early spring seasons based on narrowness or shallowness of the water, low clearance to mangroves, and available alternate routes for motorboats.

The National Park Service would encourage access to existing trails with historic value in the Gulf Coast District and provide additional interpretative opportunities.

Near-term actions:

- Provide information on the cultural history of Sandfly Island online and/or at the Marjory Stoneman Douglas Visitor Center.
- Commercial services operators transporting and/or guiding visitors to Sandfly Island would be required to synchronize the timing of their visits with NPS rangers' interpretive tours.

Long-term actions:

- Establish and maintain a new cultural heritage interpretive water trail (NPS 2015a). This trail would be designated but physically unmarked. Pamphlets and websites would provide visitors with an understanding of significant archeological and historic sites along the trail.

Campsites and Campsite Maintenance

In this area, the National Park Service would continue to maintain the existing campsites and features listed in Table 5. The National Park Service would continue to manage and maintain existing island camping sites using adaptive management to mitigate issues associated with frequent flooding.

Table 5. Existing Campsites and Features in the Gulf Coast District

Site Name	Type of Campsite	Toilet	Dock
Broad River	Ground	1	1
Camp Lonesome	Ground	1	1
Crooked Creek	Elevated camping platform (double)	1	-
Darwin's Place	Ground	1	-
Highland Beach	Beach	-	-
Hog Key	Beach	-	-
Jewell Key	Beach	1	-
Lopez River	Ground	1	-
Lostman's Five	Ground	1	1
Mormon Key	Beach	-	-
New Turkey Key	Beach	1	-
Pavilion Key	Beach	1	-
Picnic Key	Beach	2	-
Plate Creek	Elevated camping platform (double)	1	-
Rabbit Key	Beach	1	-
Rodgers River	Elevated camping platform	1	-

Site Name	Type of Campsite	Toilet	Dock
Sweetwater	Elevated camping platform (double)	1	
Tiger Key	Beach	-	-
Turkey Key	Beach	-	-
Watson's Place	Ground	1	1
Willy Willy	Ground	1	1

The National Park Service would enhance camping opportunities in the Gulf Coast District.

Near-term actions:

Build four additional elevated camping platforms in the Gulf Coast District to reduce paddling distance on multiday trips (NPS 2015a). The platforms would be constructed in the water at the locations in Table 6 (Figure 6).

Table 6. Proposed Campsite Platforms in Gulf Coast District

Proposed Site Location	Type of Campsite	Toilet	Dock
West Pass	Elevated camping platform	1	-
Alligator Bay	Elevated camping platform	1	-
Third Bay Lostmans	Elevated camping platform	1	-
Left-Hand Turner	Elevated camping platform	1	-

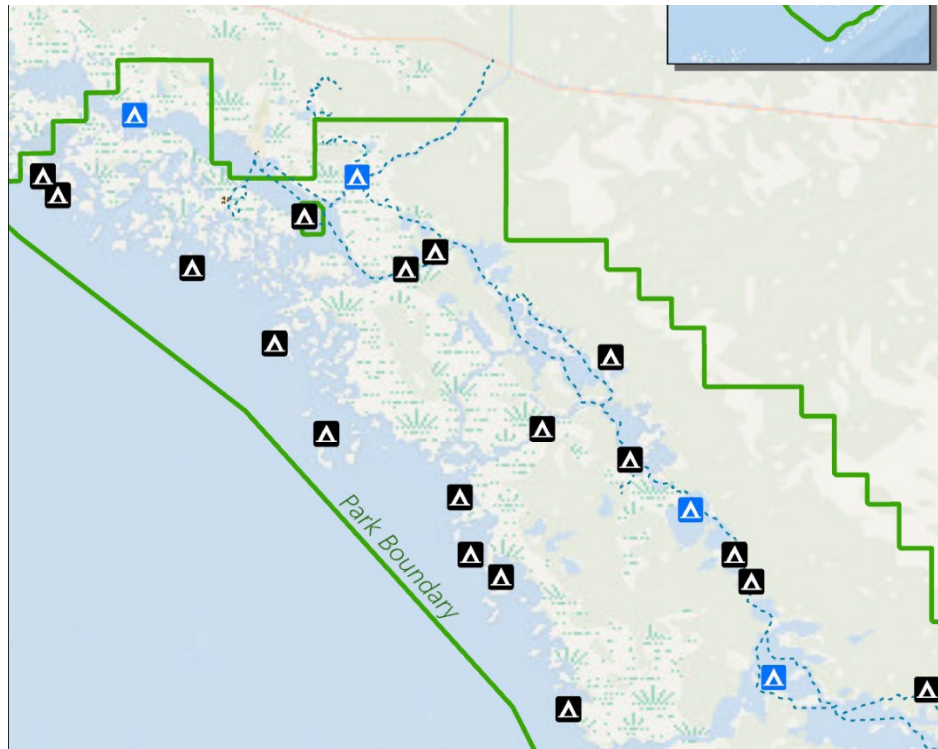
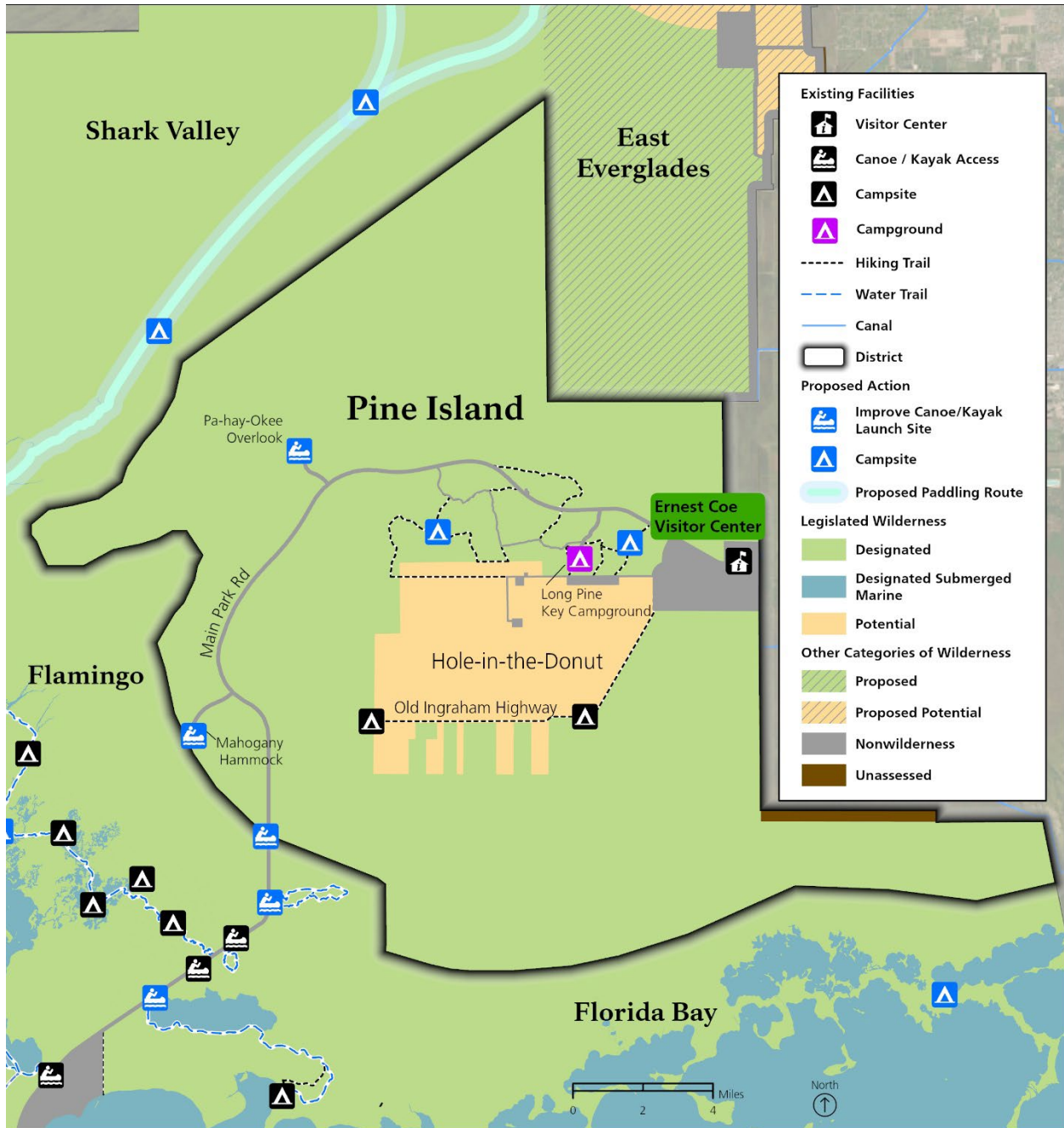


FIGURE 6. LOCATIONS OF NEW WILDERNESS CAMPSITES IN THE GULF COAST DISTRICT

Long-term actions:

- Modify select campsites to be accessible (Architectural Barriers Act Accessibility Standards).
- Relocate the Willy Willy campsite away from sensitive resources.

PINE ISLAND DISTRICT



MAP 8. PINE ISLAND DISTRICT

Management Zones

This district contains portions of three management zones established by the general management plan:

- **Developed zone.** This zone comprises the main visitor facility and service areas, including facilities and services related to visitor orientation and information. This zone

also accommodates NPS operational facilities. This zone does not occur in designated wilderness.

- **Frontcountry zone.** This zone consists of easily accessible attraction areas that provide opportunities for many visitors to enjoy and learn about the park. This zone does not occur in designated wilderness.
- **Backcountry (nonmotorized) zone.** This zone is the wildest, providing opportunities for tranquil, nonmotorized wilderness experiences on land and water. This zone may occur in designated wilderness (land) or above (overlying) submerged marine wilderness.

For more information on the desired conditions for conditions and experiences in each zone, see the general management plan, volume 1, pages 49–51.

Visitor Use and Experience

The area would continue to serve as a key visitor destination for information, orientation, education, and interpretation. Paddling, hiking, and “slough slogging” (walking in the wetlands) are the primary visitor activities in this area. Long Pine Key Campground and interpretive turnouts at attractions along the main park road would continue to provide basic facilities that support visitor use and interpretation opportunities. This district also provides hike-in wilderness camping opportunities.

The use of horses would continue to be allowed in this district at specific locations identified in the Superintendent’s Compendium.

Wilderness Information, Interpretation, and Education

The National Park Service would continue to provide wilderness information, orientation, education, and interpretation at the Ernest F. Coe Visitor Center (NPS 2015a).

The National Park Service would enhance wilderness information, orientation, and interpretation in this district.

Near-term actions:

- Provide new interpretation of the ongoing restoration at Hole-in-the-Donut.

Commercial Services

The National Park Service would continue work with concessioners, CUA holders, and other partners to support enhanced recreational and educational wilderness opportunities in this district consistent with the goals of the wilderness stewardship plan.

Long-term actions:

- Provide guided overnight camping experiences.
- Provide guided freshwater paddling experiences.

- Provide guided horseback trail rides with overnight wilderness camping.

Frontcountry Facilities to Support Wilderness Access and Use

The Ernest F. Coe Visitor Center would continue to be the primary site for information, orientation, and interpretation for visitors. Interpretive turnouts at attractions along the main park road would continue to provide information about wilderness. Roads (including the main park road) and trails in the district would continue to offer access points to wilderness.

The National Park Service would enhance frontcountry facilities in the Pine Island District to support wilderness access and use.

Long-term actions:

- Establish a canoe/kayak launch site on the Main Park Road approximately 1.2 miles west of the entrance station to provide paddling access to Taylor Slough.
- Establish new canoe/kayak launch sites at Pa-hay-Okee Overlook and Mahogany Hammock.

Trails and Trail Maintenance

The National Park Service would maintain the following wilderness hiking trails in this area: Old Ingraham Highway, Long Pine Key 3-in-1 Trail, and other Long Pine Key trails (NPS 2015a).

The National Park Service would enhance hiking opportunities in the Pine Island District.

Near-term actions:

- Design and construct a pullout by Sisal Pond. Vehicular access to the pond would be for park administrative use only when necessary.

Long-term actions:

- Explore formalizing trails to enhance additional hiking and wet walk opportunities off the Main Park Road (e.g., Sisal Pond, Sweet Bay Pond, Ficus Pond).
- Explore establishing paddling routes from Pa-hay-Okee Overlook, Mahogany Hammock, and Paurotis Pond.
- Formalize two trails to spoil disposal mounds in the Hole-in-the-Donut restoration area, depending on whether the mounds remain in place; these trails would repurpose existing access roads (NPS 2015a). From the mounds, visitors would be able to view vistas south across native marsh vegetation.

Campsites and Campsite Maintenance

The National Park Service would maintain the existing campsites and features listed in Table 7 (NPS 2015a).

Table 7. Existing Campsites and Features in the Pine Island-Royal Palm Area

Site Name	Type of Campsite	Toilet	Dock
Ernest Coe	Ground	-	-
Ingraham	Ground	-	-

The National Park Service would enhance the diversity of camping experiences in the Pine Island District.

Near-term actions:

- Establish two new hike-in wilderness campsites adjacent to the Long Pine Key trails. Overnight users would be required to obtain wilderness permits.

Long-term actions:

- Establish additional hike-in wilderness campsites adjacent to the Long Pine Key trails.
- Establish two to three wilderness campsites in Taylor Slough. Elevated camping platforms would be installed. Overnight users would be required to obtain wilderness camping permits.
- Explore opportunities to establish two new wilderness campsites on top of two of the spoil mounds in the Hole-in-the-Donut restoration area. Overnight users would be required to obtain wilderness camping permits. These campsites may occasionally be closed for the treatment of invasive plants.

Hole-in-the-Donut Wetland Mitigation Bank: Site Restoration and Management

Restoration activities in the Hole-in-the-Donut area would continue and would be carried out under the wilderness minimum requirements process (NPS 2015a). The National Park Service, Florida Department of Environmental Protection (FDEP), and the US Army Corps of Engineers (USACE) will continue to maintain the Hole-in-the-Donut area as an in lieu fee and mitigation bank project in accordance with the memorandum of understanding between these agencies (NPS 2019b). Long-term resource management activities in the Hole-in-the-Donut area would continue. Such resource management activities include the future treatment of nuisance and invasive plants, fire management and associated actions, and restoration monitoring.

The National Park Service would continue to explore opportunities to repurpose the materials in the eight spoil disposal mounds where farmed substrate and cut Brazilian pepper are stockpiled. Where feasible, roads used to access the spoil disposal mounds would be converted to trails or restored to natural conditions as appropriate.

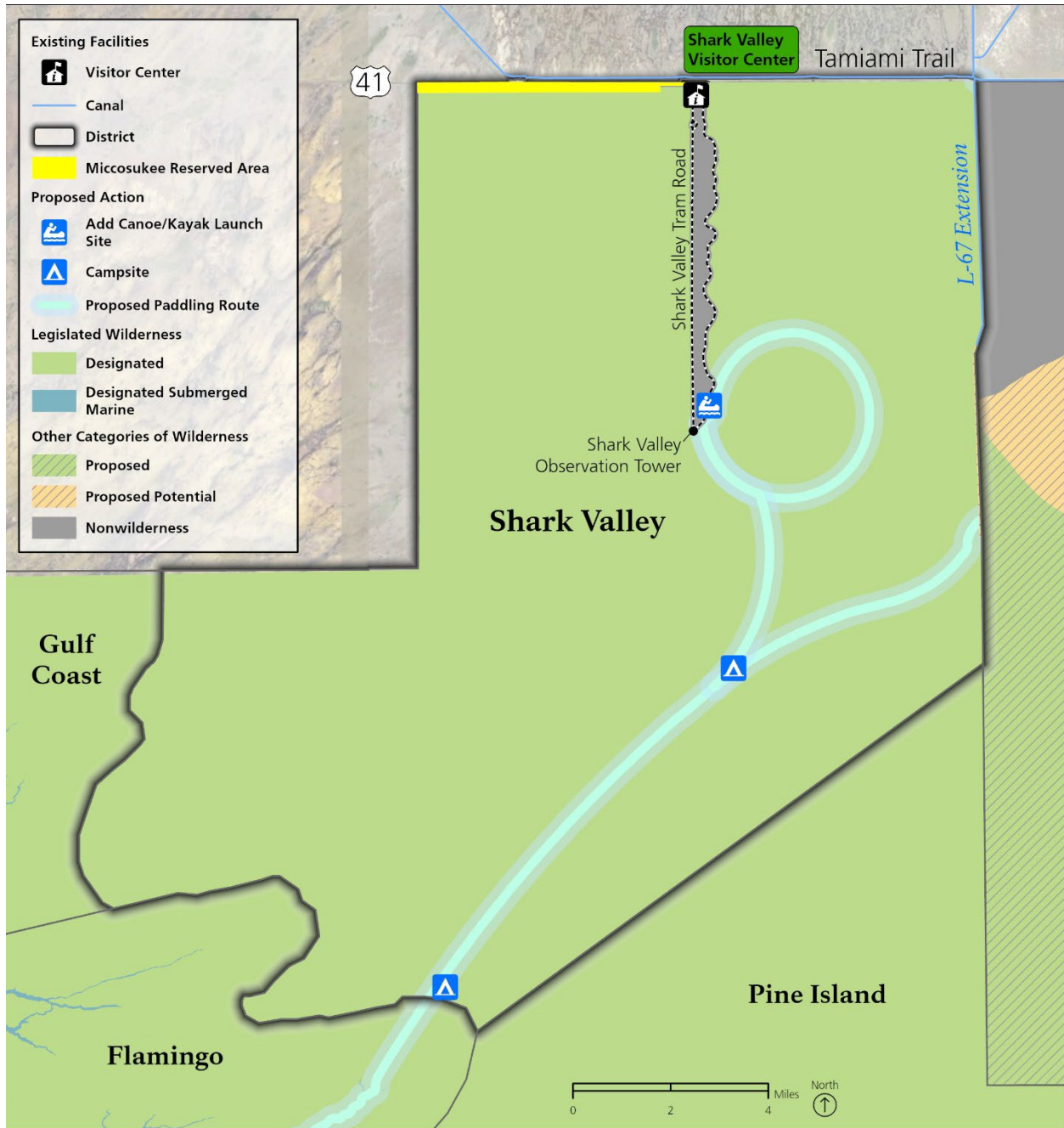
The National Park Service would pursue appropriate recreational opportunities in the Hole-in-the-Donut area through interagency coordination with the FDEP and USACE while preserving the Hole-in-the-Donut area in perpetuity in its natural condition or in an enhanced, restored, or created condition as may be provided for in the FDEP permit (as modified in 2019) and the Everglades National Park in-lieu-fee program instrument with the USACE (NPS 2024j).

Consistent with NPS Management Policies 6.2.2.1, lands identified as potential wilderness in the Hole-in-the-Donut area would be converted to designated wilderness upon determination that those lands meet the qualifications for designation by the cessation or termination of the nonconforming use or incompatible conditions.

Old Ingraham Highway

The National Park Service would continue to strive to protect and preserve historic properties in accordance with all applicable laws, policies, and guidelines (NPS 2015a). In the future, the National Park Service may consider new strategies to improve the flow of fresh water through the Everglades to create more natural hydrologic patterns and restore ecosystem functions; these strategies could include the removal or alteration of historic properties, such as Old Ingraham Highway, that are impeding the flow of fresh water. The decision to remove or alter historic properties would only be carried out following consultation conducted in accordance with section 106 of the National Historic Preservation Act. Park staff would consult with the Florida state historic preservation officer, associated Tribes, and other interested parties as appropriate. As part of the mitigation, adversely affected properties would be documented and recorded as appropriate to the standards of the Historic American Buildings Survey / Historic American Engineering Record / Historic American Landscape Survey program.

SHARK VALLEY DISTRICT



MAP 9. SHARK VALLEY DISTRICT

Management Zones

This district contains portions of three management zones established by the general management plan:

- **Developed zone.** This zone comprises the main visitor facility and service areas, including facilities and services related to visitor orientation and information. This zone

also accommodates NPS operational facilities. This zone does not occur in designated wilderness.

- **Frontcountry zone.** This zone consists of easily accessible attraction areas that provide opportunities for many visitors to enjoy and learn about the park. This zone does not occur in designated wilderness.
- **Backcountry (nonmotorized) zone.** This zone is the wildest, providing opportunities for tranquil, nonmotorized wilderness experiences on land and water. This zone may occur in designated wilderness (land) or above (overlying) submerged marine wilderness.

For more information on the desired conditions for conditions and experiences in each zone, see the general management plan, volume 1, pages 49–51.

The L67 extension canal and levee are currently managed as frontcountry zone. After restoration is complete (see “Restoration” below), the area would be reassessed to determine if it would be appropriate to manage as backcountry zone, depending on the level of disturbance and potential visitor use opportunities.

Visitor Use and Experience

The Shark Valley area would continue to serve as a key visitor interpretive and recreational destination for short nonwilderness experiences focused on the area’s natural and cultural resource diversity (NPS 2015a). The Shark Valley observation tower would continue to provide opportunities to view scenic vistas of the Everglades’ backcountry and wilderness.

The National Park Service would enhance paddling opportunities in the Shark Valley District. New short-distance paddling routes would allow visitors to explore the Shark River Slough. New long-distance paddling routes would allow visitors to connect through Shark River Slough to the main park road, Everglades Paddling Trail, or Whitewater Bay / Gulf of Mexico. See “Trails and Trail Maintenance” below for more information.

The National Park Service would enhance visitor use and experience in the Shark Valley District.

Long-term actions:

- The L67 extension canal currently provides access to the East Everglades Addition and Shark River Slough. As the USACE moves forward with the project to remove the levee and backfill the canal, the National Park Service would reevaluate how access into wilderness from this area supports visitor experiences in the Shark Valley District.

Wilderness Information, Interpretation and Education

See parkwide management strategies and actions for wilderness information, interpretation, and education.

Commercial Services

The National Park Service would work with concessioners, CUA holders, and other partners to enhance commercial services to support wilderness recreational opportunities in the Shark Valley District.

Long-term actions:

- Provide point-to-point shuttle service for paddlers and their equipment to canoe/kayak launch sites on the Tamiami Trail highway corridor.
- Provide shuttle service for paddlers and their equipment to the canoe/kayak launch site near the Shark Valley observation tower (if the launch site is opened to public use).
- Provide paddling and/or glade-skiff tours on trails identified in this plan (see “Trails and Trail Maintenance”) in the Shark Valley District.

Frontcountry Facilities to Support Wilderness Access and Use

The National Park Service would enhance frontcountry facilities in the Shark Valley District to support wilderness access and use.

Long-term actions:

- Open the administrative launch site on the Shark Valley Tram Road near the observation tower to public use.
- Establish a public canoe/kayak launch site at the L67 extension canal. As conditions in the L67 extension canal and levee change due to restoration efforts by the USACE, the National Park Service would reevaluate visitor use opportunities in this area.
- Reopen the old airboat launch and partner with Tribes to provide canoe/kayak launching and paddling opportunities in the Tamiami ranger station area.

Trails and Trail Maintenance

Currently, there are no maintained wilderness trails in this district.

The National Park Service would establish new paddling routes to expand freshwater paddling opportunities in the Shark Valley District.

Long-term actions:

- Establish a new short-distance paddling trail from the Shark Valley Tram Road canoe/kayak launch site near the observation tower.
- Establish a new long-distance paddling trail. This trail would support long-distance freshwater paddling opportunities from Shark River Slough to Whitewater Bay or to destinations on the park road. The trail would follow existing airboat trail(s), where feasible, and be minimally marked to preserve scenery and minimize maintenance.

Campsites and Campsite Maintenance

Currently, there are no designated wilderness campsites in this district. The National Park Service would enhance wilderness camping opportunities in the Shark Valley District.

Long-term actions:

- Install two new elevated camping platforms in Shark River Slough to accommodate overnight paddling trips. Their development and maintenance would be completed in a manner that minimizes adverse impacts on wilderness character.

Restoration

Per the NPS record of decision for the *Central Everglades Planning Project Final Integrated Project Implementation Report and Environmental Impact Statement*, adopted by the National Park Service in 2017, the US Army Corps of Engineers will remove approximately 5.5 miles of the L-67 Extension Levee and backfill its canal. These actions will help meet the purpose of the Central Everglades Planning Project by enhancing surface water flows from Water Conservation Area 3A into the park. The removal of the levee will be accomplished using equipment such as excavators, graders, and dump trucks. The depth of levee removal within the footprint of historic tree islands will be determined during the preconstruction engineering design phase of the project. The L-67 canal will be filled to match the grade of the surrounding marsh and allowed to revegetate naturally. The US Army Corps of Engineers plans to restore approximately 104 acres of wetlands. The National Park Service will continue to work with the US Army Corps of Engineers to ensure that the full range of mitigation commitments is implemented to reduce adverse impacts on wilderness character from restoration activities.

Once restoration is completed, the wilderness eligibility of this area would be reassessed.

Miccosukee Reserved Area

The Miccosukee Reserved Area Act (Public Law 105-313) was authorized by Congress in 1998 after the Marjory Stoneman Douglas Wilderness boundary was described in 1978. The Miccosukee Reserved Area partially overlaps the Marjory Stoneman Douglas Wilderness. The Miccosukee Reserved Area Act provides a legal framework under which the Tribe can live permanently and govern its own affairs in a modern community in the park and protects the park outside the Miccosukee Reserved Area from adverse effects of structures or activities within that area.



Chapter 5

Visitor Use Monitoring, Visitor Capacity, and Extent Necessary Determination

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CHAPTER 5: VISITOR USE MONITORING, VISITOR CAPACITY, AND EXTENT NECESSARY DETERMINATION

MONITORING

Overview

This section provides additional information about the monitoring strategy as it relates to the Everglades National Park Wilderness Stewardship Plan. The development of these components follows the guidance of the Interagency Visitor Use Management Council's Visitor Use Management Framework (IVUMC 2016). For additional resources in the Visitor Use Management Framework, please visit <https://visitorusemanagement.nps.gov/> (IVUMC).

Monitoring is the process of routinely and systematically gathering information or making observations to assess the status of specific resource conditions and visitor experiences (IVUMC 2019). Monitoring is designed and implemented to provide usable data for periodically comparing existing and desired conditions, assessing the need for management actions, and evaluating the efficacy of management actions. Monitoring is an integral component of resource and visitor use management in wilderness at Everglades National Park and allows managers to objectively and effectively evaluate whether desired conditions are being achieved and maintained. Monitoring also reveals how conditions change over time, including the rate and magnitude of change. A well-planned monitoring strategy provides for transparency, communication, and potential cost savings through efficiencies and possibly cost sharing.

Monitoring is accomplished by selecting indicators that are used to track trends in resource and experiential conditions. Established thresholds clearly define when conditions are becoming unacceptable for the selected indicators, thus alerting managers that a change in management action(s) is required. Together, indicators and thresholds help managers monitor and evaluate the effectiveness of management actions in achieving and maintaining desired conditions. The strategy also includes routine, systematic observations or data collection of the indicators over time, as well as associated documentation and analysis of the observations or data in relation to thresholds, or objectives.

Indicators are specific resource or experiential attributes that can be measured to track changes in conditions so that progress toward achieving and maintaining desired conditions can be assessed. Indicators translate the broad description of desired conditions into measurable attributes that can be tracked over time to evaluate changes in conditions. Therefore, indicators must correlate directly with desired conditions. In addition, indicators must be capable of being assessed objectively over time so that managers can determine whether conditions have changed and, if so, how. Indicators are critical components of monitoring the success of the plan. The interdisciplinary planning team considered the central issues driving the need for the plan and reviewed existing indicators developed in the 2015 general management plan and 2022 wilderness character baseline assessment. The wilderness stewardship plan identifies no new indicators and instead relies on indicators from previous plans and the wilderness character baseline assessment. Together, indicators from previous plans will allow park managers to track conditions over time and evaluate when management action may be needed. The following

indicators from previous plans were considered the most critical given the importance and vulnerability of the resource or visitor experience affected:

- US Geological Survey Everglades Depth Estimation Network for Support of Biological and Ecological Assessments to monitor water-level fluctuations, including from tidal and storm events (<https://sofia.usgs.gov/eden/stationlist-area.php?area=ENP>)
- Documented changes in the condition of cultural resources from human-caused threats and disturbances (by visitors and park management activities), as defined in the NPS Archeological Site Management Information System and List of Classified Structures (defined as good, fair, poor, or destroyed) (2015 general management plan, volume 1, page 116)
- Number of times per day birds are flushed from the roost or nesting colony (2015 general management plan, volume 1, page 116)
- Number of vessel groups encountered per day (during a 6-hour period during the day) more than 5 miles from park marinas, boat ramps, and launch sites on the Wilderness Waterway, Everglades Paddling Trail, and East Everglades Addition (2015 general management plan, volume 1, page 117)
- Number of groups encountered per day (during a 6-hour period during the day) more than 1 mile from trailheads along designated backcountry hiking trails (2015 general management plan, volume 1, page 118)
- Remoteness from sights and sounds of human activity inside wilderness (wilderness character baseline assessment, page 28)

Thresholds represent the minimum acceptable condition for each indicator and were established by considering the desired conditions, data on existing conditions, relevant research studies, the professional judgment of NPS staff from management experience, and scoping on public preferences. Although defined as “minimally acceptable,” thresholds still represent acceptable conditions. Establishing thresholds does not imply that no action would be taken before reaching the threshold. Thresholds identify when conditions approach unacceptable levels and serve as mechanisms to alert managers and the public that corrective action must be taken to keep conditions acceptable. Indicators and thresholds can be tracked over time and ultimately form the foundation of good monitoring protocols that would allow managers to maintain and achieve desired conditions for resources and visitor experiences.

Indicators, thresholds, monitoring protocols, management strategies, and potential future management strategies would be implemented as a result of this plan. The indicators identified in this plan do not represent an exhaustive list of all monitoring that is currently and will continue to be conducted at Everglades National Park. The relevant indicators from previous plans are referenced to evaluate changes in conditions related to changing visitor access and visitor use due to fluctuating water levels, and associated change in cultural and natural resource conditions, to preserve wilderness character and maintain and achieve wilderness stewardship plan desired conditions. See the general management plan and wilderness character baseline

assessment for thresholds and management strategies associated with prioritized indicators for the wilderness stewardship plan.

VISITOR CAPACITY IDENTIFICATION

Overview

This section provides visitor capacity information and identification as it relates to the Everglades National Park Wilderness Stewardship Plan. Visitor capacity is the maximum amounts and types of visitor use that an area can accommodate while achieving and maintaining the desired resource conditions and visitor experiences that are consistent with the purposes for which the area was established (IVUMC 2016) (<https://visitorusemanagement.nps.gov/>).

Visitor capacities for wilderness were identified using best practices and examples from other plans and projects across the National Park Service using the following basic guidelines: (1) determine the analysis area, (2) review existing direction and knowledge, (3) identify the limiting attribute, and (4) identify visitor capacity and strategies to manage the capacity.

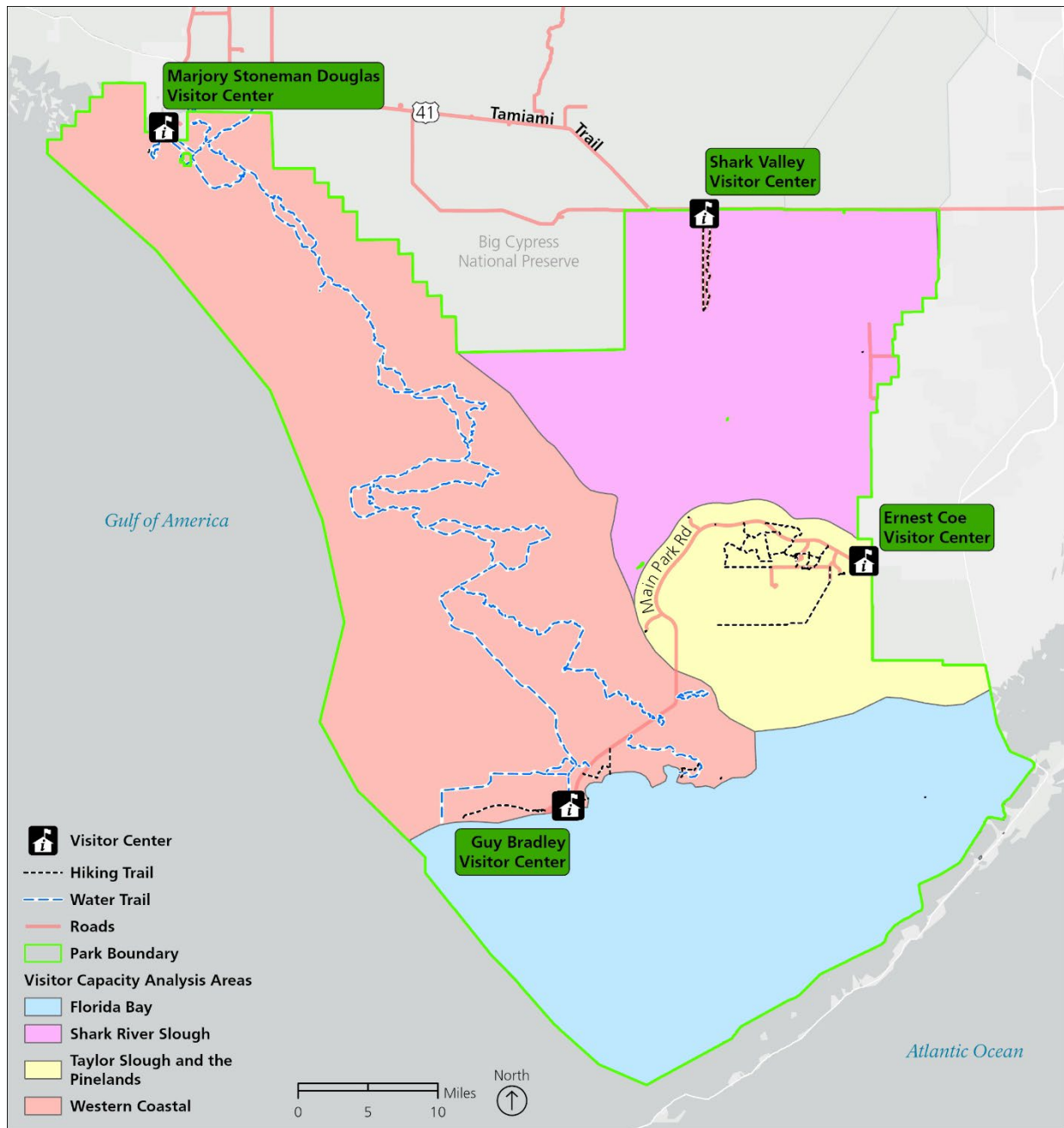
This section outlines the considerations and process used to identify visitor capacity for key destinations within wilderness.

Guideline 1. Determine the Analysis Area(s)

This guideline has far-reaching effects on identifying visitor capacity because it involves recognizing (1) where geographically the visitor capacity will be implemented, (2) the displacement or other unintended effects of managing visitor use levels, and (3) the effect of managing the allocation(s) of visitor use in the analysis area(s). To determine the appropriate wilderness analysis area(s), NPS staff sought to understand the relationship between existing and potential visitor use patterns and desired conditions for wilderness. As such, the boundaries of wilderness analysis areas, defined by visitor use patterns and desired conditions, differ from the management district boundaries used for administrative purposes.

The following areas were selected as wilderness analysis areas, excluding frontcountry areas. Since the wilderness stewardship plan focuses on managing designated, potential, proposed, and proposed potential wilderness, visitor capacity analysis is limited to these areas.

- Taylor Slough and the Pinelands (designated and potential wilderness areas)
- Florida Bay (designated wilderness areas)
- Western Coastal (designated and potential wilderness areas)
- Shark River Slough (designated, proposed, and proposed potential wilderness areas)



MAP 10. VISITOR CAPACITY ANALYSIS AREAS

The Florida Bay and Western Coastal analysis areas do not consider designated submerged marine wilderness since the sea floor is under traditional wilderness protection while the water column is nonwilderness. Visitor use in submerged marine wilderness areas occurs in the water column above the sea floor and is, therefore, excluded from the visitor capacity analysis.

To fulfill the requirements of the 1978 National Parks and Recreation Act (54 USC 100502), visitor capacity identifications are legally required for all destinations and areas that this planning effort addresses (IVUMC 2016). Future monitoring of use levels and indicators would

inform the National Park Service if use levels were at or near visitor capacities. If so, future potential management strategies, as outlined above in the “Indicators and Thresholds” section from previous plans, would be taken. For each location, an overview of the analysis is included below.

Guideline 2. Review Existing Direction and Knowledge

During this step, the planning team reviewed existing direction and knowledge, including the following:

- applicable law and policy
- prior applicable planning and guidance
- wilderness stewardship plan desired conditions
- existing conditions in the analysis area
- existing indicators, thresholds, and objectives that are relevant to the analysis area
- applicable existing management strategies and actions
- use patterns for commercial and other allocation categories

Each analysis area below includes an overview of its existing direction and knowledge.

The planning team used the IVUMC sliding analysis scale to ensure that the investment of time, money, and other resources to identify visitor capacity in wilderness is appropriate in the context of project complexity and decision consequences. The sliding scale focuses on four criteria: issue uncertainty, impact risk, stakeholder involvement, and level of controversy and/or the potential for litigation (IVUMC 2016). Issue uncertainty is low because there is a good amount of data and information to support issue identification. Impact risk is low since the vastness of wilderness, coupled with intentionally designed access and visitor opportunities, naturally distributes use in a way that does not compromise the integrity of cultural and natural resources. Stakeholder involvement is low because the park has a small number of interested and involved stakeholders that are supportive of the planning process and direction. Level of controversy is low since management actions are intended to further preserve and enhance resources while enhancing opportunities for visitor access to wilderness. Therefore, overall, the visitor capacity for this project is considered to warrant a low level of investment on the sliding scale of analysis, as evaluated using the four criteria. This analysis is informed by existing data, guidance, and park managers’ best judgment. Visitor capacities have been identified based on the best available information and will be reviewed and updated as part of the visitor use management planning process (figure 1).

Guideline 3. Identify the Limiting Attribute

This guideline involves identifying the attribute(s) that most constrains the analysis area’s ability to accommodate visitor use. The limiting or constraining attribute(s) may vary by analysis areas based on specific resources and desired conditions of the area. The interdisciplinary team

considered all potential attributes that would constrain the analysis area's ability to accommodate visitor use and identified the specific limiting attribute(s) most meaningful in guiding the analysis for each analysis area. This step is important given that wilderness areas could experience a variety of challenges regarding visitor use. Further, the interdisciplinary team identified the most relevant indicators related to the limiting attribute(s) to ensure desired conditions are achieved or maintained.

Guideline 4. Identify Visitor Capacity and Implementation Strategies

To identify the visitor capacity in each analysis area, outputs from previous guidelines were reviewed. This identification, in combination with annual visitation data collected by NPS staff to track levels of visitor use parkwide and by area, informed the identification of visitor capacities for each analysis area. Visitor capacities include the amounts and types of use for all user groups (i.e., hikers, paddlers, anglers, equestrians), both day and overnight users, commercial and general public use, and not seasonally specific. Visitor capacity management strategies and actions have been identified for implementation. Progressing along a continuum of management strategies and actions can redistribute amounts and types of visitor use and may be more effective in maintaining visitor use levels within an identified visitor capacity. Therefore, not all strategies would be implemented immediately; rather, implementation would occur as conditions change and thresholds are approached or exceeded. Those strategies are labeled as potential future management strategies.

Visitor capacity management strategies in all analysis areas include the following:

- Implement seasonal or other temporary closures to mitigate sensitive wildlife concerns, including nesting events.
- Increase law enforcement presence in areas with concentrated visitation to support visitor education, reinforce wilderness regulations, monitor conditions, and encourage appropriate distribution of use consistent with desired conditions.

Potential future adaptive management strategies to be implemented only as thresholds are approached or exceeded in all analysis areas include the following:

- Evaluate existing campsites for permanent closures or relocation.
- Evaluate existing campsites for active or passive restoration to natural conditions based on flooding frequency, impacts from climate change, and impacts on natural and cultural resources.

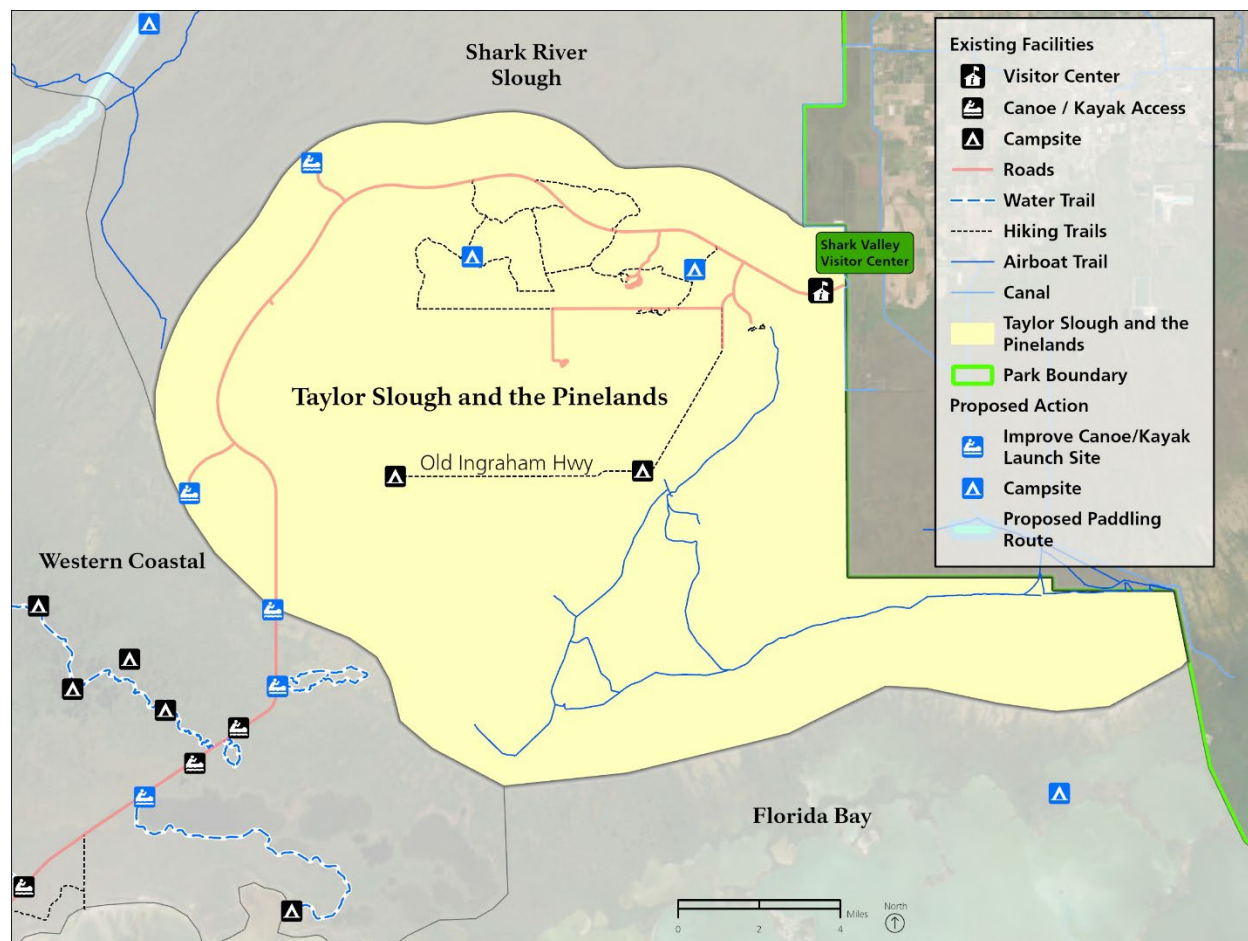
In addition to the visitor capacity, the planning team also identified the extent necessary determination that is required for wilderness. The extent necessary determination follows the visitor capacity identification and describes the extent that commercial services are both necessary and appropriate in the park wilderness areas through the use of a commercial allocation.

Visitor capacity metrics used in the identification include people in one day for day use in wilderness and for overnight wilderness camping and people per year for overnight wilderness

camping. Park staff identified the metric for each area that was most meaningful to manage to the capacity in that area. The metric is specified in guideline 4 in each analysis area.

Taylor Slough and the Pinelands

Review of Existing Direction and Knowledge



MAP 11. TAYLOR SLOUGH AND THE PINELANDS VISITOR CAPACITY ANALYSIS AREA

This analysis area encompasses areas adjacent to Main Park Road and is bound by the Florida Bay Management District to the south, the Southern Glades Wildlife and Environmental Area to the east (outside of the park boundary), and the Flamingo and Gulf Coast Management Districts to the west. The analysis area includes potential wilderness and designated wilderness areas in the Pine Island Management District and does not include frontcountry nonwilderness areas.

Here, visitors have opportunities for self-guided and ranger-led hiking in wilderness on the Long Pine Key trails, including the Long Pine Key 3-in-1 Walking Trail, and on the Old Ingraham Highway. The National Park Service would maintain hiking trails on Old Ingraham Highway, the Long Pine Key 3-in-1 Trail, and other Long Pine Key trails, including those in the frontcountry that are not part of this analysis area (NPS 2015a). Many visitors camping in the frontcountry concessions-operated Long Pine Key Campground venture into adjacent potential wilderness when exploring the Long Pine Key trails, more so from November through April

during the dry season when camping is more accessible due to the dry ground conditions. Similarly, up to 120 students participate in hiking on the Long Pine Key trails per week, especially during the dry season when trails are more accessible due to the dry ground conditions. Park ranger-led opportunities include slough slogging, or wet hikes and walks, with an observed average group size of 15 visitors per walk. In addition, an average of 35 people per day engage in commercially guided and private slough slogging, for an average of 50 people slough slogging per day in this analysis area.

The historic Old Ingraham Highway was the first motorway to Flamingo but now provides at least 10 miles (one way) of backpacking into the heart of the Everglades. This historic road can be flooded during the wetter months but allows for uninterrupted vistas of wilderness, including the Taylor Slough and tree islands looming in the distance. Old Ingraham Highway can be accessed from Royal Palm Road and provides opportunities for hiking and birding in proposed wilderness. Currently, the Old Ingraham Highway is primarily used by visitors for bird-watching, with an observed average of up to 10 bird-watching visits per day. Upon completion, the Hole in the Donut restoration project would provide additional daytime hiking opportunities in potential wilderness, offering vistas of native marsh vegetation.

On the east side of the analysis area, a network of administrative airboat trails provides visitors paddling access to Taylor Slough. Though public launch sites are limited and not widely known, visitors who use the administrative airboat trails to paddle to Taylor Slough experience open trails that make for unimpeded navigation. Further, the visitor capacity identification does not include airboats because no private airboating occurs in designated wilderness. Paddling beyond airboat trails in Taylor Slough, paddlers encounter dense sawgrass that at times creates conditions too challenging for paddling and requires pushing a canoe or kayak through the grass. Given current paddling conditions and access, it's rare for visitors to paddle in this analysis area, averaging less than five paddling trips per year.

Opportunities for overnight use in the analysis area include two designated wilderness ground campsites in potential wilderness. Both the Ernest Coe and Ingraham campsites can be accessed by foot from the Old Ingraham Highway and would continue to be maintained by the National Park Service. Visitors typically hike into these campsites during the day and may engage in other types of recreation such as wildlife viewing along the way. Current use for the Ernest Coe and Ingraham campsites, which can accommodate up to 8 people each, is 2 permits per year, or up to 16 people per year. The National Park Service would establish two new hike-in wilderness campsites adjacent to the Long Pine Key trails, accommodating up to 8 people each and expanding opportunities for overnight use in this analysis area. Canoe and kayak camping in this analysis area requires visitors to obtain a special use permit per the Superintendent's Compendium. Visitors camping overnight on their canoe or kayak experience dark night skies and natural sounds of frogs, birds, and insects throughout the night.

Freshwater fishing opportunities in designated wilderness are available at Sisal Pond and Ficus Pond, freshwater borrow pits approximately 15 miles and 17 miles from the park entrance, respectively. Visitors can currently access Sisal Pond through the unpaved Sisal Pond Access Road off the Main Park Road. Ficus Pond can be accessed via a footpath from Main Park Road, though parking is unavailable in the immediate area. Visitors are required to have a freshwater

fishing license to fish in these ponds. Current freshwater fishing use in this analysis area averages one angler per day.

This district would continue to offer opportunities for equestrian use in frontcountry, potential wilderness, and designated wilderness per the Superintendent's Compendium. Visitors seeking equestrian experiences in wilderness find opportunities along Old Ingraham Highway (potential wilderness) and on the Long Pine Key trails (designated wilderness).

Considering current amounts and types of use described above, park staff estimate that just under 100 people in one day recreate in wilderness in this analysis area.

Limiting Attributes and Relevant Indicators

The limiting attributes that most constrain the amounts and types of use that the Taylor Slough and the Pinelands analysis area can accommodate is the quality of visitor experience and water-level fluctuations.

Desired conditions for opportunities for solitude or primitive and unconfined recreation quality include opportunities to be self-reliant and experience personal challenge, discovery, and the freedom to explore to the extent practical, and visitors have opportunities for a wide range of primitive recreation that offer a sense of timelessness, reflections, self-reliance, and adventure. As noted in the "Review of Existing Direction and Knowledge" section, fluctuating water levels create more challenging and unpredictable conditions for visitors, requiring them to have a higher level of self-reliance to ensure a safe and enjoyable experience in wilderness. Visitors recreating in wilderness during the wet season, from May through November, encounter a higher degree of challenge and risk given the environmental conditions of overall higher water levels. Hiking, equestrian use, paddling, and overnight use are most constrained by fluctuating water levels, as the changing conditions inform, and at times restrict, the ability to access and experience these activities consistent with desired conditions. When water levels rise, launches, hiking trails, and ground campsites often become submerged and inaccessible, limiting the opportunity for visitors to access these experiences in wilderness and concentrating visitor use in areas that remain accessible. Further, temperatures are hotter, and combined with the consistent presence of insects and higher average water levels, visitors experience potentially hazardous exposure conditions when recreating in wilderness during the wet season, decreasing the overall quality of the experience. These conditions lead to times when visitors are displaced from areas deeper in wilderness and further from the frontcountry, concentrating them in areas that are more accessible with more favorable conditions given water-level fluctuations and the associated challenges.

Desired conditions for the other features of value quality include cultural features and stories of significance, such as Indigenous landscape elements, historic sites, and archeological artifacts, are interpreted, protected, and preserved. Fluctuating water levels continuously expose and submerge sensitive cultural resources, eroding the condition over time as water levels continue to change. Further, as fluctuating water levels change visitor access and recreation patterns, sensitive cultural resources are exposed to human-caused disturbance as visitors adapt their behaviors to conditions, such as pushing their canoe or kayak through dry grounds when water levels are low.

The most relevant indicators to monitor changes in these conditions are water-level fluctuations, number of groups encountered per day (6 hours), and change in cultural resource conditions from human-caused threats and disturbances.

Visitor Capacity and Implementation Strategies

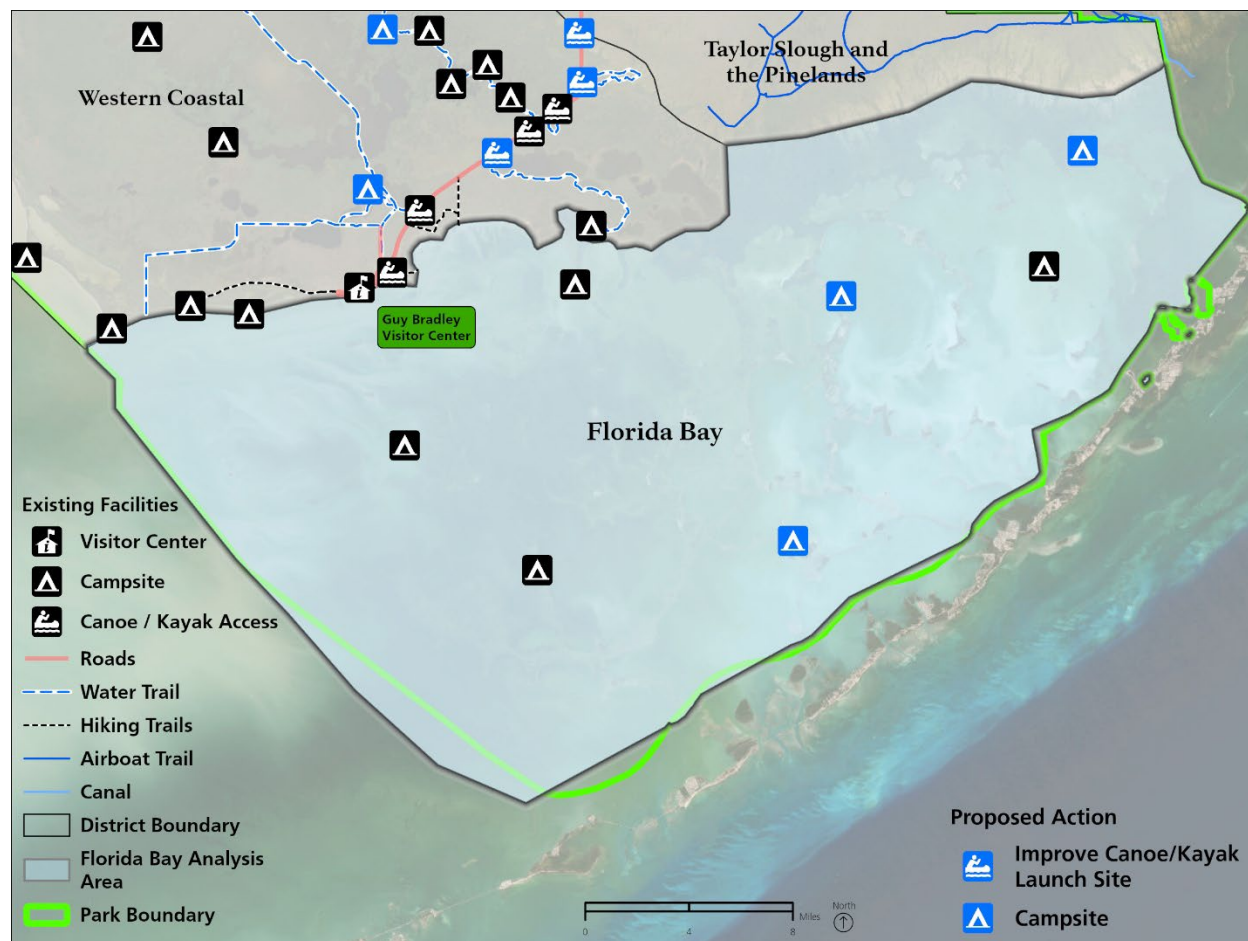
For the Taylor Slough and the Pinelands analysis area, visitor capacities are expressed as people in one day for day use and overnight camping in wilderness.

Given the existing conditions and limiting attributes described above, visitor capacity can increase from current use levels while achieving and maintaining desired conditions.

Current Taylor Slough and the Pinelands use levels, 100 people in one day, are achieving and maintaining desired conditions for visitor experience and resources. Current conditions allow visitors to experience self-reliance and personal challenges, discovery, and the freedom to explore to the extent practical, and use can increase while still maintaining these desired conditions. Further, the protection and preservation of cultural features of significance inform the amounts and types of use that this analysis area can accommodate, in addition to the finite number of campsites. Actions implemented in the proposed action would continue to provide hiking, slough sloggong, equestrian use, and camping opportunities and would further expand opportunities for overnight use in wilderness with the establishment of two new wilderness campsites. Visitor capacity can be increased from current use levels while still achieving and maintaining desired conditions. Therefore, the identified visitor capacity for this analysis area is 200 people in one day, which includes up to 32 people seeking overnight camping experiences in wilderness. Commercial allocation for this analysis area was identified as 88% of total use and is described in detail in the “Extent Necessary Determination” section below.

Florida Bay

Review of Existing Direction and Knowledge



MAP 12. FLORIDA BAY VISITOR CAPACITY ANALYSIS AREA

This analysis area is bound primarily by the Florida Bay coastline and the Flamingo frontcountry area (Western Coastal and the Taylor Slough and the Pinelands analysis areas) to the north, the park boundary to the south, Route 1 to the east, and the park boundary to the west (Map 12). The analysis area includes designated wilderness areas in the Flamingo and Florida Bay Management Districts and does not include designated submerged marine wilderness since the sea floor is under traditional wilderness protection while the water column is nonwilderness. Visitor use in submerged marine wilderness areas occurs in the water column above the sea floor and is, therefore, excluded from the visitor capacity analysis. In addition to submerged marine wilderness areas in this analysis area, such as Joe Bay, areas closed to public entry, such as special protection zones and Little Madeira Bay, are also excluded from the visitor capacity analysis since public use in these areas is prohibited.

In this analysis area, visitors have opportunities for hiking, wildlife and scenic viewing interpretive tours, paddling, camping, and fishing. Flamingo would continue to serve as the southern portal of the Wilderness Waterway and the Everglades Paddling Trail (NPS 2015a).

Visitors have opportunities for commercially operated Eco Tours out of Key Largo to North Nest Key, averaging three tours per week seasonally. These ecotours, averaging around six people per trip, provide opportunities for wildlife and scenic viewing and interpretation.

Given that paddling occurs in the water column above submerged wilderness in this analysis area, paddling opportunities that occur in designated wilderness are limited to paddlers accessing ground campsites in wilderness for overnight use or paddlers accessing day-use areas on designated keys in wilderness. The National Park Service would continue to support concessioners, providing visitors with rental equipment and dropping visitors off for self-guided excursions, including paddling excursions to access opportunities in wilderness. With these considerations, park staff estimate average current paddling use at less than five people in one day. In addition, the National Park Service would work with concessioners to offer a full-service livery for wilderness excursions, thereby expanding visitor opportunities in this analysis area. Further, the National Park Service would design and establish accessible launch opportunities and/or improvements at the Nine Mile Pond and West Lake paddle launch sites. Though located in the frontcountry, these launch improvements would provide additional paddling opportunities to access wilderness.

Opportunities for overnight use in wilderness in this analysis area include two designated wilderness ground campsites and two elevated camping platforms, accommodating up to 61 overnight users per night. Both ground campsites, Little Rabbit Key and North Nest Key, can accommodate 12 people per night and 25 people per night, respectively. These ground campsites see more use during the dry season (November through April), when access and on-site conditions are more predictable. As water levels fluctuate more dramatically during the wet season due to rainfall and other storm events, these ground sites are more likely to become submerged and/or saturated to a level at which overnight use is no longer feasible. The National Park Service would build 3 additional elevated camping platforms in Florida Bay to reduce the travel distance between campsites to a more reasonable length, providing additional opportunities for overnight use in wilderness in this analysis area. Each additional elevated camping platform would accommodate up to 12 people per night.

Both the Johnson Key and Shark Point elevated camping platforms can each accommodate 12 people per night. Elevated camping platform access and on-site conditions vary with fluctuating water levels more so than ground campsites, as the platforms are more likely to experience damage due to routine high-water levels from storm events that make overnight use infeasible. Camping is a popular use at North Nest Key, as is day use in the water column above submerged marine wilderness surrounding the key. A popular spot for locals, few visitors venture onto the key and into designated wilderness for day use. Park staff estimate up to 50 people in one day participate in day use on North Nest Key in designated wilderness, mostly for hiking and picnicking and including visitors there for overnight use. Other keys in designated wilderness with day-use opportunities, primarily hiking and/or picnicking, include Carl Ross and Bradley Keys. The four keys in the bay now open to visitor use, two that allow overnight stays (Little Rabbit and North Nest Keys) and two that are for day use only (Carl Ross and Bradley Keys), would remain open (NPS 2015a). All other keys in this analysis area would be in the special protection zone and remain closed to public use to protect nesting and roosting birds.

Given that fishing occurs in the water column above submerged marine wilderness in this analysis area, fishing opportunities that occur in designated wilderness are limited to anglers accessing shoreline in designated wilderness or fishing from the dock at Little Rabbit Key or from elevated camping platforms. With these considerations, park staff estimate average current fishing use in wilderness at less than five people in one day.

Considering current amounts and types of use described above, park staff estimate around 100 people in one day recreate in wilderness in this analysis area.

Limiting Attributes and Relevant Indicators

The limiting attributes that most constrain the amounts and types of use that the Florida Bay analysis area can accommodate are the quality of visitor experience, water-level fluctuations, and sensitive natural resources.

Desired conditions for opportunities for solitude or primitive and unconfined recreation quality include opportunities to be self-reliant and experience personal challenge, discovery, and freedom to explore to the extent practical; and visitors have opportunities for a wide range of primitive recreation that offer a sense of timelessness, reflections, self-reliance, and adventure. As noted in the review of existing direction and knowledge, fluctuating water levels create more challenging and unpredictable conditions for visitors, requiring them to have a higher level of self-reliance to ensure a safe and enjoyable experience in wilderness. Visitors recreating in wilderness during the wet season encounter a higher degree of challenge and risk given the environmental conditions of overall higher water levels. Day use (hiking and picnicking), paddling, and overnight use are most constrained by fluctuating water levels, as the changing conditions inform, and at times, restrict, the ability to access and experience these activities consistent with desired conditions. When water levels rise, launches, hiking trails, and ground campsites often become submerged and inaccessible, limiting the opportunity for visitors to access these experiences in wilderness and concentrating visitor use in areas that remain accessible. Further, temperatures are hotter, and combined with the consistent presence of insects and higher average water levels, visitors experience potentially hazardous exposure conditions when recreating in wilderness during the wet season, decreasing the overall quality of the experience. These conditions lead to times when visitors are displaced from areas deeper in wilderness and further from the frontcountry, concentrating visitors in areas that are more accessible with more favorable conditions given water-level fluctuations and the associated challenges.

Desired conditions for natural quality include the presence of native species in their natural abundances, behaviors, distributions, and diversity as driven by natural processes and fulfilling their ecological roles. Visitor use in wilderness can disturb sensitive species, such as nesting wildlife at North Nest Key, and influence their behavior. Further, as fluctuating water levels change visitor access and recreation patterns, sensitive flora and fauna are exposed to human-caused disturbance as visitors adapt their behavior to conditions such as camping in undesignated areas of a key when water levels make camping at designated ground campsites infeasible. Finally, the resources that make up the natural quality of Florida Bay are also cultural resources and have enduring cultural significance to contemporary Indigenous people.

The most relevant indicators to monitor changes in these conditions are water-level fluctuations, number of groups encountered per day (six hours), and number of times per day birds are flushed from the roost or nesting colony.

Visitor Capacity and Implementation Strategies

For the Florida Bay analysis area, visitor capacities are expressed as people in one day for day use and for overnight camping in wilderness.

Given the existing conditions and limiting attributes described above, visitor capacity can increase from current use levels while achieving and maintaining desired conditions.

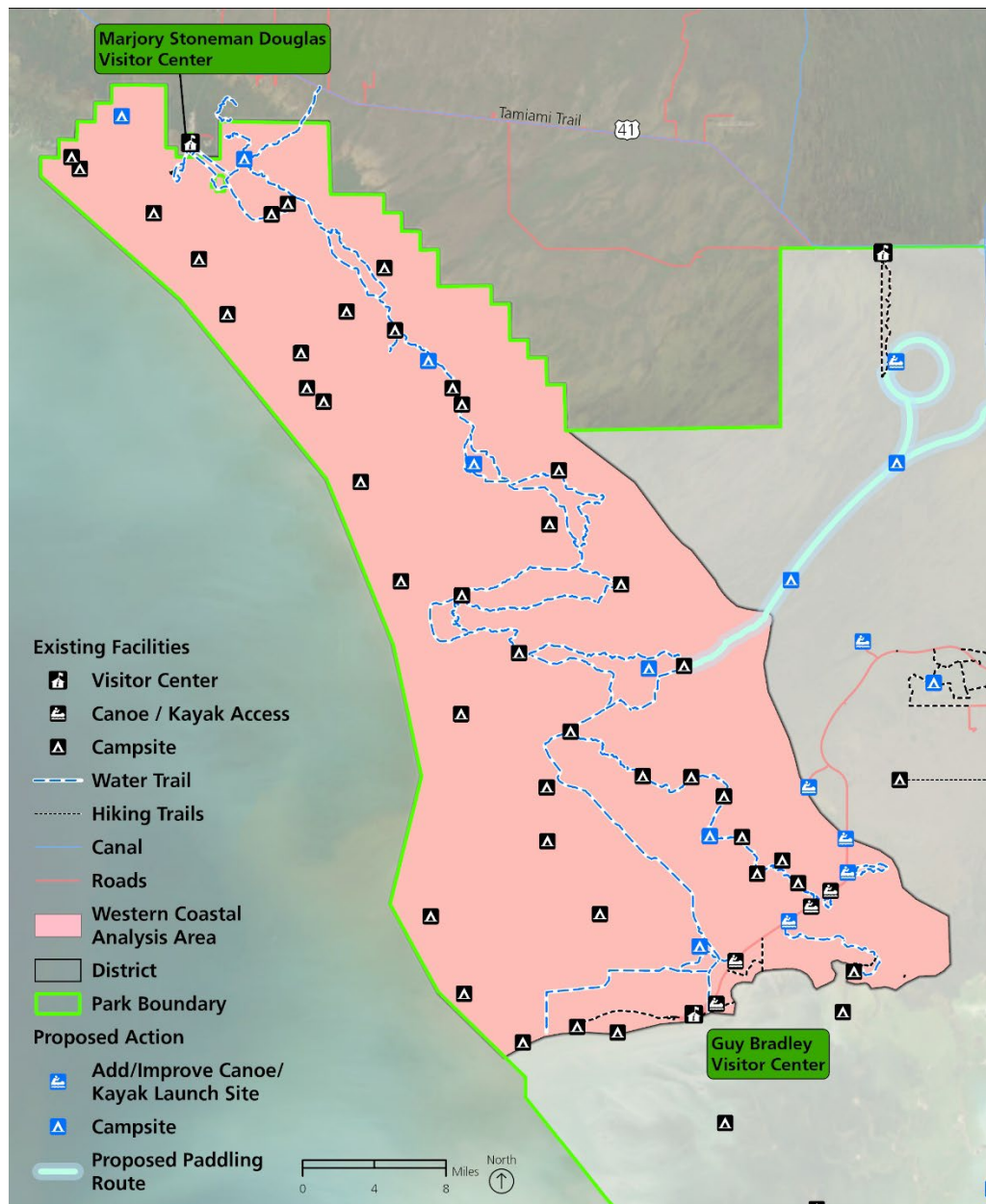
Current Florida Bay use levels, 100 people in one day, are achieving and maintaining desired conditions for visitor experience and resources. Current conditions allow visitors to experience self-reliance and personal challenges, discovery, and freedom to explore to the extent practical, and use can increase while still maintaining these desired conditions. Further, the presence of native species, driven by natural processes and fulfilling their ecological role, inform the amounts and types of use that this analysis area can accommodate, in addition to the finite number of campsites. Actions implemented in the proposed action would continue to provide commercial services and day-use and overnight-use opportunities and would further expand opportunities for overnight use in wilderness with the establishment of three new wilderness elevated camping platforms. Visitor capacity can be increased from current use levels while still achieving and maintaining desired conditions. Therefore, the identified visitor capacity for this analysis area is 200 people in one day, which includes up to 100 people seeking overnight camping experiences in wilderness. Commercial allocation for this analysis area was identified as 25% of total use and is described in detail in the “Extent Necessary Determination” section below.

Visitor capacity management strategies to be implemented include the following:

- Work with commercial operators to increase guided experience opportunities on weekdays, Monday through Friday.
- Increase the frequency of pump out and other routine maintenance services to elevated camping platforms.
- At North Nest Key, increase targeted ranger patrols during peak visitation periods to provide education on resource protection, reinforce camping and day-use regulations, monitor crowding conditions, and support compliance in order to maintain desired conditions and protect sensitive shoreline resources.

Western Coastal

Review of Existing Direction and Knowledge



MAP 13. WESTERN COASTAL VISITOR CAPACITY ANALYSIS AREA

This analysis area includes the gulf coast section of the park, from the northwestern park boundary to the area's southern boundary at the Flamingo frontcountry area and the Florida Bay analysis area (Map 13). The analysis area does not include designated submerged marine wilderness since the sea floor is under traditional wilderness protection while the water column is nonwilderness. Designated submerged marine wilderness is not considered a part of this analysis area, as the sea floor is under traditional wilderness protection while the water column is nonwilderness.

Here, visitors have opportunities for hiking, wildlife and scenic viewing interpretive tours, paddling, camping, picnicking, and fishing. Visitors camping overnight on their canoe or kayak experience dark night skies and the sounds of frogs, birds, and insects throughout the night.

Concession services related to accessing and experiencing wilderness in the Western Coastal area include a marina with boat rentals (motorized and nonmotorized vessels) and guided backcountry fishing opportunities. Concessions operations also provide visitors with a range of full livery for wilderness excursions. Visitors can rent canoes and kayaks from the concessioner at Flamingo Bay and access wilderness within the Western Coastal Analysis area. In addition, the Everglades Institute, an NPS partner, offers guided programs including daily interpretive and educational paddling and boating programs. Visitors can also choose from a variety of guided experiences. Clubhouse Beach is a popular destination for visitors to rent boats and paddle to for picnicking. When the Gulf Coast Visitor Center is reconstructed, visitors will have the opportunity to take the Ten Thousand Islands Boat Tour, a 49-passenger pontoon boat led by trained guides and joined occasionally by park rangers, to experience the natural and cultural resources in the Ten Thousand Islands landmarks along the Barron River.

Visitors have access to NPS ranger-led programs year-round at various locations in wilderness throughout the Western Coastal analysis area. Two concession-run boat tours are available for visitors to experience and learn about wilderness in this analysis area: (1) a Backcountry Boat Tour up the Buttonwood Canal into the mouth of Whitewater Bay and (2) the Ten Thousand Islands Boat Tour. Because the boat tours occur in the water column above submerged wilderness, the use is not included in the visitor capacity for this analysis area.

Opportunities for overnight use in the analysis area include 15 beach campsites, 10 ground sites, 4 single elevated camping platforms, and 10 double elevated camping platforms in potential and designated wilderness, accommodating up to 656 visitors per night. Peak campsite use is from November to April annually, with little use occurring from May to September. Approximately 5,990 paddling wilderness permits are issued annually (average of the last three years), most of which are in the Western Coastal analysis area; this equates to approximately 17 people per day or about 20 people per day paddling in the area. The Western Coastal analysis area hosts over 83% of overnight camping in the park's designated and potential wilderness. The ground campsites, Alligator Creek, Lopez River, Watson's Place, Lostman's Five, Willy Willy, Broad River, Camp Lonesome, Graveyard Creek, Canepatch, and Lard Can, can accommodate from 8 to 20 people per night. The single elevated camping platforms (Shark River, Watson River, North River, and Lane Bay) can accommodate 6 people per night, whereas the double elevated camping platforms (Plate Creek, Harney River, Sweetwater, Rodger's River, Robert's River, Pearl Bay, Oyster Bay, Joe River, Hell's Bay, and South Joe) can accommodate 12 people per night. Elevated camping platform access and on-site conditions vary with fluctuating water levels, as the platforms are more likely to experience damage due to routine high-water levels from storm events, making overnight use no longer feasible. The beach campsites (Tiger Key, Picnic Key, Jewell Key, Rabbit Key, Pavilion Key, Mormon Key, New Turkey Key, Turkey Key, Hog Key, Highland Beach, Northwest Cape Sable, Middle Cape, East Cape Sable, Clubhouse Beach, and East Clubhouse Beach) can accommodate from 8 to 60 people, depending on the site. In addition, the National Park Service would build 7 additional elevated camping platforms in the Western Coastal Analysis Area to reduce the travel distance between campsites to a more

reasonable length, providing additional opportunities for overnight use in wilderness in this analysis area. Each additional elevated camping platform would accommodate up to 12 people per night. Camping in canoes and kayaks requires visitors to obtain a special use permit, per the Superintendent's Compendium. Not all overnight users in this analysis area are recreating in wilderness. Many recreate outside of wilderness or in submerged marine wilderness and stay overnight on elevated camping platforms.

The majority of paddling in this analysis area occurs in the water column above submerged wilderness; however, park staff estimate that about 95% of paddlers stop on land to picnic, walk around, or view wildlife. In addition to the paddling that occurs above submerged marine wilderness, visitors can access a series of lakes and creeks in this analysis area that are within designated wilderness (Mud Lake, Bear Lake, Fox Lake, Middle Lake, East Lake, and Alligator Creek). Day-use visitors paddling in these areas are typically using personal boats rather than rentals. With these considerations, park staff estimate average current day-use paddling use in wilderness at less than 10 people per month.

Given that fishing occurs in the water column above submerged marine wilderness in this analysis area, fishing opportunities that occur in designated wilderness are limited to anglers accessing shoreline in designated wilderness, or fishing from docks or elevated camping platforms. With these considerations, park staff estimate average current fishing use in wilderness at less than 5 people in one day.

Per the Superintendent's Compendium, equestrian use is permitted on the Coastal Prairie Trail however equestrian use of the trail is rare and park staff estimate average current equestrian use in wilderness at less than 1 person per day.

Considering current amounts and types of use described above, park staff estimate less than 10 people in one day, including wilderness paddlers, equestrian users, and anglers accessing the shoreline in designated wilderness, recreate in wilderness in this analysis area (in addition to up to 664 overnight users).

Limiting Attributes and Relevant Indicators

The limiting attributes that most constrain the amounts and types of use that the Western Coastal analysis area can accommodate are the quality of visitor experience and sensitive cultural resources.

These two limiting attributes are directly connected to desired conditions for wilderness. Desired conditions for opportunities for solitude or primitive and unconfined recreation quality include opportunities to be self-reliant and experience personal challenge, discovery, and freedom to explore to the extent practical; and visitors have opportunities for a wide range of primitive recreation that offer a sense of timelessness, reflections, self-reliance, and adventure. Visitors also have outstanding opportunities to disconnect from modern civilization and experience wilderness on its own terms where privacy and inspiration exist.

Desired conditions for cultural resources include the protection and preservation of cultural features of significance, including Indigenous landscape elements, historic sites, and

archeological artifacts, and their wilderness significance is exemplified in education and outreach programs. Indigenous peoples' traditional activities continue to occur in the wilderness, and traditional activities include arts, crafts, social institutions, and practicing religious ceremonies.

The most relevant indicators to monitor changes in these conditions are water-level fluctuations and changes in cultural resource conditions.

Visitor Capacity and Implementation Strategies

For the Western Coastal analysis area, visitor capacities are expressed in people in one day for day use and overnight camping.

Given the existing conditions and limiting attributes described above, visitor capacity can increase from current use levels while achieving and maintaining desired conditions. Commercial allocation is described in detail in the "Extent Necessary Determination" section below.

Current Western Coastal use levels are achieving and maintaining desired conditions. Opportunities for self-reliance and personal challenges, discovery, and freedom to explore to the extent practical, the presence of native species driven by natural processes and fulfilling their ecological role, and the protection of cultural resources inform the amounts and types of use that this analysis area can accommodate, in addition to the finite number of campsites. Park staff identified opportunities to provide additional elevated camping platforms, accessible boat ramps, and hiking trails. Visitor capacity can be increased from current use levels while still achieving and maintaining desired conditions. Therefore, the identified visitor capacity for this analysis area is 800 people in one day, which includes up to 748 people seeking overnight camping experiences in wilderness.

Visitor capacity management strategies to be implemented include:

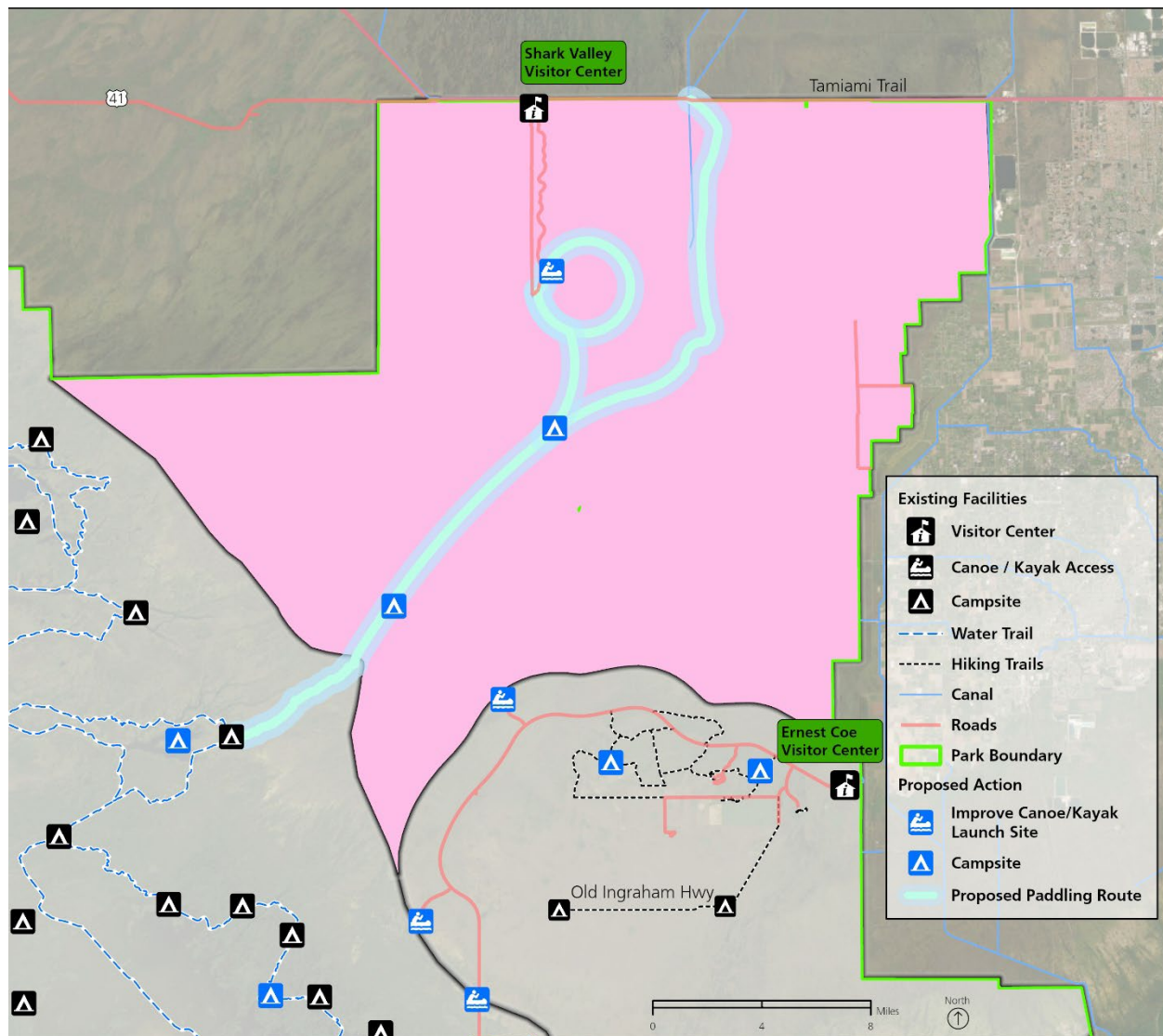
- Construct accessible boat access ramps to boat launch sites near Flamingo to increase access opportunities for visitors of all abilities.
- Increase the frequency of routine maintenance services to hiking trails.
- Increase the frequency of pump out and other routine maintenance services to elevated camping platforms.

Potential Future Management Strategies to be implemented only as thresholds are approached or exceeded include:

- Manage spatial-temporal closures and distribution of commercial use authorizations based on environmental changes such as flooding and storm events to evenly and appropriately distribute visitation.

Shark River Slough

Review of Existing Direction and Knowledge



MAP 14. SHARK RIVER SLOUGH VISITOR CAPACITY ANALYSIS AREA

This analysis area is bound by the Tamiami Trail (US 41) to the north, the Main Park Road to the south, Redland and Homestead communities to the east, and Big Cypress Wildlife Management Area and the Gulf Coast (Management) District to the west (Map 14). The analysis area includes wilderness areas in the Shark Valley and East Everglades (Management) Districts since visitor experiences and opportunities are similar in both management districts. Here, visitors primarily have opportunities to observe and interpret wilderness from frontcountry facilities and through experiences such as frontcountry hiking trails and airboat tours, with few opportunities for wilderness-based activities such as paddling or camping.

The Shark Valley Visitor Center and tram road are popular frontcountry experiences on the west side of this analysis area. Currently, there is no direct access to wilderness from the Shark

Valley Tram Road; however, visitors have opportunities to observe and interpret the adjacent wilderness via a wilderness wayside on the road and interpretive panels on the observation tower. Similarly, visitors have opportunities to observe, interpret, and learn about adjacent wilderness while participating in concessions-operated airboat tours that operate in the frontcountry areas of the East Everglades (Management) District.

Currently, this analysis area has no maintained hiking trails in wilderness. Similarly, this analysis area has no designated camping opportunities in wilderness. In the Shark Valley (Management) District, some visitors camp overnight on their canoes or kayaks after obtaining a special use permit. Park staff estimate that 1–2 overnight camping trips occur in wilderness per year in this analysis area.

To access paddling experience in wilderness in this analysis area, visitors occasionally launch canoes or kayaks at informal launches through the L67 canal or from under bridges along the Tamiami Trail (US 41). Informal launch sites through the L67 extension canal provide access to paddling opportunities in the Shark River Slough to the west and to existing airboat trails in the East Everglades (Management) District to the east. The Shark Valley boat launch is maintained as an administrative launch site.

Considering current amounts and types of use described above, park staff estimate that less than 10 people in one day recreate in wilderness in this analysis area.

Limiting Attributes and Relevant Indicators

The limiting attributes that most constrain the amounts and types of use that the Shark River Slough analysis area can accommodate is water-level fluctuations, the quality of sensitive natural resources, and the protection of cultural resources.

Desired conditions for natural quality include the presence of native species in their natural abundances, behaviors, distributions, and diversity as driven by natural processes and fulfilling their ecological roles. Visitor use in wilderness can disturb sensitive species and influence their behavior. Protection of cultural resources, specifically on tree islands, will constrain the area's ability to accommodate camping and visitor use within the wilderness area.

Desired conditions for opportunities for solitude or primitive and unconfined recreation quality include opportunities to be self-reliant and experience personal challenge, discovery, and freedom to explore to the extent practical; and visitors have opportunities for a wide range of primitive recreation that offer a sense of timelessness, reflections, self-reliance, and adventure. Fluctuating water levels create more challenging and unpredictable conditions for visitors, requiring visitors to have a higher level of self-reliance to ensure a safe and enjoyable experience in wilderness. Visitors are unable to access the wilderness by paddle craft during much of the dry season due to low water levels and limited access points. Day use (hiking and picnicking), and paddling are most constrained by fluctuating water levels, as the changing conditions inform, and at times restrict, the ability to access and experience these activities consistent with desired conditions.

The most relevant indicators to monitor changes in these conditions are changes in natural resource conditions, changes in cultural resource conditions, and water-level fluctuations. Park

staff are currently monitoring overnight use in the analysis area and the numbers of visitors launching paddle crafts along the Tamiami Trail.

Visitor Capacity and Implementation Strategies

For Shark River Slough, visitor capacities are expressed as people in one day for day use.

Given the existing conditions and limiting attributes described above, visitor capacity can increase from current use levels while achieving and maintaining desired conditions. Commercial allocation is described in detail in the “Extent Necessary Determination” section below.

Current Shark River Slough use levels are achieving and maintaining desired conditions for visitor experience and resources. Opportunities for self-reliance and personal challenges, discovery, and freedom to explore to the extent practical and the presence of native species driven by natural processes and fulfilling their ecological role inform the amounts and types of use that this analysis area can accommodate. Park staff identified opportunities to increase day-use facilities, education programs about the appropriate disposal of human waste, law enforcement presence, and temporal closures for administrative use of the area. Park staff also identified opportunities to establish a short-distance and a long-distance paddling trail, as well as install two new elevated camping platforms to accommodate overnight paddling trips. Visitor capacity can be increased from current use levels while still achieving and maintaining desired conditions. Therefore, the identified visitor capacity for this analysis area is 100 day users in one day, and up to 100 overnight users in wilderness per year.

Visitor capacity management strategies to be implemented include the following:

- Build and maintain camping structures along Shark River Slough.
- Increase signage and the marking of paddling trails to improve wayfinding.
- Increase visitor and commercial operator education on the proper disposal of human waste.

Potential future management strategies to be implemented only as thresholds are approached or exceeded include the following:

- Implement seasonal or other temporary paddling trail closures for administrative use, such as prescribed fire.
- Build additional facilities to accommodate day use (bathroom and trash) and regularly maintain the facilities.
- Increase commercial use authorizations.

EXTENT NECESSARY DETERMINATION

Overview

The purpose of this document is to determine the extent to which commercial services are necessary for the Marjory Stoneman Douglas Wilderness and other areas of potential, proposed, and proposed potential wilderness (collectively referred to as the “park wilderness areas” hereafter) in the park to realize the purposes for which these wilderness areas were established or proposed. This determination is being developed in support of the park’s wilderness stewardship plan (in development) and will be updated as needed to convey relevant information from the plan once complete.

The assessment begins with a review of law, policy, and regulation to bring forth the criteria that will be used to measure the extent that commercial services are both necessary and appropriate in the park wilderness areas. Following a listing of these criteria, descriptions of the wilderness characteristics relative to the criteria are presented. This determination then identifies those activities that are necessary and proper for realizing the recreational and other authorized purposes of wilderness. Commercial services to support proper activities are evaluated in terms of their ability to preserve wilderness character and achieve desired conditions for wilderness. Finally, any other bureau-specific analyses or requirements relative to wilderness planning and commercial services are also added to this decision-making process. Once alternatives are developed under the park’s wilderness stewardship plan, the assessment will conclude with a finding of the amount of commercial services that is necessary and may be provided.

The Wilderness Act and NPS Wilderness Policies

The Wilderness Act of 1964 secured for our nation an enduring resource of wilderness. Wilderness areas included in the national wilderness preservation system are to be administered for the use and enjoyment of the American people in such manner as will leave them unimpaired for future use and enjoyment as wilderness. The wilderness character of these areas is to be preserved.

To achieve these goals, the Wilderness Act includes a series of prohibitions related to particular activities. These prohibitions relate to mining, road construction, motorized equipment, the landing of aircraft, the installation of structures, and commercial enterprise. With regard to commercial services in wilderness, section 4(d)(5) of the Wilderness Act states, “Commercial services may be performed within the wilderness areas designated by this Act to the extent necessary for activities which are proper for realizing the recreational or other wilderness purposes of the areas.” The “purposes” referred to in section 4(d)(5) are those purposes enumerated in section 4(b). Section 4(b) provides that “. . . wilderness areas shall be devoted to the public purposes of recreational, scenic, scientific, educational, conservation, and historical use.” The National Park Service manages eligible, proposed, and recommended wilderness to preserve wilderness character as required by policy (*NPS Management Policies 2006*, NPS Director’s Order 41). This extent necessary determination applies to all of the above categories of wilderness. Every reference to “wilderness” in this document includes all categories of wilderness unless explicitly stated otherwise.

National Park Service *Management Policies 2006* states that commercial services "... contribute to public education and visitor enjoyment of wilderness values or provide opportunities for primitive and unconfined types of recreation may be authorized if they meet the 'necessary and appropriate' tests of the National Park Service Concessions Management Improvement Act of 1998 and section 4(d)(5) of the Wilderness Act ..., and if they are consistent with the wilderness management objectives contained in the park's wilderness stewardship plan, including the application of the minimum requirement concept." The application of the "minimum requirement" concept to commercial services is reemphasized in NPS Director's Order 41. Director's Order 41 requires the National Park Service to prepare a documented determination setting forth the types and amounts of commercial services that are necessary to realize wilderness purposes. This extent necessary determination satisfies the legal requirements outlined in the Wilderness Act, as well as requirements identified in NPS Management Policies and Director's Order 41. The Director's Order also provides that this "documented determination process should be undertaken using an interdisciplinary approach that includes the wilderness manager, commercial services staff, and other resource specialists."

Definitions of Wilderness Act Terms

The Wilderness Act does not define the terms "activities," "commercial services," or "necessary."

For this document, a commercial service relates to or is connected with commerce wherein work is performed for another person or entity, where the primary purpose is the experience of wilderness through support provided for a fee or charge, and where the primary effect is that the wilderness experience is guided and shaped through the use of support services provided for a fee or charge.

The word necessary appears in many federal statutes. For the purposes of this extent necessary determination, the word "necessary," in relation to commercial services, is defined to mean a service that is needed to achieve objectives for visitor use and the enjoyment of wilderness in such a manner that the desired conditions for wilderness area are achieved and wilderness character is preserved.

Furthermore, the National Park Service considers whether an activity is necessary and appropriate using unique information such as enabling legislation, environmental issues, local market conditions, and area visitation. The determination that a service is necessary and appropriate may change over time. An operation once considered necessary for visitor enjoyment can become redundant because of the availability of similar out-of-park services. Likewise, an operation once considered appropriate might become a threat to park resources.

A general outline of the necessary and appropriate standards as summarized in the 2018 NPS *Commercial Services Guide* are as follows:

Necessary – Answers the question, "Why is this service important for this park?" A necessary service accomplishes one or more of the following:

- contributes to visitor understanding and appreciation of a park's purpose and significance

- enhances visitor experiences consistent with the park’s purpose and significance
- assists the National Park Service in managing visitor use and educating park visitors
- provides an essential service or facility not available within a reasonable distance from the park

Appropriate – Answers the question, “Can the National Park Service authorize this commercial service without compromising the reasons the park was established?” The idea that a service must be compatible with the purpose of the established area is derived directly from the Organic Act (see *NPS Management Policies 2006*, especially chapter 8 on “Use of the Parks”; also see Director’s Order 53: *Special Park Uses* for additional guidance).

An appropriate commercial visitor service accomplishes all of the following:

- is consistent with the park purpose and significance
- is consistent with laws, regulations, and policies
- does not compromise public health and safety
- does not cause unacceptable impacts on park resources or values
- does not unduly conflict with other park uses and activities
- does not exclude the public from participating in limited recreational opportunities

The language of the act also contains two distinct but interrelated standards related to the terms “activities” and “commercial services.” First, the “activities” that may be supported by commercial services must be “proper for realizing the recreational or other wilderness purposes.” Second, “commercial services” can only be authorized “to the extent” that they are necessary for activities deemed proper. The US Court of Appeals for the Ninth Circuit has concluded that this language requires agencies to make a specialized finding of necessity for commercial services and to determine the minimum amount of commercial use that can be allowed. Thus, both the type (i.e., “proper”) and necessity and amount (i.e., “extent”) of commercial support must be addressed in the extent necessary determination.

Relationship to Planning

The extent necessary determination, together with the wilderness stewardship plan, was prepared using an interdisciplinary approach that included wilderness management experts, commercial services staff, and other resource specialists. Through the process of preparing this extent necessary determination, the National Park Service considered both the potential short-term and long-term effects of commercial service activities.

The extent necessary determination is an integral part of wilderness planning. The extent to which commercial services in the park’s wilderness are deemed necessary is an outcome of the overall wilderness planning process. Thus far, this process has identified key elements of wilderness character, defined desired conditions for these elements, and, once National Environmental Policy Act (NEPA) review commences, the process will analyze impacts in

determining the overall amount of use appropriate in wilderness. Finally, this process will determine the proportion of this use that may be supported by commercial services while ensuring the preservation of wilderness character.

The determination of the extent necessary for commercial services is closely related to the identification of visitor capacity or the maximum amounts and types of use appropriate in the wilderness. The “Visitor Capacity Identification” section above provides an explanation of visitor capacity and the amounts and types of visitor use that should be considered in future wilderness planning. This section provides a further explanation of the process and outcomes of determining the extent to which commercial services are necessary in wilderness.

The framework for identifying visitor capacity and the extent of commercial services necessary in the park wilderness areas includes the establishment of indicators and thresholds to identify and monitor visitor use and its effects on wilderness character. This framework is used to identify and described in the alternatives chapter of a future wilderness stewardship plan and in the “Visitor Capacity Identification” section above.

In this framework, the assessment of necessary commercial service types and amounts is an extension of the wilderness and visitor use planning and builds on the visitor capacity decision-making process. Indeed, the requirement to identify the activities that are proper for wilderness purposes is an integral part of visitor use planning, which considers the overall type and amounts and types of visitor use that can be accommodated while sustaining acceptable resource and social conditions that complement the purpose of a park or area, in this case, a designated wilderness area.

As with other aspects of visitor use planning, an assessment of necessity for commercial services is the outcome of a decision-making process and part of a larger management program. This assessment requires judgment about the desired environmental and experiential conditions in, and the effects on, wilderness. Actions in future wilderness and visitor use management planning should strive to preserve wilderness character by emphasizing wilderness character qualities in different ways. Resource conditions, management intensity, and visitor capacities, including the extent of support by commercial services, are foundational elements of the management actions and strategies. Changing one has implications for the others. Therefore, this section and the relationship to visitor capacity should be updated upon completion of future planning.

Purposes for Which Marjory Stoneman Douglas Wilderness (Designated and Potential Wilderness) and East Everglades Addition (Proposed and Proposed Potential Wilderness) Were Established

Currently, the National Park Service manages a total of 1,463,700 acres (nearly 97%) in Everglades National Park in such a way as to preserve or enhance their wilderness character. Of this, 1,296,500 acres (nearly 87%) is designated wilderness. This wilderness area, originally named “Everglades Wilderness,” was designated by Congress in 1978 under PL 95-625. In 1997, the name was changed to “Marjory Stoneman Douglas Wilderness” under PL 105-82. The Marjory Stoneman Douglas Wilderness includes submerged marine lands, which are a special case. The submerged marine (marine waters) portion of the Marjory Stoneman Douglas Wilderness, approximately 530,000 acres in extent, is unusual in that it includes the marine

bottom (benthic surface) but not the water column or the water surface. This distinction, which allows motorboating on the water surface, was included in the original wilderness recommendation and was carried forward by designation of Congress.

Simultaneous with the park's wilderness designation in 1978, 81,900 acres in several locations were designated "potential wilderness," meaning they would be converted to wilderness if or when nonconforming uses end. Examples include the Hole-in-the-Donut area in the center of the park, which would become wilderness when restoration efforts are complete, and some parcels in the northwestern part of the park that contain nonfederal mineral rights.

In 1989, 109,600 acres were added to Everglades National Park as part of the Everglades National Park Protection and Expansion Act of 1989 (16 USC 410r-5). This area is known as the East Everglades Addition. The National Park Service completed a wilderness eligibility assessment and study of the East Everglades Addition of the park in 2015 as part of a general management planning process. The preferred alternative of the study called for the designation of approximately 42,200 acres in the East Everglades Addition as wilderness and an additional 43,100 acres as potential wilderness. The preferred alternative was adopted in a record of decision signed in October 2015.

By NPS policy, all categories of wilderness are managed in such a way as to preserve their wilderness character. Everglades wilderness areas are managed under the Wilderness Act of 1964, NPS *Management Policies* 2006 6.3.1, general management plan (2015), and the backcountry management plan (1981).

Determination of Extent to Which Commercial Services Are Necessary in Wilderness

Part 1: Activities That Are Proper for Realizing the Recreational or Other Purposes of Wilderness

For a commercial service to be considered as a necessary form of support for an activity, that activity must be proper for realizing wilderness purposes. Any activity that occurs in designated wilderness must first be of a type that does not violate the prohibitions of Wilderness Act section 4(c) on the use of motor vehicles, motorized equipment or motorboats, the landing of aircraft, or other forms of mechanical transport. NPS *Management Policies* 6.4.3 states that recreational uses in wilderness will be of a nature as follows:

- area is maintained as an ecosystem and the culture it sustains is whole and intact;
- protects and preserves natural conditions;
- leaves the imprint of man's work substantially unnoticeable;
- provides outstanding opportunities for solitude or primitive and unconfined types of recreation; and
- preserves wilderness in an unimpaired condition.

In other words, an activity must be subject to sufficient management control so as to preserve wilderness character, which is a fundamental purpose of managing visitor use in a wilderness area. These management controls are outlined and discussed in the activity descriptions below.

In addition, the desired conditions of wilderness in the park have been established and are detailed in chapter 3 of the wilderness stewardship plan. The activities identified as proper for realizing the recreational or other purposes of wilderness should also contribute to achieving and maintaining desired conditions for wilderness areas in the park. The identified and articulated desired conditions are below.

As analyzed in the necessary and appropriate section, activities that are proper in wilderness must first be deemed necessary and appropriate in the park unit. Therefore, this extent necessary determination assessed the following guided recreational activities:

- paddling
- freshwater and saltwater fishing
- overnight wilderness camping
- wildlife and scenic viewing
- horseback riding
- hiking on and off trail (wet and dry season)

Paddling

Everglades National Park offers many paddling (canoeing or kayaking) opportunities to explore the natural beauty of this wilderness through freshwater marsh, mangrove forests, and the open waters of Florida Bay. Canoe and kayak trips range from a few hours to several days, depending on the length and complexity of the trail or route. Visitors can bring their own canoe or kayak and launch from several locations around the park, or rentals are available in the park. Paddling trips can vary in degree of difficulty, as well as duration of trip. Paddling day trips that launch from a frontcountry location into and out of wilderness without spending the night is a popular activity that has long occurred in the park. For example, canoe trails near Flamingo (located 38 miles south of the main park entrance in Homestead) range from beginner to advanced and can be accessed from launch areas in the Flamingo Marina or along the main park road as visitors approach Flamingo. While Flamingo is a nonwilderness area, the majority of trails travel through or are surrounded by wilderness. Paddling in wilderness is a proper activity because it allows visitors to realize and experience opportunities for solitude and unconfined recreation, as well as other values of wilderness. Multiday canoe and kayak trips are also popular activities for visitors who want to explore Florida Bay, the 10,000 Islands, or the 99-mile Wilderness Waterway. Given that paddling occurs in the water column above submerged wilderness, paddling opportunities that occur in designated wilderness are limited to paddlers accessing ground campsites or elevated camping platforms in wilderness for overnight use or paddlers accessing day-use areas on designated keys in wilderness. Paddling is a proper activity because it fulfills recreational, scenic, educational, conservation, and the purpose of Marjory Stoneman Douglas Wilderness for visitors to be able to explore the wondrous, enchanting, and beautiful

aspects of the wilderness. Paddling also contributes to the achievement of the desired condition for opportunities for traditional recreation that offer a sense of timelessness, reflection, and adventure while encompassing reliance on personal skills to travel and camp.

A wide variety of limitations on paddling ensures wilderness preservation. These limitations ensure that these activities remain compatible with wilderness character, i.e., minimize the likelihood that they cause unacceptable impacts on resources or social conditions. Paddling is naturally constrained by season (wet season versus dry season freshwater water levels), vegetation, tidal fluctuations, and wind, which can significantly affect paddling trips. These natural conditions lend themselves to visitors who have higher degrees of self-reliance when recreating, higher experience use history (usually measured in terms of total visits, total years of use, and frequency per year of participation with an activity and/or resource at a specific site and/or other sites [Hammit and McDonald 1983; Schreyer et al. 1984], past self-reliant use history, and Leave No Trace practice beach camping requirements). Single and multiday (overnight wilderness camping) paddling experiences are subject to limitations that include camping group size, requirements to follow Leave No Trace practices for pack it in, pack it out waste and proper food storage, and campfire restrictions. In addition, all wilderness camping must be 14 days or less from November through April and requires a permit and associated fee to camp at a designated wilderness campsite. Specifically, for paddling access to beach camping along Cape Sable, it is generally possible to obtain a permit the morning of departure for one of three beach campsites at East, Middle, and Northwest Capes. East Cape and Middle Cape have a capacity of 60 visitors or 15 groups of no more than 4 people per group. Northwest has a capacity of 36 visitors or 9 groups of no more than 4 people per group. However, during peak season (November 1 through April 30), when East Cape is full, permits are then issued for Middle Cape and so on until the maximum number of people, 60, is filled.

This combination of controls effectively limits paddling, helps achieve desired conditions in the wilderness areas of the park, and contrasts with frontcountry environments. Further, these controls allow commercially guided visitors to learn about and interpret wilderness. Subject to the requirements and limitations discussed above, paddling, specifically canoeing and kayaking, are considered activities that are proper for realizing the recreational and other purposes of wilderness.

Freshwater and Saltwater Fishing

Everglades National Park offers many opportunities for fresh and saltwater fishing for public enjoyment and for experiencing the diverse ecosystem of the park's wilderness, including habitats and the vast array of native plants and animals. The park waters provide thousands of acres of shallow water flats, channels, and mangrove keys in which visitors can fish. Fishing trips can range from a few hours to several days. Visitors often fish for snapper, snook, sea trout, redfish, bass, and bluegill. For the purposes of the extent necessary determination, recreation crabbing and shrimping will also be included in this section of the analysis. Recreation research is often categorized by experiences on a continuum of consumptive to nonconsumptive (Wagar 1969). Recreationists on the consumptive end of the continuum seek to catch or capture and consume an element of the environment (Vaske et al. 1982). The focus is on a commodity or product to be consumed. Since both recreational crabbing and shrimping can be organized with fresh and saltwater fishing, they are also considered here in ways similar to other consumptive

recreation activities. Recreational crabbing includes stone crabs, during open state season, and blue crabs with specific equipment requirements described below. Shrimping is appropriately participated in by net; the specific requirements are listed below. Fishing occurs in designated wilderness from land, keys, elevated camping platforms, and in the water column above submerged marine wilderness. Saltwater fishing areas include Florida Bay, the Ten Thousand Islands, and a variety of other locations in the park's coastal zones. These specific consumptive recreation opportunities for fishing, crabbing, and shrimping are a proper activity because they fulfill recreational, scenic, educational, and other wilderness purposes. These activities are also proper in that they contribute to the achievement of the several desired conditions: (1) opportunities for primitive recreation that offer a sense of timelessness, reflection, and adventure while encompassing reliance on personal skills to travel and camp and (2) the continuation of Indigenous peoples' traditional activities, including fishing.

There are a wide variety of limitations on these specific consumptive recreation opportunities that help ensure wilderness preservations. These limitations ensure that these activities remain compatible with wilderness character, i.e., do not lead to unacceptable impacts on resources or social conditions (see alternatives in chapter 4). Freshwater and saltwater fishing require separate fishing licenses purchased in advance of entering the park. Crabbing and shrimping are also constrained by the types of gear that must be used. For example, stone crabs, during open state season, and blue crabs may be taken by recreational anglers using attended gear (e.g., star trap, baited line, landing net). Shrimping also requires a dip net or cast net, for personal use only, not for sale. These kinds of requirements lend themselves to visitors who have higher degrees of recreation specialization (experience use history, past use history, specialized equipment, and Leave No Trace practices for coastal areas).

This combination of controls effectively manages fishing and other consumptive recreation activities described above in the wilderness areas of the park to a style that is compatible with a wilderness setting and that contrasts with frontcountry environments. Subject to the requirements and limitations discussed above, the fishing and other activities described above are considered activities that are proper for realizing the recreational and other purposes of wilderness.

Overnight Wilderness Camping

Overnight wilderness camping is one of many other recreational opportunities offered at the park that contributes to achieving desired conditions, including offering a sense of timelessness and reflection through solitude or primitive and unconfined recreation. Wilderness camping provides opportunities to experience a side of the wilderness that cannot be encountered during daylight hours.

In contrast to urbanized areas where many visitors reside, the wilderness provides relatively clear views of the night sky with little haze and light pollution that plagues many cities. For those who rarely depart metropolitan confines, the enormity and stark contrast of the night sky can be striking. Furthermore, the nighttime soundscape provides an eclectic array of chirps, croaks, grunts, and bellows that can be both fascinating and eerie in the absence of light. With morning comes the sunrise and the dance of color low across the vast horizon, rejuvenating the day, as

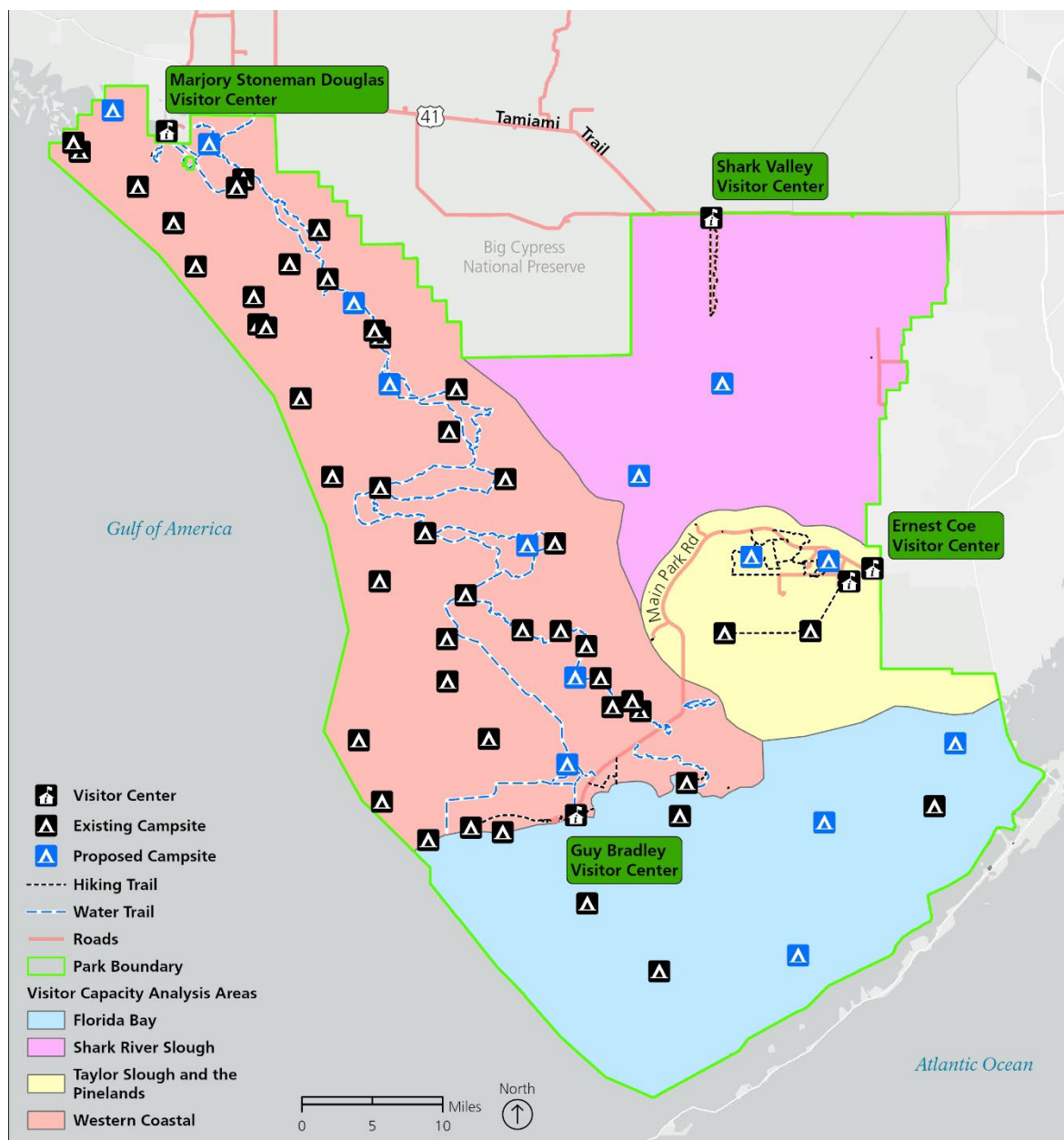
well as any who observe it. These settings provide an opportunity for self-reflection and can lead to revelations regarding significance and self-worth.

The park lands and waters provide visitors with unique opportunities, from wilderness camping on beach islands to sleeping on board a vessel. Specifically, overnight wilderness camping opportunities exist at designated ground sites, beach sites, elevated camping platforms, and in canoes/kayaks. The majority of the ground and beach sites are within some category of wilderness; elevated camping platforms are constructed above submerged marine wilderness with only the structure's pilings contacting the submerged wilderness lands below the water (Map 15). Most wilderness camping sites are accessible by canoe, kayak, or motorboat, though a few may be reached by hiking. If camping in a canoe or kayak, the camping site is wherever a camper ends the day and is most likely completely primitive. The Clubhouse Beach campsite is an example of a site that can be accessed by hiking along the Coastal Prairie Trail or by water. Overnight wilderness camping occurs throughout Florida Bay, the Ten Thousand Islands, and a variety of other designated and/or permitted locations in the park's coastal wilderness areas. Overnight wilderness camping is a proper activity because it fulfills recreation, scenic, and educational and other wilderness purposes.

There are a wide variety of limitations on overnight wilderness camping to ensure wilderness preservation. These limitations ensure that these activities remain compatible with wilderness character, i.e., minimize the likelihood of unacceptable impacts on resources or social conditions (see management strategies and actions). Overnight wilderness camping is naturally constrained by season (wet season versus dry season freshwater water levels), vegetation, tidal fluctuations, and wind, which can significantly affect overnight camping experiences that have water-based access. These kinds of fluctuations lend themselves to visitors who have higher degrees of recreation specialization (experience use history, past use history, and Leave No Trace practice beach camping requirements).

Overnight wilderness camping experiences are subject to limitations that include camping party size, requirements to follow Leave No Trace practices for pack it in, pack it out waste and proper food storage, the geographic distribution of campsites (number of available campsites and location/access to those sites), and where campfires are allowed. In addition, all wilderness camping must be 14 days or less and requires permits that are free during the summer season (mid-April through mid-November) but requires a processing fee during the high visitor use season (mid-November through mid-April). If visitors elect to sleep on board their vessel, they are required to anchor out of sight of elevated camping platforms and 0.25 miles from other sites. In addition, permits are issued for the elevated camping platforms, ground sites, and beach sites (backcountry sites). Self-registration is required in the summer. During the winter months, permits have a fee, and visitors review regulations with a ranger.

This combination of controls effectively manages overnight wilderness camping experiences, described above, in the park wilderness to a style that is compatible with a wilderness setting and that contrasts with frontcountry environments. Subject to the requirements and limitations discussed above, overnight wilderness camping experiences are considered activities that are proper for realizing the recreational and other purposes of wilderness.



MAP 15. GEOGRAPHIC DISTRIBUTION OF CAMPSITES

Wildlife and Scenic Viewing

Wildlife and scenic viewing, including photography, is now permitted in all areas of the park wilderness and backcountry, with the exception of a limited number of areas that may be closed due to resource impacts. Taking photographs is a popular way for the public to realize the scenic purpose of wilderness and, as such, is a proper activity. At Everglades National Park, wildlife and scenic viewing, including bird-watching, may include guided photography experiences. Travel for either activity could involve hiking or a mix of hiking and boat use. Types of commercial services that may directly support wildlife and scenic viewing are guide services that

assist visitors with finding appropriate locations for these activities and providing technical skill development.

Filming in wilderness for commercial purposes is prohibited unless it can be shown that a wilderness purpose is realized. Director's Order 41 provides guidance to the National Park Service for evaluating commercial filming. Director's Order 41 states that "All commercial filming in wilderness areas . . . is limited to projects that are necessary and proper for providing educational information about wilderness uses, resources, or values, or necessary for other wilderness purposes." The use of models, sets or props, or other approaches that promote a product or service for commercial still photography is prohibited. Therefore, commercial filming in wilderness is evaluated on a case-by-case basis.

Horseback Riding

Horseback riding on designated trails is a recreation opportunity occurring with a small amount of use. This use allows visitors opportunities to experience the park's fundamental resources and values, including ecosystem and landscape diversity, ethnographic resources, native plants and animals, public enjoyment, and wilderness character.

The limitations on horseback riding to ensure wilderness preservation are mostly geographical and related to the topography of the landscape, as well as the designation of key trails for this type of use. As a natural constraint, the landscape and designated trails help to ensure that horseback riding remains compatible with wilderness character, i.e., does not lead to unacceptable impacts on resources or social conditions. The geographic topography of the land effectively manages horseback riding in the park's wilderness to a level that is compatible with a wilderness setting and that contrasts with frontcountry environments. Further, commercial stipulations include the required use of weed-free feed to reduce the occurrence of nonnative species introduction on the landscape. Subject to the requirements and limitations discussed above, horseback riding on designated trails is considered an activity that is proper for realizing the recreational and other purposes of wilderness.

Hiking On and Off Trail (Wet and Dry Season)

Hiking on trails, wet off-trail hiking, and dry-season hiking off trails are recreation opportunities offered at the park that contribute to visitors' opportunities to experience the park's fundamental resources and values, including ecosystem and landscape diversity, ethnographic resources, native plants and animals, public enjoyment, and wilderness character. Hiking and "slogging" opportunities are boundless. Visitors can depart the road constrained only by the challenges of the wilderness environment itself, including jagged pinnacle rock, deep peat, dense vegetation, and wildlife, all while being surrounded by and immersed in water. The park lands provide visitors with opportunities for hiking on trails in a variety of locations. Specifically, multiple trails go through wilderness, and others are outside of wilderness.

Wet off-trail hiking or slough slogs and hiking in freshwater areas is another way for visitors to experience the park. These activities may be interpretive guided hikes or individual unguided hikes. Dry-season hiking off trail is also an appropriate way for visitors to recreate in the park. Hiking, whether on trails or off trails during the wet or dry season, is a proper activity because it fulfills recreation, scenic, educational, and other wilderness purposes. Hiking also contributes to

the achievement of the desired condition for opportunities for primitive recreation that offer a sense of timelessness, reflection, and adventure while encompassing reliance on personal skills to travel.

The limitations on hiking to ensure wilderness preservation are mostly geographical and related to the topography of the landscape. As a natural constraint, the landscape helps to ensure that hiking remains compatible with wilderness character, i.e., minimizes the chance that there are unacceptable impacts on resources or social conditions. The geographic topography of the land effectively manages hiking on and off trails in the park's wilderness to a level that is compatible with a wilderness setting and that contrasts with frontcountry environments. Subject to the requirements and limitations discussed above, hiking on and off trails is considered an activity that is proper for realizing the recreational and other purposes of wilderness.

Public Activities That Are Prohibited or Not Proper in Wilderness

Although many activities are proper in wilderness, there are also numerous recreational and other activities that are not. Activities that are proper in wilderness are limited to those that are both legal and appropriate. Improper activities are those that

- may have impacts that are inconsistent with the preservation of wilderness character;
- are not relevant to the public purposes of wilderness (which are recreation, scenic, scientific, educational, conservation, and historical use," as defined in 4[b] of the Wilderness Act), and/or;
- are not of a "primitive type."

Some examples of improper activities include, but are not limited to, activities involving drones, all-terrain vehicles, airboats, mountain bikes, personal watercraft, and shell collecting.

Part 2: Aspects of Wilderness Activities That May Necessitate Commercial Support

The extent to which these forms of commercial service support are necessary depends on a number of factors. Factors that are considered in this analysis include what the park seeks to provide in terms of self-reliant experiences as opposed to novice or introductory experiences and the range of social and environmental conditions that can be provided while preserving wilderness character. In the context of wilderness stewardship planning, these objectives for visitor use will be explored through the development of alternatives. Based on the analysis in this extent necessary determination, the alternatives to be included in the plan will incorporate different proposals for no commercial service and others with varying amounts of commercial services that are necessary to achieve desired conditions for wilderness character. This determination represents a comparative and qualitative analysis of the relevant wilderness factors and determines whether commercial services are necessary and if so, the amount of commercial services that are necessary under each alternative.

To be conducted safely and in a manner that preserves wilderness character, wilderness activities often require specialized skills, knowledge, or equipment. Paddling also involves special equipment, such as boats and dry bags; the ability to pack properly; and backcountry/wilderness remote overnight camping equipment and skills to reduce

environmental impacts. Wilderness visitors vary in their ability to conduct these more specialized or technical wilderness activities. Therefore, when park managers choose to provide opportunities for these types of visitor activities, some level of commercial support may be necessary.

Specialized Skills or Knowledge

For some wilderness visitors, the need for, or lack of, specialized skills or knowledge can be a barrier to engaging in that activity. A commercial service may support a visitor activity by providing or teaching the skills or knowledge needed to engage in a proper wilderness activity, such as guiding. Support may also take an instructional form, in which the outfitter/guide teaches an individual or group the necessary skills or knowledge to independently participate in the activity in the future. In the latter case, the level of instruction may range from basic or introductory wilderness skills and knowledge to advanced technical skills and knowledge. Guides and instructors are also able to provide local knowledge that can make a wilderness trip safer and more rewarding for visitors who are unfamiliar with a particular park wilderness area.

Specialized Equipment or Services

Wilderness activities may require specialized equipment or services that cannot be provided by all wilderness visitors who wish to engage in a particular activity. The expense, care, or space required for specialized equipment may be too great for some wilderness visitors without support from a commercial service provider. Visitors may wish to try out an activity before making the financial commitment to purchase equipment. Since a substantial portion of the visitors to the park are from out of state, including international visitors, traveling to the park with personal equipment to explore the wilderness is not feasible. Some visitor trips may require services, such as the transporting of equipment or supplies that cannot be provided without commercial support. For each activity that has been determined to be proper for the recreational or other purposes of wilderness, see part 3 below for the specialized equipment or services that may necessitate commercial support.

Special Safety Concerns

Wilderness activities may involve special safety concerns that cannot be managed by all wilderness visitors or may not wish to take on the risks without commercial support. The National Park Service does not attempt to eliminate the risks inherent in wilderness travel or in participation in particular wilderness activities. Visitors have opportunities to embrace wilderness on its own terms through exploration, discovery, and/or personal challenge to the extent practicable and consistent with the Wilderness Act and other requirements. However, for some visitors, a commercial provider may be a necessary means of managing inherent risks or may be a means to acquire the requisite knowledge to manage those risks independently in the future. For each activity that has been determined to be proper for recreational or other purposes of wilderness, see part 3 below for the special safety concerns that may necessitate commercial support.

Special Resource Concerns

Wilderness activities may involve the potential for impacts on wilderness resources. A commercial service provider may be a means to ensure that activities are conducted in

appropriate locations and in a manner that mitigates or minimizes resource impacts. For each activity that has been determined to be proper for the recreational or other purposes of wilderness, see part 3 below for the special resource concerns that may necessitate commercial support.

Other Contributions That Support Wilderness Purposes

Commercial services most often support wilderness visitors in their recreational activities, but they may also independently or cooperatively support scenic, scientific, educational, interpretive, historic, or conservation objectives.

Introductory Experiences

Commercial service providers can provide assistance to visitors who lack the experience or confidence to attempt a wilderness adventure on their own. These types of trips can introduce a diverse public to a variety of ways to experience their public wildlands. These types of support can build confidence in visitors that can lead to future, more self-reliant wilderness trips. This support can relate to a range of activities, such as paddling, hiking, and overnight experiences. Introducing novice visitors to their publicly owned wilderness can provide rewarding experiences and build support for long-term wilderness preservation.

The National Park Service considers the provision of such introductory experiences as critical to its mission and recognizes that commercial services aid in this aspect of mission accomplishment. This is one of the few ways to ensure that diverse people have access to these opportunities to connect with their national parks and wilderness. Chapter 8 of NPS *Management Policies 2006* states: “National parks belong to all Americans, and the National Park Service will welcome all Americans to experience their parks. The Service will focus special attention on visitor enjoyment of the parks while recognizing that the NPS mission is to conserve unimpaired each park’s natural and cultural resources and values for the enjoyment, education, and inspiration of present and future generations. The Service will also welcome international visitors, in keeping with its commitment to extend the benefits of natural and cultural resource conservation and outdoor recreation throughout the world” (NPS 2006).

In addition, parks will have “an atmosphere that is open, inviting, and accessible to every segment of American society” (NPS Management Policies, section 8.2). It has been recognized that some segments of the American population are hesitant to take advantage of their public lands due to de facto barriers: “lack of knowledge, experience, awareness (what to do, where to go, how to get there, equipment needed, etc.)” (Pease 2011). Commercial services can assist people in overcoming some of these barriers, thereby offering an opportunity to more diverse segments of society to experience national parks and wilderness.

Part 3: Types of Commercial Services That Are Necessary for Each Proper Activity

This section uses the categories provided in part 2 above to analyze the aspects of specific activities identified as proper in part 1 that may necessitate commercial support to achieve wilderness purposes. A conclusion regarding the necessity for commercial services is included for each activity. The amount of commercial services that would be allowed is addressed in part 4.

The following activities were identified as proper activities supported by a commercial service.

Paddling

Types of commercial services that support paddling are guide services that help visitors find appropriate locations for these activities and provide local knowledge or education about wilderness resources. Guide services may provide a range of support, from all-inclusive (with meals/cooking and gear provided) to simply providing an interpretive/navigational guide. Specifically, guide services might support multiday overnight wilderness experience that require careful planning and can result in high-quality visitor experiences. These activities may be exclusively paddling based or use other mechanized support if the support occurs outside of wilderness or above submerged marine wilderness.

Reasons That Commercial Support Is Necessary for Activity

Specialized skills and knowledge. Navigating using tidal charts, reading and interpreting tidal charts, having knowledge of the freshwater and tidally influenced vegetation types, knowing seasonal variations in hydrology, interpreting maps, using compasses, using GPS, operating and using paddling equipment and associated gear properly such as for overnight use, selecting the appropriate paddling location and campsite, preparing food and storing food appropriately in wilderness, knowing wilderness first aid, practicing sanitation and waste disposal in accordance with coastal wilderness environments, practicing leadership, and following Leave No Trace practices.

Specialized equipment or services. The proper use of canoes or kayaks, dry bags, navigational aids (map and compass and/or GPS and extra batteries), and personal flotation devices are specialized equipment for day or overnight use. For overnight use or multiday paddling trips, other specialized equipment includes cooking equipment (stove, utensils, and others), tent, sleeping bag, sleeping pad, camp chair, headlamp, and food and water transport and storage. Depending on seasonality, mosquito protection and other specialized paddling clothing are needed. Safety equipment such as sun protection, personal flotation devices, extra paddles, spray deck for kayaks, paddle float and pump, very high frequency radio, tow line, throw line, personal locator beacon, boat repair kit, and deck light are needed. For shuttle services, visitors paddling the Wilderness Waterway rely on shuttle service to transport boats and paddlers back to their vehicles from their starting locations.

Special safety concerns. Tidal fluctuations and weather conditions such as wind can significantly affect paddling trips. Hypothermia and orienteering/navigating are essential given the remote location and lack of reliable cellular service. First aid and careful planning are important safety considerations. Paddling and overnight camping involve technical skills that are necessary for navigation. Safety practices associated with on-water activities (e.g., exiting a sit-in kayak if it's overturned) and environmental factors (e.g., ocean and intertidal weather) and special equipment that is employed for locomotion and safety.

Special resource concerns. Erosion related to launching and landing could occur along with resource concerns related to the tree islands in Shark Slough. Guided trips can help ensure visitors are practicing proper waste management protocols and adhering to designated paddling routes, promoting sustainable recreational use and minimizing adverse resource impacts such as

pollution, soil erosion, and habitat disruption. However, most of the concerns are related to visitor safety with paddling.

Other contributions that support wilderness. Introductory experiences and guided trips can lead to enhanced visitor understanding of wilderness character purposes and values. These experiences can provide visitors opportunities to learn about appropriately experiencing wilderness on public lands and allow visitors to experience unique wilderness waters not found in many parts of the country.

Introductory experience. This activity provides people with necessary skills to engage in self-reliant recreation and opportunities to achieve the park's desired conditions for visitor experiences in wilderness. The majority of visitors, local residents included, do not own boats, and, therefore, commercial service provides facilitate opportunities that would not otherwise be possible for visitors.

Conclusion. Paddling is an activity that is proper for realizing the public purposes of wilderness. The skills and equipment, as well as the special safety concerns identified above, are potential barriers that impede the ability for some visitors to realize the values inherent in high-quality wilderness experience. These factors necessitate some level of commercial support for paddling. The availability of commercial support may also offer opportunities for introductory wilderness experiences.

Allowing commercial support for this activity is consistent with the desired condition identified in this wilderness stewardship plan. Specifically, paddling opportunities provide the exploration of the natural beauty of the park wilderness areas through freshwater marshes, mangrove forests, and the open waters of Florida Bay. These experiences provide visitors with opportunities to experience and enjoy wilderness in a manner that is consistent with the preservation of wilderness to experience self-reliant and unconfined recreation and natural, undeveloped, and untrammelled environments. The use of commercial support services moves towards achieving the desired conditions in which visitors can disconnect from modern civilization and experience wilderness on its own terms where privacy and inspiration exist; see dark night skies and natural soundscapes that are largely unaffected by park activities and external developments; and experience primitive recreation that offers a sense of timelessness, reflection, and adventure while encompassing reliance on personal skills to travel and camp.

Fresh and Saltwater Fishing

Types of commercial services that may (and some that currently do) support fishing are guide services that help visitors find appropriate locations for these activities and provide local knowledge or education about wilderness resources. Guided tours are available for visitors who would like to experience the park with the assistance of a guide who is familiar with different aspects of this 1.5-million acre wilderness. A private guide may provide a more flexible schedule, a smaller, more personal group, or individually. Tour guides are required to have authorization from the park ensuring they are licensed and insured businesses authorized to provide visitors additional options in exploring this resource. Further, guides are required to participate in an orientation to the park's natural and cultural resources, wilderness, and Leave No Trace ethics. The park has nearly 400 authorized CUA fishing guides in 2024, all of whom are required to report locations of fishing catch.

Reasons That Commercial Support Is Necessary for Activity

Specialized skills and knowledge. Navigating using tidal charts, reading and interpreting nautical charts and tidal information, navigating the shallow environment of Florida Bay to avoid impacts on submerged resources, operating and using paddling and/or handling a boat properly, using fishing equipment and associated gear such as for overnight use, selecting an appropriate fishing location and campsite selection, having knowledge of the fish species (ability to identify), preparing food and storing appropriately in wilderness, knowing wilderness first aid, practicing sanitation and waste disposal in accordance with coastal wilderness environments, practicing leadership, and following Leave No Trace practices

Specialized equipment or services. The proper use of fishing rods, reels and bait, and access to motorized or human-powered boats used for accessing fishing locations and the proper use of motorized boat (above submerged marine wilderness) are needed. Often, boats are designed for fishing specifically with highly specialized on-board equipment and features. Human-powered equipment includes the use of a canoe or kayak, dry bags, navigational aids (map and compass and/or GPS and extra batteries), and personal flotation devices and are specialized equipment for day or overnight use. For overnight use or multiday fishing trips, other specialized equipment includes cooking equipment (stove, utensils and others), tent, sleeping bag, sleeping pad, camp chair, headlamp, and food and water transport and storage. Depending on seasonality, sun protection, mosquito repellent and/or netting, and other specialized fishing clothing are needed. Safety equipment, such as personal flotation device, extra paddles, spray deck for kayaks, paddle float and pump, very high frequency radio, tow line, throw line, personal locator beacon, boat repair kit, and deck light, are needed.

Special safety concerns. Tidal fluctuations and weather conditions such as wind can significantly affect fishing trips. Hypothermia, orienteering/navigating, first aid, and careful planning are important safety considerations. Everglades National Park is a wetland environment that is hot and humid for much of the year.

Special resource concerns. Understanding minimum impact requirements in wilderness. Fishing is one of few extractive uses permissible in wilderness, so it is important for visitors to understand the fishing requirements and regulations (catch and release, proper disposal of fish carcasses). Fishing guides can provide an understanding of local ecosystems and regulations, including catch-and-release practices and habitat protection measures. Guides can also help visitors ensure the protection of native and/or particularly sensitive fish species, such as those protected under the Endangered Species Act. Guides can promote practices that provide for bank and riparian area protection. Boat groundings can cause damage to the seagrass ecosystem in shallow areas. Tides also affect the areas, and guides with local knowledge can help avoid these areas and expertly maneuver boats to reduce impacts.

Other contributions that support wilderness. Introductory experiences and guided trips can lead to an enhanced visitor understanding of wilderness character purposes and values and can provide visitors with the confidence to safely and appropriately experience wilderness on public lands.

Introductory experience. This activity provides people with fishing instruction and the necessary skills to engage in self-reliant recreation and opportunities to achieve the park's

desired conditions for visitor experiences in wilderness. The majority of visitors, local residents included, do not own boats, and, therefore, commercial service provides facilitate opportunities that would not otherwise be possible for visitors.

Conclusion. Fishing is an activity that is proper for realizing the public purposes of wilderness. The skills, equipment, and special safety concerns identified above are potential barriers that impede the ability of some visitors to realize the values inherent in high-quality wilderness experiences. These factors necessitate some level of commercial support for fishing, especially on waterways. The availability of commercial support may also offer opportunities for introductory wilderness experiences.

Allowing commercial support of this activity is consistent with the desired condition identified in preliminary project planning, as fishing allows visitors to use and enjoy wilderness in a manner that is consistent with the preservation of wilderness, experience a natural, undeveloped, and untrammelled environment, and have opportunities for solitude or an unconfined recreational experience. The use of commercial support services moves towards achieving the desired conditions in which visitors can disconnect from modern civilization and experience wilderness on its own terms where privacy and inspiration exist; see dark night skies and natural soundscapes that are largely unaffected by park activities and external developments; and experience primitive recreation that offers a sense of timelessness, reflection, and adventure while encompassing reliance on personal skills to travel.

Overnight Wilderness Camping

Types of commercial services that may (and some that currently do) support overnight wilderness camping are guide services that help visitors find appropriate locations for these activities and provide local knowledge and education about wilderness resources. Guide services may provide a range of support, from all-inclusive (with meals/cooking, and gear provided) to minimal guiding (with only a guide). Specifically, guide services might support multiday overnight backcountry experience that require careful planning and can result in high-quality visitor experiences. These activities may be exclusively paddling-based overnight wilderness camping experiences or may use other mechanized support to resupply provided the resupply occurs outside of wilderness or above submerged marine wilderness.

Reasons That Commercial Support Is Necessary for Activity

Specialized skills and knowledge. Wayfinding, orienteering, using overnight equipment, selecting location and campsite, having knowledge of environmental and weather hazards, preparing food and storing food appropriately in wilderness, knowing wilderness first aid, practicing sanitation and waste disposal in accordance with coastal wilderness environments, practicing leadership, and following Leave No Trace practices

Specialized equipment or services. The proper use of a backpack, cooking equipment (stove, utensils, and others), tent, sleeping bag, sleeping pad, camp chair, headlamp, and food and water transport and storage are needed. Depending on seasonality, sun and or rain protection and other specialized backcountry clothing are needed.

Special safety concerns. Knowledge of coastal weather conditions such as wind can significantly affect paddling trips. Hypothermia, orienteering/navigating, knowledge of first aid, and careful planning are important safety considerations.

Special resource concerns. Archeological sites can be found in or adjacent to camping locations. Cultural resources are also located at the Shark River Slough tree islands. Equipped with the knowledge of the landscape and park regulations, guides can avoid sensitive cultural areas and ensure campers are adhering to Leave No Trace principles, minimizing waste and respecting fragile ecosystems. Additionally, guides can offer insights into the park's cultural heritage and encourage visitors to appreciate and preserve historic sites.

Other contributions that support wilderness. Introductory experiences and guided trips can lead to enhanced visitor understanding of wilderness character purposes and values and provide visitors with the confidence to safely and appropriately experience wilderness on public lands.

Introductory experience. This activity provides people with the necessary skills to engage in self-reliant recreation and opportunities to achieve the park's desired conditions for visitor experiences in wilderness.

Conclusion. Overnight wilderness camping is an activity that is proper for realizing the public purposes of wilderness. The skills and equipment, as well as special safety concerns identified above, are potential barriers that impede the ability for some visitors to realize the values inherent in high-quality wilderness experiences. These factors necessitate some level of commercial support for paddling. The availability of commercial support may also offer opportunities for introductory wilderness experiences.

Allowing commercial support for this activity is consistent with the desired conditions identified in preliminary project planning. Specifically, overnight wilderness camping opportunities contribute to providing a range of recreation opportunities, as well as offering a sense of timelessness and reflection through solitude or primitive and unconfined recreation. Wilderness camping provides opportunities to experience a side of the wilderness that cannot be encountered during daylight hours. In contrast to urbanized areas where many visitors reside, the wilderness provides relatively clear views of the night sky with little haze and light pollution that plagues many cities. For those who rarely depart metropolitan confines, the enormity and stark contrast of the night sky can be striking. Furthermore, the nighttime soundscape provides an eclectic array of chirps, croaks, grunts, and bellows that can be both fascinating and eerie in the absence of light. With morning comes the sunrise and the dance of color low across the vast horizon, rejuvenating the day, as well as any who observe it. These settings provide an opportunity for self-reflection and can lead to revelations regarding significance and self-worth.

Wildlife and Scenic Viewing

Reasons That Commercial Support Is Necessary for Activity

Specialized skills and knowledge. Wayfinding, orienteering, knowing wilderness first aid, practicing sanitation and waste disposal in accordance with coastal wilderness environments, practicing leadership, and following Leave No Trace practices. Photography skills and a knowledge of species commonly found in the area are necessary for photography and wildlife viewing activities, respectively.

Specialized equipment or services. The proper use of orienteering equipment, such as compass/GPS/maps, is needed. Depending on seasonality, sun and or rain protection and other specialized backcountry clothing are needed. The use of camera equipment and a tripod, as required, or a park permit is needed.

Special safety concerns. The wetland environment has creeks and marshes that are challenging cross-country areas. Visitors must be proficient in orienteering/wayfinding, first aid, creek crossings, and contend with hot and humid weather for much of the year.

Special resource concerns. Visitors must be aware of nesting/wading birds and their proximity to approaching wildlife (e.g., marine mammals), protecting plants, and avoiding illegal take from sensitive areas (e.g., orchids). Equipped with knowledge of the landscape and park regulations, guides can help visitors avoid sensitive habitat and ensure that visitors are adhering to Leave No Trace principles, minimizing waste and respecting fragile ecosystems.

Other contributions that support wilderness. Introductory experiences and guided trips can lead to enhanced visitor understanding of wilderness character purposes and values and can provide visitors with the confidence to safely and appropriately experience wilderness on public lands. Guides can support education and the scenic purposes of wilderness. The long-standing tradition of wilderness photography has been extensively used to support wilderness establishment and preservation.

Introductory experience. This activity provides people with necessary skills to engage in self-reliant recreation and opportunities to achieve the park's desired conditions for visitor experiences in wilderness.

Conclusion. Wildlife and scenic viewing is an activity that is proper for realizing the public purposes of wilderness. The skills, equipment, and special safety concerns identified above are potential barriers that impede the ability for some visitors to realize the values inherent in high-quality wilderness experiences. These factors necessitate some level of commercial support for wildlife and scenic viewing and photography in wilderness. The availability of commercial support may also offer opportunities for introductory wilderness experiences.

Allowing commercial support for this activity is consistent with the desired condition identified in preliminary project planning. Specifically, wildlife and scenic viewing allows visitors to use and enjoy wilderness in a manner that is consistent with the preservation of wilderness; experience a natural, undeveloped, and untrammelled environment; and have opportunities for solitude or an unconfined recreational experience. The use of commercial support services moves towards achieving the desired conditions in which visitors can disconnect from modern civilization and experience wilderness on its own terms where privacy and inspiration exist; see dark night skies and natural soundscapes that are largely unaffected by park activities and external developments; and experience primitive recreation that offers a sense of timelessness, reflection, and adventure while encompassing reliance on personal skills to travel.

Horseback Riding

Types of commercial services that may support horseback riding are guide services that help visitors find appropriate locations for these activities and provide local knowledge and education about wilderness resources. Guide services may provide a range of support, from all-

inclusive (with meals/cooking, and gear provided) to minimal guiding (with only a guide). Specifically, guide services might support multiday overnight backcountry experiences that require careful planning and can result in high-quality visitor experiences. This experience currently does not exist in the park.

Reasons That Commercial Support Is Necessary for Activity

Specialized skills and knowledge. Wayfinding, orienteering, and technical skills in a wilderness environment are highly specialized skills. Caring for a horse requires specialized skills and knowledge. Riding experience suitable for the unique topography of the landscape, knowing wilderness first aid, practicing sanitation and waste disposal in accordance with coastal wilderness environments, practicing leadership, possessing competency, communication skills, and following Leave No Trace practices

Specialized equipment or services. Horseback riding requires highly specialized and expensive equipment, including the animals, saddles, veterinary first aid, specialized weed-free horse feed, saddle, and bridle. The cost of horseback riding, equipment, and the transport of animals may be prohibitive for most visitors. The proper use of orienteering equipment, such as compass/GPS/maps, appropriate protection from environmental elements in a wilderness setting, and other specialized backcountry clothing are needed.

Special safety concerns. Horseback riding in wilderness present special safety concerns that may necessitate commercial support for some visitors. A guide with local knowledge about trails and environmental conditions can mitigate risks. While some visitors may choose and have the ability to manage these risks independently, many will require the services of a commercial provider. Some trails within the wilderness area experience flooding, which present challenging and sometimes rocky terrain. Visitors must be proficient in orienteering/wayfinding, first aid, and creek crossings and contend with hot and humid weather for much of the year.

Special resource concerns. Improper use can impact water quality and vegetation, as well as have environmental impacts on trails. These resource concerns can be mitigated or eliminated by skilled commercial providers with local knowledge of trails and follow practices to protect resources.

Other contributions that support wilderness. Introductory experiences and guided trips can lead to enhanced visitor understanding of wilderness character purposes and values. These experiences can provide visitors with the confidence to safely and appropriately experience wilderness on public lands and support education and the scenic purposes of wilderness.

Introductory experience. This activity provides people with the necessary skills to engage in self-reliant recreation and opportunities to achieve the park's desired conditions for visitor experiences in wilderness.

Conclusion. Horseback riding is an activity that is proper for realizing the public purposes of wilderness. The skills, equipment, and special safety concerns identified above are potential barriers that impede the ability for some visitors to realize the values inherent in a high-quality wilderness experience. These factors necessitate some level of commercial support for horseback riding in wilderness. The availability of commercial support may also offer opportunities for a positive wilderness experience.

Allowing commercial support for this activity is consistent with the desired condition identified in preliminary project planning. Specifically, horseback riding allows visitors to use and enjoy wilderness in a manner that is consistent with the preservation of wilderness; experience a natural, undeveloped, and untrammelled environment; and have opportunities for solitude or an unconfined recreational experience. The use of commercial support services moves towards achieving the desired conditions in which visitors can disconnect from modern civilization and experience wilderness on its own terms where privacy and inspiration exist and experience primitive recreation that offers a sense of timelessness, reflection, and adventure while encompassing reliance on personal skills.

Hiking On and Off Trail (Wet and Dry Season)

Types of commercial services that may support hiking are guide services that help visitors find appropriate locations for these activities and provide local knowledge and education about wilderness resources. Wet off-trail hiking experiences are often guided interpretation advertised as wet walks (hikes in the water). These slough slogs led by park staff are offered twice a week. Guide services may provide a range of activities, from guided interpretation, all-inclusive support (with meals/cooking, and gear provided) to minimal guiding (with only a guide). Specifically, guide services might support multiday overnight backcountry hiking experiences that require careful planning and can result in high-quality visitor experiences.

Reasons That Commercial Support Is Necessary for Activity

Specialized skills and knowledge. Wayfinding, orienteering, using overnight equipment, selecting location and campsite, preparing food and storing food appropriately in wilderness, knowing wilderness first aid, reading maps, practicing sanitation and waste disposal in accordance with coastal wilderness environments, practicing leadership, and following Leave No Trace practices

Specialized equipment or services. The proper use of a backpack, cooking equipment (stove, utensils and others), tent, sleeping bag, sleeping bag, headlamp and food and water transport and storage are needed. Depending on seasonality, sun and or rain protection and other specialized backcountry clothing are needed.

Special safety concerns. Coastal weather conditions such as wind can significantly affect hiking trips. Hypothermia, dehydration, orienteering/navigating skills, challenging tidal crossings, wildlife encounters, first aid, and careful planning are important safety considerations.

Special resource concerns. Resource concerns may include erosion, damage to vegetation, or the disturbance of bird nesting areas. Knowledge of sensitive natural and cultural resources is critical, including of Tribal protocol and protective laws pertaining to cultural features and sites.

Other contributions that support wilderness. Introductory experiences and guided trips can lead to an enhanced visitor understanding of wilderness character purposes and values and can provide visitors with the confidence to safely and appropriately experience wilderness on public lands.

Introductory experience. This activity provides people with necessary skills to engage in self-reliant recreation and opportunities to achieve the park's desired conditions for visitor experiences in wilderness.

Conclusion. Hiking on and off trail is an activity that is proper for realizing the public purposes of wilderness. The skills and equipment, as well as the identified special safety concerns identified above, are potential barriers that impede the ability for some visitors to realize the values inherent in a high-quality wilderness experience. These factors require some level of commercial support for hiking. The availability of commercial support may also offer opportunities for introductory wilderness experiences.

Allowing commercial support for this activity is consistent with the desired condition identified in preliminary project planning. Specifically, hiking allows visitors to use and enjoy wilderness in a manner that is consistent with the preservation of wilderness; experience a natural, undeveloped, and untrammelled environment; and experience solitude or an unconfined recreation experience.

Part 4: Extent of Commercial Services Determined Necessary for Each Proper Wilderness Activity

This section evaluates each proper activity in conjunction with the desired conditions and visitor capacities to determine the extent of commercial services that are proper throughout each analysis area in wilderness. A conclusion is reached about the amount of overall level of use that may be commercially supported in the visitor capacity for each analysis areas, which was used to inform the commercial allocation for each proper activity.

Current use levels for each activity do not necessitate daily monitoring. Park staff monitor commercial visitor services on an annual basis by reviewing wilderness use permits and commercial service required reports. This monitoring of commercial use will continue annually to determine if any adjustments are necessary through a potential management strategy. All commercially guided activities will operate in a manner that is consistent with preserving wilderness character and policy.

In some analysis areas, certain activities occur outside of designated wilderness. Commercial allocation is therefore 0% in these instances since activities are not occurring in wilderness. Additionally, for activities that occur in the water column above submerged marine wilderness, a commercial allocation is identified since these activities connect visitors to wilderness-based experiences.

Table 8. Amount of Overall Use that May Be Commercially Allocated within the Visitor Capacity for Each Analysis Area

Activities that Are Proper	Current Commercial Use Levels	Commercial Allocation
Taylor Slough and the Pinelands		
Guided paddling (day use)	Minimal to no use – 0%	20% (40 PIOD)*
Non-guided paddling (rented paddle crafts) (day use)	Minimal to no use – 0%	20% (40 PIOD)
Freshwater and saltwater fishing (day use)	Minimal to no use – 0%	5% (10 PIOD)
Overnight wilderness camping (overnight use)	Minimal to no use – 0%	30% (60 PPY)**
Wildlife and scenic viewing (day use)	Minimal to no use – 0%	Commercial allocation for wildlife and scenic viewing is included in hiking on and off trail (wet and dry season), since this activity only occurs concurrently with hiking.
Horseback riding (day use)	Minimal to no use – 0%	3% (6 PIOD)
Hiking on and off trail (wet and dry season) (day use)	20% (20 PIOD)	10% (20 PIOD)
Florida Bay		
Guided paddling (day use)	Minimal to no use – 0%	0% – Opportunities for day-use guided paddling occur in the water column above submerged marine wilderness. Commercial allocation for guided paddling for overnight users who are accessing overnight experiences in wilderness is included in the overnight wilderness camping allocation, as this use would occur concurrently with accessing overnight wilderness camping opportunities.
Non-guided paddling (rented paddle crafts)	Minimal to no use – 0%	5% (10 PIOD)

Activities that Are Proper	Current Commercial Use Levels	Commercial Allocation
(day use)		
Freshwater and saltwater fishing (day use)	Minimal to no use – 0%	0% – Opportunities for fishing occur primarily in non-wilderness areas of Florida Bay, such as Joe Bay.
Overnight wilderness camping (overnight use)	Minimal to no use – 0%	10% (20 PIOD)
Wildlife and scenic viewing (day use)	5%	10% (20 PIOD) (commercial use for wildlife and scenic viewing would occur Monday through Friday to North Nest Key)
Horseback riding (day use)	No opportunities for horseback riding in this area	No opportunities for horseback riding in this area
Hiking on and off trail (wet and dry season) (day use)	Minimal to no use – 0%	Commercial allocation for hiking on and off trail is included in the commercial allocation for overnight wilderness camping since this use would occur concurrently with accessing overnight wilderness camping opportunities.
Western Coastal		
Guided paddling (day use)	10% (2 PIOD)	10% (80 PIOD)
Non-guided paddling (rented paddle crafts) (day use)	10% (2 PIOD)	10% (80 PIOD)
Freshwater and saltwater fishing (day use)	1% (1 PIOD)	5% (40 PIOD) This activity occurs in the water column above submerged marine wilderness, and a commercial allocation is identified since this activity connects visitors to wilderness-based experiences.
Overnight wilderness camping (overnight use)	5% (38 PIOD)	5% (38 PIOD)
Wildlife and scenic viewing (day use)	Current commercial use levels for wildlife and scenic viewing	Current commercial use levels for wildlife and scenic viewing

Activities that Are Proper	Current Commercial Use Levels	Commercial Allocation
	are included in guided paddling, non-guided paddling, and hiking on and off trail use since this use occurs concurrently.	are included in guided paddling, non-guided paddling, and hiking on and off trail use since this use occurs concurrently.
Horseback riding (day use)	No opportunities for horseback riding in this area	No opportunities for horseback riding in this area
Hiking on and off trail (wet and dry season) (day use)	5% (1 PIOD)	30% (240 PIOD) This activity primarily occurs on Sandfly Key and along the Coastal Prairie Trail.
Shark River Slough		
Guided paddling (day use)	Minimal to no use – 0%	25% (25 PIOD)
Non-guided paddling (rented paddle crafts) (day use)	Minimal to no use – 0%	25% (25 PIOD)
Freshwater and saltwater fishing (day use)	Minimal to no use – 0%	0% – Opportunities for fishing in this area occur outside of wilderness.
Overnight wilderness camping (overnight use)	Minimal to no use – 0%	50% (50 PPY)**
Wildlife and scenic viewing (day use)	Current commercial use levels for wildlife and scenic viewing are included in guided paddling, non-guided paddling, and hiking on and off trail use since this use occurs concurrently.	Commercial allocation for wildlife and scenic viewing is included in guided paddling, non-guided paddling, and hiking on and off trail allocations since this use would occur concurrently.
Horseback riding (day use)	No opportunities for horseback riding in this area	No opportunities for horseback riding in this area
Hiking on and off trail (wet and dry season) (day use)	Minimal to no use – 0%	5% (5 PIOD)

* people in one day

** people per year

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Appendixes

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APPENDIX A: RELATED PLANNING AND PROJECTS

RELATED PLANNING EFFORTS

Plans to restore the Florida Everglades, discussed below, are independent of and complementary to this wilderness stewardship plan. Park managers will work to ensure active collaboration to best incorporate goals of the wilderness stewardship plan through continued restoration efforts. Such restoration plans are critical to the health and ecological integrity of Everglades National Park resources, which contribute to the park's wilderness character. There is a long-standing, cooperative effort among federal, state, and local government agencies, Tribes, environmental organizations, universities, businesses, and local citizens to preserve and restore the greater Everglades ecosystem through more than 200 restoration projects. Listed below are the projects occurring primarily outside of Everglades National Park that would have the most influence on wilderness in the park.

Modified Water Deliveries Project

This project was initiated by Congress as part of the 1989 Everglades Expansion and Protection Act, which authorized the park to acquire 107,600 acres, including Northeast Shark River Slough. The act also directed the US Army Corps of Engineers to modify the Central and Southern Florida Project to help restore natural hydrology by providing a way for additional water to flow from Water Conservation Area 3, north of Tamiami Trail, into the park. Project features should allow for improved quantity, quality, timing, and the distribution of water flows into Northeast Shark River Slough. Some project features have been completed, and other components are scheduled for implementation over the next several years. The Tamiami Trail component of the Modified Water Deliveries project—constructing a 1-mile bridge and strengthening and raising the remainder of the 10.7-mile highway corridor to allow increased water to flow under Tamiami Trail and into Everglades National Park, has been completed. The 1-mile bridge will provide the ability to flow additional water into the park once several additional steps are completed, including the acquisition of six remaining properties still in private ownership and the completion of a water management operational plan.

In 2012, Congress appropriated funds to acquire the remaining privately owned parcels in the East Everglades Addition. The National Park Service is currently working to acquire these properties through negotiations with the property owners, and in the case of the Florida Power & Light Company (FPL) property, through an environmental impact statement titled “Acquisition of Florida Power & Light Company Land in the East Everglades Expansion Area,” released for public review and comment in January 2014. The record of decision for this project was signed in March 2016, approving the acquisition of Florida Power & Light's 320-acre, 7.4-mile corridor within the East Everglades Addition in exchange for a 260-acre parcel of federal property located along the eastern edge of Everglades National Park.

Two components of the Modified Water Deliveries project have not been initiated, i.e., the conveyance features to improve flows from Water Conservation Area 3 to Northeast Shark

River Slough and the combined operational plan. The purpose of the combined plan is to revise the operational plan for the Central and Southern Florida Project to include the Modified Water Deliveries project and C-111 water detention features to meet the environmental objectives of these two projects while maintaining the other water-related needs of South Florida.

Although the Modified Water Deliveries project will improve ecological conditions in Everglades National Park, it was never intended to address regional environmental degradation. A much larger effort was authorized to accomplish the restoration of the Greater Everglades ecosystem (see the *Comprehensive Everglades Restoration Plan*).

Comprehensive Everglades Restoration Plan

The *Comprehensive Everglades Restoration Plan* is a framework and guide to restore, protect, and preserve the water resources of Central and South Florida. The plan provides a framework restoring the Everglades while providing for other water-related needs of the region, including water supply and flood protection. The plan is a component of the world's largest ecosystem restoration effort, encompassing 16 counties and an 18,000-square-mile area. The *Comprehensive Everglades Restoration Plan* includes more than 60 elements designed to capture, store, and redistribute fresh water previously lost to tides and regulate the quality, quantity, timing, and distribution of flows.

There are a number of Central Everglades Restoration Plan projects that are intended to provide improvements to flows in and around Everglades National Park, with the projects listed below having the most direct relationship to the wilderness stewardship plan.

Central Everglades Planning Project. The Central Everglades Planning Project was initiated in 2011 for the purpose of expediting the delivery of increased clean water to the central Everglades and Everglades National Park, including Florida Bay. The Central Everglades Planning Project would outline a suite of projects that would reduce excessive water discharges to the Atlantic and Gulf of Mexico estuaries, restore Everglades habitats, and deliver additional freshwater to the central Everglades and Everglades National Park.

The Central Everglades Planning Project is attempting to integrate several components of the *Comprehensive Everglades Restoration Plan* that were identified to benefit Everglades National Park on a faster timeline than initially described with the plan. The *Central Everglades Planning Project Final Environmental Impact Statement* was issued by the US Army Corps of Engineers in July 2014. Everglades National Park issued a record of decision in August 2017, which documented the decision by the National Park Service to adopt the programmatic environmental analyses in the *Central Everglades Planning Project Final Environmental Impact Statement* to inform site-specific NEPA reviews of plan actions proposed in the park.

Everglades Restoration Transition Plan. The Everglades Restoration Transition Plan, led by the US Army Corps of Engineers and US Fish and Wildlife Service, was a project to evaluate and modify the interim operational plan. The interim operational plan dictates water management in and around Everglades National Park by prescribing structural operations for inflow structures, border canals, and adjacent detention ponds. The Restoration Transition Plan focuses on improving conditions for three federally listed threatened and endangered species—the wood stork, the Cape Sable seaside sparrow, and the Everglade snail kite in Everglades National

Park—and the water conservation areas to the north. The Restoration Transition Plan record of decision was issued in 2011.

Water Conservation Area 3 Decompartmentalization. Water Conservation Area 3 is immediately north of Everglades National Park. The compartmentalization and constriction of historically broad wetlands, altered hydroperiods, reduction of wildlife, and degradation of water quality are among the environmentally detrimental effects resulting from the construction of the Central and Southern Florida Project. Water Conservation Area 3 is part of this project. The project would reduce barriers to sheet flow, such as canals and levees, to the extent practicable. The goal is to restore historical sheet flow distributions, depth patterns, hydroperiods, and hydrologic connectivity in the various landscapes within Water Conservation Area 3 and in the Northeast Shark River Slough in Everglades National Park.

Everglades National Park Seepage Management. The goal of this project is to reduce eastward water seepage from the Everglades system for the benefit of wetland communities in Everglades National Park. The project would likely include a suite of measures of detention ponds, in-ground seepage barriers, and modifications to adjacent canal water-level management to maintain surface and groundwater in the national park. Because of the effects of existing canals, pump stations, and other water control structures providing flood control and water supply, it has long been recognized that controlling freshwater seepage out of natural system areas is necessary to restore ecological function to the park.

C-111 Spreader Canal Project. This project is designed to rehydrate southeastern coastal marshes by restoring more natural overland sheet flow, restoring natural flows to Florida Bay via Taylor Slough, and returning coastal zone salinities in eastern Florida Bay to, as close as possible, pre-drainage conditions. This project, started in 2010, is intended to provide a more natural hydropattern in Taylor Slough by reducing eastward groundwater losses to the C-111 canal system, including features that extend the existing seepage management aspects of the Modified Water Deliveries project southward, with additional detention areas and the use of a canal that runs along the park boundary. The loss of freshwater from the park into the canal system is frequently observed. In the wet season, water that would normally flow through Taylor Slough bypasses the park. This project would alleviate the problem of significant water diversion from Taylor Slough.

Old Tamiami Trail Modifications. The goal of this project is to improve sheet flow from Water Conservation Area A into the park's Shark River Slough via the S-12C and S-12D water control structures, as envisioned in the Central Everglades Planning Project. The selected alternative will remove 5.45 miles of Old Tamiami Trail located along the northern boundary of the park. The National Park Service completed an environmental assessment and signed a finding of no significant impact in March 2018.

ONGOING NPS PROJECTS AND PROJECTS PLANNED FOR THE NEAR FUTURE

Projects in Everglades National Park that are ongoing or that are funded and likely to be initiated (or in some cases even completed) before the wilderness stewardship plan is completed are listed below. These projects are *not* part of actions proposed in this wilderness stewardship

plan and will be (or have been) covered under separate environmental compliance documents (as appropriate).

Florida Power & Light Company Land Acquisition Project

The Omnibus Public Lands Act of 2009 authorized, but did not mandate, the secretary of the interior to exchange a corridor of FPL-owned land in the middle of the East Everglades Addition with park lands on the eastern boundary of the park. The park's 1991 land protection plan identified the need to acquire all private lands within the East Everglades Addition, including the FPL property, to fulfill the park's mission. In March 2016, a record of decision was signed, and the land exchange was completed on November 14, 2016. Through the land exchange, the National Park Service acquired Florida Power & Light's 320-acre, 7.4-mile corridor in the East Everglades Addition in exchange for a 260-acre, 6.5-mile-long parcel of federal property located along the eastern edge of Everglades National Park. The National Park Service also conveyed a 90-foot-wide perpetual nonnative vegetation management easement to FLP adjacent to the entire length of the exchange corridor.

The land exchange is subject to terms and conditions contained in the final land exchange agreement executed by the National Park Service and Florida Power & Light on March 21, 2016. For example, the United States will have the perpetual right to flood and submerge the exchange corridor, consistent with hydrologic restoration requirements. In addition, Florida Power & Light will reconvey to the National Park Service all acreage in the exchange corridor that is determined to be unneeded by Florida Power & Light to build transmission lines in accordance with the State of Florida final certification order related to transmission line siting.

In the future, Florida Power & Light may use the exchange corridor to support future transmission lines from the Turkey Point powerplant, located south of the Biscayne National Park visitor center, to locations north of metropolitan Miami. The future construction of the transmission lines, towers, and structure pads in the FPL West Preferred Corridor could affect the eligibility of adjacent lands in the East Everglades Addition for wilderness designation. Still, to use the exchange corridor, Florida Power & Light must first make all reasonable efforts to pursue the placement of transmissions lines in a location outside of the park specified by the agreement.

Improve Water Flow Under Park Roads

The National Park Service is replacing culverts under park roads to reestablish more natural water flow and permit aquatic life to cross underneath the roads. The National Park Service will consider installing culverts in additional locations for the same purpose.

Invasive Snakes Research and Management

From 2000 to 2009, more than 1,300 Burmese pythons were removed from the park and adjacent lands. Snakes longer than 17 feet have been captured. Pythons are well established in the park, with breeding in the Everglades conclusively established. Pythons eat a wide variety of prey and pose a risk to many resources, including threatened and endangered species. The US Fish and Wildlife Service, National Park Service, and US Geological Survey are working with

many state partners and nongovernmental organizations to address this concern. Public outreach and research to understand the habits of these species in their new environment is critical in the development of effective management/eradication strategies.

Invasive Nonnative Fish Research and Management

As of 2024, 19 new invasive nonnative fish species have been collected or observed in the park. Several of these species have established reproductive populations and continue to expand their range and increase in abundance in the park. The canal systems of South Florida are the likely source for most of these species. Natural Everglades marshes near canals often have higher populations of invasive nonnative fish than natural marshes in the interior of the park. The introduction of invasive nonnative fish species into Everglades National Park is a significant resource management challenge. Although the park needs increased water flows, such flows could serve as a conduit for invasive nonnative fish to enter and further populate the park's ecosystem. Research is underway to understand the extent and potential threats these species could have on the park's natural system and to identify effective management strategies to minimize their impact on park resources. Recent studies have observed a population decline of certain native fish and crayfish populations when invasive fish (e.g., Asian swamp eel, African jewelfish, Mayan cichlid) have become abundant (Harrison et al. 2013; Rehage et al. 2016; Pintar et al. 2023).

Cape Sable Plugs Restoration

The National Park Service plans to replace the failed plug at Raulerson Canal in the Cape Sable area of the park. The purpose of this project is to reestablish the natural function of the marl ridge and restore natural ecological processes to the Cape Sable region by eliminating the unnatural exchange of salt and freshwater through human-made canals. The park released a final environmental assessment in April 2016 that evaluated two action alternatives for the Raulerson Canal and two action alternatives for at House and Slagle Ditches. A finding of no significant impact for the park's selected alternative was signed in September 2016. The plugs on House Ditch and Slagle's Ditch were repaired in 2018.

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APPENDIX B: REFERENCES

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APPENDIX C: CONSULTATION AND COORDINATION

The National Park Service consulted with various agencies, Tribes, organizations, and interested persons in preparing this wilderness stewardship plan. The process of consultation and coordination is an important component of planning in the National Park Service. This appendix summarizes the consultations related to this plan with federal and state agencies and Tribes.

ASSOCIATED TRIBES

The planning effort has been informed by ongoing government-to-government consultation with the Miccosukee Tribe of Indians of Florida, Seminole Nation of Oklahoma, and the Seminole Tribe of Florida representing the Indigenous people and stewards of the Everglades. The draft plan was scoped with these Tribal Nations to ensure that it addressed Tribal priorities, incorporated traditional knowledge, and established a pathway for collaboratively resolving challenging issues. Aspects of the process included:

- Regular ongoing conversations with tribes, the NPS tribal coordinator, and the park superintendent
- Advance copies of the plan's storymap distributed in February 2024, prior to publication, and with an invitation for input
- Advance copies of the draft plan distributed with an invitation for input.

PUBLIC INVOLVEMENT

Civic engagement was conducted in February and March 2024 to provide the public an opportunity to learn about the wilderness stewardship planning effort and provide input. A press release was issued on February 2, 2024, with a link to the project storymap that provided background on the plan, its purpose, and a summary of preliminary new management actions. Project information, including the newsletter, was also posted on the NPS Planning, Environment and Public Comment (PEPC) website, the park website, and social media accounts. The public was invited to submit comments on the project electronically through the PEPC website, or by mailing written comments.

Four virtual public meetings were held in February and March 2024. Comments were received at the meetings and through PEPC from the public and stakeholders. Common topics included protection of the environment and natural processes; accessibility; wilderness information and interpretation; commercial services; recreational opportunities; and the management of marinas and associated concessions, launch ramps, and landing sites. Desired conditions and management strategies were refined based on public input.

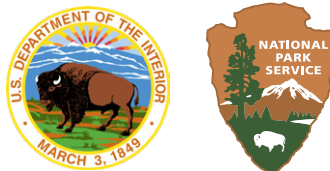
FUTURE CONSULTATION AND COMPLIANCE

Plan approval would not guarantee the funding or staffing that the plan would require. Implementation would depend on funding and could also be affected by factors such as changes in NPS staffing or changes in visitor use patterns. Full implementation could be years in the future. Appropriate compliance would continue as the wilderness stewardship plan is updated and implemented and as planning and design for individual elements are underway.

Most of the proposed actions described in this plan are conceptual; exact locations, construction materials, and implementation strategies for actions included in the action alternative have not been finalized. These proposed actions do not represent undertakings, as no projects associated with this plan have been approved or funded. Should more detailed proposals under the selected alternative be considered for implementation, the National Park Service will consult with the state historic preservation office on potential effects to historic properties in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulations at 36 CFR 800. Compliance with these laws and associated policies will be accomplished via specific project consultation with the Florida Division of Historical Resources (the state historic preservation office), Tribal historic preservation officers, and other consulting parties.

Pending further development of the proposed actions, additional compliance for natural resources could be required under the Clean Water Act, the Endangered Species Act, and applicable NPS director's orders. Compliance with these regulations would occur as necessary.

For the wilderness stewardship plan to be adaptive to changing conditions, the National Park Service would regularly review the status of threatened and endangered species and revise conservation measures as needed. Any plans or actions that include changes to the types, levels, or locations of visitor use that may cause or contribute to cumulative impacts to threatened and endangered species would be subject to consultation with the US Fish and Wildlife Service (USFWS) and/or National Marine Fisheries Service (NMFS). Future implementation projects resulting in site-specific plans, such as transportation infrastructure, would include conservation measures for threatened and endangered species, following appropriate review and consultation with the USFWS and/or NMFS.



As the nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historic places; and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

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Everglades National Park Wilderness Stewardship Plan

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