



*Ernest Coe Visitor Center - interpretive display*



*The rare Atala Hairstreak butterfly*



## A GUIDE TO THIS DOCUMENT

This *Draft General Management Plan / East Everglades Wilderness Study / Environmental Impact Statement* is organized in accordance with Council on Environmental Quality (CEQ) implementing regulations for the National Environmental Policy Act of 1969, as amended (NEPA), the National Park Service (NPS) Program Standards for Park Planning, and NPS Director's Order 12: *Conservation Planning, Environmental Impact Analysis, and Decision-making*.

**Chapter 1: Introduction** sets the frame work for the plan and wilderness study. It describes why the plan and wilderness study are being prepared and what they must address. It gives guidance for the alternatives that are being considered, which are based on the legislated purpose of the park, the significance of its resources, special mandates, and servicewide laws and policies.

This chapter also details the planning issues that were raised during scoping and initial planning; the alternatives in the next chapter address these issues and concerns to varying degrees.

**Chapter 2: Alternatives, Including the Preferred Alternative**, begins with introductory sections and then describes the management zones that will be used to guide management of the national park in the future. Next, four management alternatives are described: alternative 1 (the no-action or "business as usual" alternative), the NPS preferred alternative, alternative 2, and alternative 4. The alternatives are followed by sections on user capacity and mitigation measures for minimizing or eliminating the impacts of some proposed actions. Next are the evaluation of the environmentally preferred alternative and a discussion of

alternatives or actions that were dismissed from detailed evaluation. The chapter concludes with summary tables of the alternatives and the environmental consequences of implementing those alternatives.

**Chapter 3: East Everglades Wilderness Study and Proposal** provides background information about wilderness, describes the wilderness options analyzed in this wilderness study (including the preferred option), and briefly describes the implications of managing lands that are proposed for wilderness.

**Chapter 4: Affected Environment** describes those areas and resources that would be affected by implementing actions in the various alternatives; natural resources, cultural resources, visitor use and experience, park operations, and the socioeconomic environment are included. This chapter also lists topics that were eliminated from detailed analysis in the document.

**Chapter 5: Environmental Consequences** analyzes the impacts of implementing the alternatives. Methods that were used for assessing the intensity, type, and duration of impacts are outlined at the beginning of the chapter.

**Chapter 6: Consultation and Coordination** describes the history of public and agency coordination during the planning effort; it also lists agencies and organizations that will receive copies of the document.

The **Appendixes** present supporting information for the document along with references and a list of the planning team and other consultants.

## BACKGROUND

This *Draft General Management Plan / East Everglades Wilderness Study / Environmental Impact Statement* presents and analyzes four alternative ways of managing Everglades National Park (or the park), including alternative 1 (the no-action alternative) and the National Park Service's (NPS) preferred alternative. The potential environmental impacts of each alternative have been identified and assessed.

General management plans (GMPs) are intended to be long-term documents that establish and articulate a management philosophy and frame work for decision making and problem solving in national park system units. The general management plan for Everglades National Park will likely provide guidance for a 20- to 30-year time frame. Decisions about how specific programs and projects are implemented will be addressed during more detailed planning efforts that follow this general management plan.

Approval of this plan will not guarantee that the funding and staff needed to implement the plan will be forthcoming. However, projects identified in an approved general management plan carry more weight during NPS decision making and funding allocations. Full implementation of the approved plan could take many years. Implementation of the approved plan could also be affected by factors other than funding and staffing. Once the general management plan has been approved, additional feasibility studies and more detailed planning and environmental documentation will be conducted, as necessary, before proposed actions are implemented.

## BRIEF HISTORY AND DESCRIPTION OF THE PARK

Everglades National Park was authorized by Congress in 1934. A fundamental purpose for the park's establishment was provided in the enabling legislation (also see appendix A):

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.

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. President Harry S. Truman dedicated the park on December 6, 1947, in Everglades City.

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) portion of the park, bringing the Northeast Shark River Slough within the park boundaries (see "Region/Vicinity" map). This East Everglades Addition (or the Addition) has provided the cornerstone of long-range planning to restore more natural hydrologic conditions and revitalize wildlife habitat and ecosystem health. The 1989 act also authorized modifications to the Central and Southern Florida Project to restore, to the extent

practicable, more natural flows of water into the park, and included flood protection provisions for adjacent agricultural and residential areas. 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 designated the Marjory Stoneman Douglas Wilderness Area in 1997.

Ongoing public concern regarding regional development and ecosystem degradation have galvanized efforts among various governmental and nongovernmental organizations to work toward a balanced and sustainable south Florida ecosystem. Among these efforts, the South Florida Ecosystem Restoration Task Force, a consortium of federal and state agencies, local governments, and tribal representatives, was established by Congress in 1996. In 2000, the Comprehensive Everglades Restoration Plan (CERP) was approved, resulting in unprecedented focus on Everglades National Park and the south Florida region. Numerous CERP projects scheduled for implementation over the next 30 years will affect hydrology, natural habitats, infrastructure, land ownership, cultural resources, and relationships in and around Everglades National Park. Restoration efforts have raised public awareness of issues within and around the park and changed the context for discussion of many issues affecting the park.

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, protection of the park’s natural resources and of 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, motorboating, and canoeing. The 99-mile-long Wilderness Waterway that runs through the western portion of the park offers outstanding back-country boating and camping experiences. Other attractions include a tram tour and wildlife viewing at Shark Valley and participation in ranger-led interpretive programs.

From initial settlement by American Indian tribes about 6,000 years ago to 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.

Protection of the park’s cultural resources (archeological sites, landscapes, structures, ethnographic 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 it in its full context.



## Region/ Vicinity

### Everglades National Park General Management Plan

## **PURPOSE AND NEED FOR THE GENERAL MANAGEMENT PLAN AND WILDERNESS STUDY**

### **PURPOSE AND NEED FOR THE GENERAL MANAGEMENT PLAN**

The approved general management plan will be the basic document for guiding the management of Everglades National Park for the next 20 to 30 years. The purposes of this general management plan are as follows:

- Confirm the purpose, significance, and special mandates of Everglades National Park.
- Clearly define resource conditions and visitor uses and experiences to be achieved in the national park.
- Provide a frame work for park managers to use when making decisions about how to best protect resources, how to provide quality visitor opportunities, how to manage visitor use, and what kinds of facilities, if any, to develop in/near the national park.
- Ensure that this foundation for decision making has been developed in consultation with interested stakeholders and adopted by NPS leadership after an adequate analysis of the benefits, impacts, and economic costs of alternative courses of action.

Legislation establishing the National Park Service as an agency and governing its management provides the fundamental direction for the administration of Everglades National Park (and other units and programs of the national park system). The alternatives in this general management plan address the desired future conditions that apply relevant law, regulation, and policy in the park and that must be determined through a planning process.

The general management plan does not describe how particular programs or projects should be implemented. Those decisions will be addressed in future, more detailed planning efforts. All future plans will tier from the approved general management plan.

This new management plan for Everglades National Park is needed because the last comprehensive planning effort for the park was completed in 1979. Much has occurred since then—patterns and types of visitor use have changed, the Comprehensive Everglades Restoration Plan was approved, and the national park boundary was increased in 1989 with the 109,506-acre East Everglades Addition. Recent studies have enhanced NPS understanding of resources (including identification of several significant historic structures and cultural landscapes), resource threats, and visitor use in the national park. Each of these changes has major implications for how visitors access and use the park and the facilities needed to support those uses, how resources are managed, and how the National Park Service manages its operations.

A general management plan is also needed to meet the requirements of the National Parks and Recreation Act of 1978 and NPS policy, which mandate updated general management plans for each unit in the national park system.

### **PURPOSE AND NEED FOR THE WILDERNESS STUDY**

This document includes a wilderness study for the 109,506-acre East Everglades Addition, which was added to the park in 1989. The wilderness study evaluates these lands for possible recommendation to Congress for inclusion in the national wilderness preservation system. A study is

needed because the Wilderness Act of 1964, Secretarial Order 2920, and NPS *Management Policies 2006* require the National Park Service to study roadless and undeveloped areas within the national park system, including new areas or expanded boundaries, to determine whether they should be designated as wilderness. The East Everglades Addition is the only area of the national park that has not been the subject of a wilderness study.

Wilderness studies assess the lands to determine if they possess wilderness characteristics and then propose all, some, or none of the eligible lands for designation as wilderness. Chapter 3 of this document explains what wilderness is, discusses the wilderness study and proposal in detail, and provides related background information about wilderness at Everglades National Park.

## THE NEXT STEPS

After distribution of the *Draft General Management Plan / East Everglades*

*Wilderness Study / Environmental Impact Statement*, there will be a minimum of a 60-day public review and comment period, after which the NPS planning team will evaluate comments from other federal agencies, tribes, organizations, businesses, and individuals regarding the draft plan and incorporate appropriate changes into a *Final General Management Plan / East Everglades Wilderness Study / Environmental Impact Statement*. The final plan will include letters from governmental agencies, any substantive comments on the draft document, and NPS responses to those comments. Following distribution of the *Final General Management Plan / Environmental Impact Statement* and a 30-day no-action period, a “Record of Decision” approving a final plan will be prepared for signature by the NPS regional director. The “Record of Decision” will document the NPS selection of an alternative for implementation. With the signing of the “Record of Decision,” the plan can be implemented.



# PLANNING ISSUES AND CONCERNS

## INTRODUCTION

NPS staff; representatives from county, state, and other federal agencies and organizations; American Indian tribes; and members of the general public identified various issues and concerns during scoping (early information gathering) for this general management plan. Here, an issue is defined as an opportunity, conflict, or problem regarding the use or management of public lands. Comments were solicited at public meetings, through GMP newsletters, and on the park's website (see "Chapter 6: Consultation and Coordination").

Comments received during scoping demonstrated that there is much that the public likes about the park—its management, use, and facilities. The issues and concerns generally involve determining the appropriate visitor use, types, and levels of facilities, services, and activities while remaining compatible with desired resource conditions. The GMP alternatives provide strategies for addressing the issues within the context of the park's purpose, significance, and special mandates.

## ISSUES

The major issues that were raised regarding the general management plan, discussed below in no particular order, include management of new park lands; wilderness; boating; appropriate type and level of visitor facilities; park stewardship, partnerships, and constituents; efficient and effective park operations; and climate change.

## Management of New Park Lands (East Everglades Addition or "Addition")

Although acquisition of the East Everglades Addition was authorized by Congress in 1989, it has taken many years for land parcels in this area to be acquired by the National Park Service. This plan needs to provide management direction, in the context of Everglades National Park as a whole, for resource protection, visitor enjoyment, facilities, and NPS operations in the Addition. This includes decisions, consistent with the Everglades National Park Protection and Expansion Act of 1989, about whether commercial airboat tours should continue and where private airboating should be allowed within the East Everglades Addition.

## Wilderness

Everglades National Park includes vast areas of designated wilderness, including submerged marine wilderness. Lands added to the park by the Everglades National Park Protection and Expansion Act of 1989 have not been previously considered for wilderness designation. The National Park Service needs to determine (a) the general direction of wilderness management for existing wilderness, and (b) through a formal wilderness study, whether any areas within the East Everglades Addition should be proposed for wilderness.

## Boating

This issue focuses on how Everglades National Park can provide opportunities for high-quality boating experiences (motorized and nonmotorized) while protecting and ensuring long-term sustainability of natural and cultural resources. The general

management plan needs to consider and decide on ways to balance the desires of some users for unconstrained access to all marine waters with the need to accommodate user groups who value different kinds of experiences—all while protecting the resources for which the park was established (including submerged marine wilderness).

### **Appropriate Type and Level of Visitor Facilities**

This issue addresses the question of the appropriate balance of visitor facilities that should be provided. What general types and intensities of development (visitor contact stations, backcountry campsites, etc.) are needed to provide for public enjoyment of the park? Some people support additional facilities in some areas to improve the quality of the visitor experience, as well as supporting additional visitation. Others are concerned that such facilities would change visitor experience, increase impacts on the resources, and increase NPS costs and operational requirements. Where and what type of facilities are needed to permit visitors of varying abilities, experience levels and interests, and amounts of time to learn about and experience the Everglades?

### **Park Stewardship and Partnerships**

It is to the national park's long-term benefit to build and strengthen people's stewardship of the park and its resources. This issue focuses on what opportunities exist to increase the diversity of park visitors to better reflect the diversity of the region and nation, how the park can involve those who know and care about the park in management decisions that affect them, and what opportunities exist to use partnerships to help address budget and staffing constraints and to meet mutual goals.

### **Effective and Efficient Park Operations**

This issue focuses on whether existing administrative, operational, and visitor service facilities are functioning effectively and efficiently, meeting the needs of both park staff and visitors. The fact that Everglades National Park encompasses more than 2,300 square miles poses great challenges for park rangers, interpreters, maintenance staff, and resource managers. This issue also addresses what facility improvements are needed, if any, to make park operations and visitor services more efficient, effective, and sustainable.

### **Crowding and User Capacity**

Some visitor facilities and areas of the national park (e.g., Shark Valley) are crowded and congested during certain times of the year (peak winter months). Crowding and congestion affects visitor services, strains park infrastructure, and may harm natural and cultural resources. A general management plan must deal with issues of crowding and provide general direction for addressing user capacity at locations throughout the national park.

### **Climate Change**

The National Park Service recognizes that the major drivers of climate change are outside the control of the agency. However, climate change is a phenomenon whose impacts throughout the national park system cannot be discounted. The National Park Service has identified climate change as one of the major threats to natural resources within park units, and has developed a Climate Change Response Strategy (NPS 2010b) that focuses on science, adaptation, mitigation, and communication.

The effects of climate change on national parks are beginning to emerge as both science and impacts become clearer. Climate change

is included in this document to recognize its role in the changing environment of the national park. Although climate change is a global phenomenon, it manifests differently depending on regional and local factors. Climate change is expected to result in many changes to the Atlantic coast, including the Gulf coast of the United States, including warming ocean waters, hotter summer temperatures, sea level rise, and more intense hurricane activity. Vulnerability of the Everglades area to sea level rise is rated moderate to high, based on the U.S. Geological Survey Coastal Vulnerability Index (USGS 1999). In addition, climate change is expected to affect the park's weather, resources (e.g., shorelines, vegetation, wildlife, historic sites, and archeological resources), and visitor use patterns. These changes will have direct implications on resource management, park operations, construction of new maintenance facilities and on visitor use and experience.

Some of these impacts are already occurring or are expected in Everglades National Park in the time frame of this management plan. There are two main issues to consider with respect to climate change in this plan: (1) the contribution of the proposed project to climate change such as greenhouse gas emissions and the carbon footprint; and (2) the anticipated effects of climate change on park resources and facilities that are impacted by the management alternatives.

Because the contribution of the proposed project to climate change is negligible under any alternative, the former issue has been dismissed as an impact topic and discussed in the mitigative measures portion of chapter 2 of the plan.

## **ISSUES NOT ADDRESSED IN THIS PLAN**

### **Ecosystem Restoration**

In order not to be redundant with other major ecosystem efforts, this plan does not specifically analyze ecosystem restoration projects underway or anticipated. Rather, this entire plan was developed considering large-scale restoration efforts that are underway for the Everglades ecosystem. This plan does not address ecosystem restoration. However, this entire plan was developed considering the large-scale ecosystem restoration efforts that are underway for the Everglades ecosystem. This plan complements projects and activities that are focused on this critical aspect of improving the health and natural functions of the park and other south Florida ecosystem resources. See the section of this chapter titled "Relationship of the General Management Plan to Other Planning Efforts" for a discussion of Everglades ecosystem restoration efforts. More detailed information is available on the park's website.

## GUIDANCE FOR THE PLANNING EFFORT

The direction for the alternatives considered in this draft plan is based on the park's purpose and significance, special mandates, and servicewide laws and policies. The purpose statements describe why the Everglades were established as a national park. The significance section describes the qualities that make the national park special. Special mandates and servicewide laws and policies help to further define the sideboards for the plan.

### PARK PURPOSE

The purpose statement conveys the reasons that the area was set aside as a national park. Grounded in an analysis of park legislation and legislative history, purpose statements also provide primary criteria against which the appropriateness of plan recommendations, operational decisions, and actions are tested.

The purpose of Everglades National Park is as follows:

Everglades National Park is a public park for the benefit and enjoyment of the people. It is set apart as a permanent wilderness preserving essential primitive conditions, including the natural abundance, diversity, behavior, and ecological integrity of the unique flora and fauna.

### PARK SIGNIFICANCE

Significance statements capture the essence of the national park system unit's importance to the nation's natural and cultural heritage. They describe the unit's distinctiveness and describe why an area is important within regional, national, and global contexts. These

statements help managers focus their efforts and limited funding on protection and enjoyment of attributes that are directly related to the purpose of the park unit.

Everglades National Park is nationally and internationally significant because

- It is a unique subtropical wetland that is the hydrologic connection between central Florida's freshwater ecosystem and the marine systems of Florida Bay and the Gulf of Mexico. It is the only place in the United States jointly designated an International Biosphere Reserve, a World Heritage Site, and a Wetland of International Importance.
- It comprises the largest subtropical wilderness reserve in North America. The park contains vast ecosystems, including freshwater marshes, tropical hardwood, pine rockland, extensive mangrove estuaries, and seagrasses, which support a diverse mix of tropical and temperate plants and animals.
- It serves as sanctuary for the protection of more than 20 federally listed and 70 state-listed threatened and endangered species, as well as numerous species of special concern. Many of these species face tremendous pressure from natural forces and human influences in the south Florida ecosystem.
- It provides important foraging and breeding habitat for more than 400 species of birds (including homeland to world-renowned wading bird populations), and functions as a primary corridor and refuge for migratory and wintering bird populations.

- It includes archeological and historical resources spanning approximately 6,000 years of human history, revealing adaptation to and exploitation of its unique environment.
- It preserves natural and cultural resources associated with the homeland of American Indian tribes of Florida (including the Miccosukee Tribe of Indians of Florida, the Seminole Tribe of Florida, the Seminole Nation of Oklahoma, and other American Indian groups such as the Independent Traditional Seminole Nation of Florida).
- It preserves the remnants of a nationally significant hydrologic resource that sustains south Florida's human population and serves as a global experiment in restoration.
- It provides the public with the opportunity to experience Everglades wilderness for recreation, reflection, and solitude in proximity to a major metropolitan area.

## PRIMARY INTERPRETIVE THEMES

Primary interpretive themes are those ideas and concepts about Everglades National Park that are key to helping visitors gain an understanding of the park. The themes, which are based on the park's purpose and significance, provide the foundation for all interpretive media and programs in the park. The themes do not include everything that may be interpreted, but rather they identify the ideas that are essential to understanding and appreciating the park's importance.

Interpretive themes for Everglades National Park are as follows:

- Everglades National Park serves as a dynamic laboratory for innovative scientific investigations that identify and monitor a vast array of fragile and

unique resources. The revelations from this work inform good environmental decision making throughout the world, which protects ecosystems subject to the needs and desires of human populations.

- The water-dominated landscape of the Everglades has offered a myriad of experiences, challenges, and opportunities to humans that have inhabited this place for approximately the last 6,000 years.
- The Everglades landscape is of great cultural importance to distinct groups of past and present American Indians. Historically, these parklands served as a home; a source of abundant natural and cultural resources; a place of refuge; and today a reminder of past and present challenges, trials, and injustices.
- The greater Everglades ecosystem is the liquid heart of south Florida, where the seasonal ebb and flow of water over unique geography defines the environment, supports the region's web of life, and challenges humans to comprehend their relationship to nature and wilderness.
- Everglades National Park provides an opportunity for people to understand and experience the value of a diverse wilderness in proximity to extensive development. The park's designation as a World Heritage Site, an International Biosphere Reserve, and a Wetland of International Importance attests to its importance as a benchmark for monitoring environmental impact and revealing change.
- The diverse habitats and protected status of Everglades National Park, both temperate and tropical, demonstrate the park's value as an important sanctuary, in an increasingly urbanized landscape, for wild animals, plants, and birds. Species, from those most common to those highly endangered, reveal life

histories that are intimately tied to these places' natural cycles of abundance, flood, fire, hurricane, drought, life, and death.

## **SPECIAL MANDATES**

Special mandates are legislative or judicial requirements that are specific to a particular unit of the national park system. They are typically mandated by Congress or by the courts. Special mandates for Everglades National Park are listed below.

### **Preservation of Primitive Conditions**

Everglades National Park shall be permanently reserved as a wilderness, and no development 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.

(1934 park enabling legislation)

### **Ecosystem Protection**

The purposes of this Act are to . . . assure that the park is managed in order to maintain the natural abundance, diversity, and ecological integrity of native plants and animals, as well as the behavior of native animals, as a part of their ecosystem.

(Everglades National Park Protection and Expansion Act of 1989)

### **Reserved Area Protection**

The purposes of this act are as follows: (1) to replace the special use permit with a legal frame work under which the tribe can live permanently and govern their own affairs in a

modern community within the park, (2) to protect the park outside the boundaries of the Miccosukee Reserved Area from adverse effects of structures or activities within that area, and (3) to support restoration of the South Florida ecosystem, including restoring the environment of the park.

(Miccosukee Reserved Area Act, October 30, 1998, Public Law 105-313)

### **Designated Wilderness**

In 1978 a 1,296,500-acre designated wilderness area that includes land, freshwater, and submerged marine areas was established within Everglades National Park; the wilderness was originally named "Everglades Wilderness" (National Parks and Recreation Act of 1978). The name of the wilderness area was later changed to "Marjory Stoneman Douglas Wilderness."

(Marjory Stoneman Douglas Wilderness and Ernest F. Coe Visitor Center Designation Act of 1997)

### **Commercial Airboating**

The secretary is authorized to negotiate and enter into concession contracts with the owners of commercial airboat and tour facilities in existence on or before January 1, 1989, located within the [East Everglades Addition] for the provision of such services at their current locations under such rules and conditions as [s]he may deem necessary for the accommodation of visitors and the protection of biological resources of the area.

(Everglades National Park Protection and Expansion Act of 1989)

The available legislative history on Public Law 101-229 provides additional insight into the meaning and intent of this provision on commercial airboats. Especially helpful was a

document prepared by U.S. Department of the Interior (USDI) legislative counsel, included in a report on the Senate hearing of the bill that ultimately was enacted. This document indicated that owners of legitimate commercial airboat and tour facilities in existence on or before January 1, 1989, would be afforded the opportunity to negotiate and enter into a concession contract with the National Park Service.

### **Private Airboating**

The park shall be closed to the operation of airboats . . . except that within a limited capacity and on designated routes within the [East Everglades Addition], owners of record of registered airboats in use within the addition as of January 1, 1989, shall be issued nontransferable, nonrenewable permits, for their individual lifetimes, to operate personally owned airboats for noncommercial use in accordance with rules prescribed by the Secretary [of the Interior] to determine ownership and registration, establish uses, permit conditions, and penalties, and to protect the biological resources of the area

(Everglades National Park Protection and Expansion Act of 1989)

### **Marjory Stoneman Douglas (Gulf Coast) Visitor Center**

The Secretary [of the Interior] is authorized and directed to expedite the construction of the visitor center at Everglades City, Florida, as described in the Development Concept Plan, Gulf Coast (dated February 1989) and shall designate the visitor center as the “Marjory Stoneman Douglas Center” in commemoration of the vision and leadership shown by Mrs. Douglas in the protection of the Everglades.

(Everglades National Park Protection and Expansion Act of 1989)

### **Tarpon Basin**

In March 2009, the Everglades National Park boundary was expanded by the Omnibus Public Land Management Act of 2009 to include the nearly 600-acre Tarpon Basin parcel (Tarpon Basin) in Key Largo, Florida. Tarpon Basin is adjacent to Everglades National Park and Florida Bay, along the Intracoastal Waterway in Key Largo. It consists of about 590 acres of mangrove forest and coastal shoreline and 10 acres of tropical hardwood hammock. In June 2010, the National Park Service acquired Tarpon Basin from The Nature Conservancy. This addition to the national park will help protect mangrove forest, coastal wetlands, native hardwood hammock vegetation, and wildlife habitat, including habitat for several threatened and endangered species (the American crocodile, manatee, roseate spoonbills, and several species of sea turtles).

### **East Everglades Operations Center**

Public Law 108-483, passed in 2004, authorized the National Park Service to “acquire. . .not more than 10 acres of land located outside the boundary of the park and adjacent to or near the East Everglades area of the park for the development of administrative, housing, maintenance, or other park purposes.” Everglades National Park has acquired a site close to the park boundary near Chekika, which will be used to support park administration and operational needs in the East Everglades.

### **Servicewide Laws and Policies**

Many park management directives are specified in laws and policies guiding the National Park Service. For example, there are laws and policies about managing environmental quality such as the Clean Air Act, the

Endangered Species Act, and Executive Order 11990, “Protection of Wetlands”; laws governing the preservation of cultural resources such as the National Historic Preservation Act of 1966, as amended (NHPA), and the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA); and laws about providing public services such as the Americans with Disabilities Act of 1990, as amended (ADA)—to name only a few. In other words, a general management plan is not needed to decide that it is appropriate to protect endangered species, control invasive nonnative species, protect historic and archeological sites, conserve artifacts, or provide for access for persons with disabilities. Laws and policies have already decided those and many other things for us. Although attaining some conditions set forth in these laws and policies may have been temporarily deferred in the park because of funding or staffing limitations, the National Park Service will continue to strive to implement these requirements with or without a new general management plan. The general management plan is critical in providing guidance on how we comply with laws and policies.

There are other laws and executive orders that are applicable solely or primarily to units of the national park system. These include the 1916 Organic Act that created the National Park Service, the General Authorities Act of 1970, the Redwoods Act of 1978 (relating to the management of the national park system), and the National Park Service Concessions Management Improvement Act of 1998.

The NPS Organic Act (16 *United States Code* [USC], section 1) provides the fundamental management direction for all units of the national park system

[P]romote and regulate the use of the Federal areas known as national parks, monuments, and reservations . . . by such means and measure as conform to the fundamental purpose of said parks, monuments and reservations, which

purpose is to conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.

The National Park System General Authorities Act (16 USC section 1a-1 et seq.) affirms that while all national park system units remain “distinct in character,” they are “united through their interrelated purposes and resources into one national park system as cumulative expressions of a single national heritage.” The act makes it clear that the NPS Organic Act and other protective mandates apply equally to all units of the national park system. Further, amendments state that NPS management of park units should not “derogat[e] . . . the purposes and values for which these various areas have been established.”

The Redwoods Act of 1978 reasserted the systemwide standard of protection established by Congress in the original Organic Act. It stated

Congress further reaffirms, declares, and directs the promotion and regulation of the various areas of the National Park System . . . shall be consistent with and founded in the purpose established by the first section of the Act of August 25, 1916, to the common benefit of all the people of the United States. The authorization of activities shall be construed and the protection, management, and administration of these areas shall be conducted in light of the high public value and integrity of the National Park System and shall not be exercised in derogation of the values and purposes for which these various areas have been established, except as may have been or shall be directly and specifically provided by Congress.



The National Park Service Concessions Management Improvement Act of 1998, together with NPS regulations promulgated thereunder, governs the provision of commercial visitor services, called concessions, in the national parks. This law replaced the original National Park System Concessions Policy Act of 1965. The 1998 act, like the 1965 act before it, states that, as a matter of policy, concessions are to be limited to those that are “necessary and appropriate for public use and enjoyment” and are “consistent to the highest practicable degree with the preservation and conservation of the resources and values” of the park. Among other provisions, the new law governs NPS contracting for concession services in the parks, payments from concessioners to the National Park Service in return for the privilege to do business within a unit of the national park system, and the transfer of concessions contracts or permits.

The National Park Service also has established policies for all units under its stewardship. These are identified and explained in a guidance manual entitled *NPS Management Policies 2006*. The alternatives considered in this document incorporate and comply with the provisions of these mandates and policies.

### **Impairment of National Park Resources**

In addition to determining the environmental consequences of implementing the alternatives, *NPS Management Policies 2006* (section 1.4) requires analysis of potential effects to determine whether alternatives would impair the park’s resources and values.

The fundamental purpose of the national park system, established by the Organic Act and reaffirmed by the General Authorities Act, as amended, begins with a mandate to conserve resources and values. NPS managers must always seek ways to avoid, or to minimize to the greatest degree practicable, adverse impacts on resources and

values. Although Congress has given the National Park Service the management discretion to allow certain impacts within a unit, that discretion is limited by the statutory requirement that the National Park Service must leave resources and values unimpaired unless a particular law directly and specifically provides otherwise.

The prohibited impairment is an impact that, in the professional judgment of the responsible NPS manager, would harm the integrity of resources and values, including the opportunities that otherwise would be present for the enjoyment of those resources or values (*NPS Management Policies 2006* section 1.4.5). An impact on any resource or value may constitute impairment. An impact would be more likely to constitute impairment if it results in a moderate or major adverse effect on a resource or value whose conservation is

- necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the area;
- key to the natural or cultural integrity of the area or to opportunities for enjoyment of the area; or
- identified as a goal in the area’s general management plan or other relevant NPS planning documents.

Impairment may result from NPS activities in managing the area; visitor activities; or activities undertaken by concessioners, contractors, and others operating in the park. An evaluation of impairment is not required for topics related to visitor use and experience (unless the impact is resource based), NPS operations, or the socioeconomic environment. When it is determined that an action or actions would have a moderate to major adverse effect, an explanation is presented for why this would not constitute impairment. Impacts of only negligible or minor intensity would, by definition, not result in impairment.



## DESIRED CONDITIONS AND STRATEGIES

This section focuses on parkwide desired conditions and strategies to guide management of Everglades National Park. These desired conditions and strategies guide actions taken by NPS staff on such topics as natural and cultural resource management, park facilities, and visitor use management. Each topic discussed below has two parts: (1) desired conditions for that topic (in italics), and (2) broad strategies that may be used to achieve those desired conditions.

Desired conditions articulate the ideal conditions the National Park Service is striving to attain. The term desired conditions is used interchangeably with goals. Desired conditions provide guidance for fulfilling the park's purpose and for maintaining the park's significance on a parkwide basis.

The strategies describe actions that could be used by the National Park Service (and/or its partners) to achieve the desired conditions. Most of these strategies are already being implemented. Those not already being implemented are consistent with NPS policy, are not believed to be controversial, and require no analysis and documentation under the National Environmental Policy Act (or analysis and documentation, if necessary, would be completed separately from this *General Management Plan / Wilderness Study / Environmental Impact Statement*). This is not an exhaustive list of strategies. As new ideas, technologies, and opportunities arise, they will be considered if they further support the desired conditions.

The parkwide desired conditions and strategies in this section, combined with the management actions that are specific to the management alternative ultimately selected for implementation (see chapter 2), will form the complete general management plan for Everglades National Park.

### ECOSYSTEM MANAGEMENT

#### *Desired Conditions*

*Marine, estuarine, freshwater, and terrestrial habitats are managed from an ecosystem perspective, considering both internal and external factors affecting visitor use, environmental quality, and resource stewardship. Management decisions about ecosystems are based on scholarly and scientific information. Resources and visitation are managed in consideration of the ecological and social conditions of the national park and surrounding area. NPS managers adapt management strategies to changing ecological and social conditions and are partners in regional land planning and management. NPS staff demonstrates leadership in resource stewardship and conservation of ecosystem values.*

#### *Strategies*

- Continue to participate in and encourage ongoing partnerships with local, state, and federal agencies, and nongovernmental organizations in programs that have importance within and beyond park boundaries.
- Central to ecosystem management is long-term monitoring of changes in the condition of cultural and natural resources and related human influences. Improvement or degradation of resources and visitor experience cannot be determined with any certainty without a monitoring program. To protect, restore, and enhance park resources within and around the national park, NPS staff will do the following:
  - Continue to play a key role in implementation of the Comprehensive Ecosystem Restoration Plan.

- Initiate or continue long-term monitoring of resources and visitor use, including use of visitor experience and resource protection framework or other user capacity process, as appropriate.
  - Promote research to increase understanding of national park resources, natural processes, and human interactions with the environment with emphasis on significant resources.
  - Ensure baseline and ongoing monitoring data, including associated specimens, are preserved and remain accessible.
  - Practice science-based decision making and adaptive management, incorporating the results of resource monitoring and research into NPS operations.
  - Identify lands/waters outside the national park where ecological processes and human use affect park resources or are closely related to park resource management considerations; initiate joint research, monitoring, management actions, agreements, or partnerships to promote resource conservation.
- Work to protect the values of marine and estuarine resources, including preservation of fundamental physical and biological processes.
  - Provide education and outreach programs to highlight conservation and management issues facing the park and related lands and encourage partners who are able to assist with ecosystem stewardship.
  - Continue to restore disturbed sites.
  - Strive to control invasive nonnative species in coordination with adjacent landowners, other agencies, and NPS staff specialists.

## NATURAL RESOURCES (GENERAL) AND BIOLOGICAL DIVERSITY

### *Desired Conditions*

*The resources and processes of the national park retain a significant degree of ecological integrity. Management decisions about natural resources are based on scholarly and scientific information and on the national park's significant resources. Park resources and values are protected through collaborative efforts with neighbors and partners. Visitors and employees recognize and understand the value of the park's natural resources. Human impacts on resources are monitored, and harmful effects are minimized, mitigated, or eliminated.*

*Biologically diverse native communities are protected and restored when possible. Particularly sensitive communities are closely monitored and protected. Endemic species and habitats are fully protected; invasive nonnative species are controlled; and native species are reintroduced when conditions allow. Genetic integrity of native species is protected. Threatened and endangered species are protected to the greatest extent possible and are generally stable or improving. Natural fire regimes are investigated and supported where possible.*

### *Strategies*

- Continue to inventory biotic and abiotic resources in the national park and assess their status and trends.
- Continue long-term systematic monitoring of key indicators or ecosystem conditions to track ecosystem health, detect natural and human-caused trends, document changes in species or communities, evaluate the effectiveness of management plans and restoration projects, and mitigate impacts where possible.
- Implement and keep current a cooperative wildland fire management plan that includes

interagency participation to maintain conditions within the natural range as much as possible.

- Work in consultation with American Indian tribes to identify, evaluate, and determine appropriate treatment for park resources traditionally used or procured by American Indian tribes.
- Inventory human-made structures and modifications, and remove those that do not contribute to the purposes or management of the park or are judged to be unsafe provided they have been determined not to have cultural significance.
- Manage, control, or eradicate invasive nonnative species where prudent and feasible.
- Provide information to adjacent property owners about natural processes, wildlife, invasive nonnative species, critical habitats, and threats to resources.
- Conserve and restore habitats for threatened and endangered species and species of special concern.
- In conjunction with other NPS offices, continue to expand the park's data management systems for analyzing, modeling, predicting, and testing trends in resource conditions.
- Regularly update the park's resource stewardship strategy.
- Apply mitigation techniques to minimize impacts of construction and other activities on park resources.
- Continue to educate staff, visitors, and the public about the significance of natural resources and major threats to these resources.
- Continue to participate in the NPS South Florida and Caribbean Inventory and Monitoring Network.
- Work with neighboring agencies and partners to monitor vital components of the ecosystem to better assess its condition and trends.

## Air Quality

### *Desired Conditions*

*Everglades National Park is a class I area under the Clean Air Act. This designation permits the least degradation of air quality and air quality-related values including visibility. The air quality of the national park is enhanced or maintained.*

### *Strategies*

- Continue to monitor and record air pollution levels and analyze changes and trends over time.
- Monitor and reduce emissions, as possible, from NPS administrative activities. Use clean air technologies for administrative and operational uses.
- Require bus tour companies to turn off engines when buses are parked to reduce emissions.
- Continue to participate in regional air quality planning and research and implementation of air quality standards.
- Pursue regional partnerships for development of alternative transportation systems and clean fuels that improve air quality.
- Conduct fire management activities in compliance with regional air quality standards and minimize the effects of smoke from prescribed fire activities.

## Water Resources and Wetlands

### *Desired Conditions*

*Hydrologic conditions within Everglades National Park and the south Florida ecosystem are characteristic of the natural ecosystem prior to European American intervention, including water quality, quantity, distribution, and timing. Water levels and timing of water deliveries reflect quantities resulting from natural rainfall and are distributed according*

*to pre-engineered drainage patterns. Water is free of introduced agricultural nutrients and urban-related pollutants.*

### **Strategies**

- Continue to monitor water quality and quantity within a local and regional context, and expand monitoring as needed to more fully understand the status and trends of ground and surface water.
- Participate in local, state, and national water quality remediation and watershed planning programs.
- Update strategies for water resources management as needed to reflect changing resources and management issues.
- Continue to inventory wetlands so that important wetland communities can be identified and protected.
- Continue to identify and address threats to wetlands such as invasive nonnative species.
- Continue to assess human-related threats to water quality and quantity.
- Maintain a “no net loss of wetlands” policy, and strive to achieve a longer term goal of net gain of wetlands across the national park system through restoration of previously degraded wetlands.
- Avoid to the extent possible short- and long-term impacts associated with the destruction or modification of wetlands, and avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative.
- Compensate for unavoidable adverse impacts to wetlands by restoring wetlands that have been previously degraded.

## **Vegetation**

### **Desired Conditions**

*Most of the park is managed to allow natural processes that enhance and maintain native plant communities. Communities include the diverse species and genetics representative of an ecologically functioning subtropical wetland system.*

### **Strategies**

- Continue to eradicate invasive nonnative plants in the park. Work with local, state, tribal, and other federal agencies, private landowners, and visitors to minimize introduction and the spread of invasive nonnative plant species into the park and the region.
- Continue to pursue restoration of disturbed lands within the boundary such as the Hole-in-the-Donut. Inventory and prioritize disturbed areas for restoration.
- Continue to use fire as a tool to achieve vegetation management objectives and ensure public safety.
- Develop monitoring programs to detect the effects of human stressors on vegetation and determine natural vegetation dynamics and processes.
- Monitor plant communities to assess their condition. If it is shown that human use is degrading an area, consider a variety of mitigating measures to restore the area to an acceptable condition. Such measures may include establishing trails, delineating or hardening trails, erecting signs or taking other educational measures, restricting access to problem areas, closing problem areas, or restoring degraded areas.

## Wildlife

### *Desired Conditions*

*Natural wildlife populations and systems are understood and perpetuated. Natural fluctuations in populations are permitted to occur to the greatest extent possible. Natural influences are mimicked if necessary. NPS staff work with neighbors and partners to achieve mutually beneficial goals related to wildlife.*

### *Strategies*

- Continue cooperative management of threatened and endangered species within and outside the national park to stabilize or improve the status of these species.
- Continue to cooperate with the Florida Fish and Wildlife Conservation Commission (USFWS), and National Marine Fisheries Service to better understand populations and determine appropriate management actions for game and nongame species.
- Strive to preserve populations and habitats of migratory species inhabiting the park.
- Cooperate with others to ensure preservation of populations and migratory species outside the park.
- Strive to identify species that have occupied the national park in the past and evaluate the feasibility and advisability of reintroducing extirpated species.
- Continue to educate visitors and the public about wildlife issues and concerns.
- Manage populations of invasive nonnative fish and wildlife species wherever such species threaten park resources or public health and when control is prudent and feasible.

## Fisheries

### *Desired Conditions*

*Native fish populations and habitat are understood and perpetuated. Naturally functioning and healthy fisheries are maintained as an important component of the ecology of Florida Bay and other waters in the park.*

### *Strategies*

- Develop and maintain a current fisheries management plan.
- Continue monitoring sport fish populations and implement appropriate harvest and size limits (in cooperation with the Florida Fish and Wildlife Conservation Commission, U.S. Fish and Wildlife Service, and National Marine Fisheries Service) as necessary to meet management goals.
- Continue cooperative management of special status species and essential fish habitat within and outside the national park to stabilize or improve the status of these species and habitat.
- Continue to educate the public about fish management concerns.
- Manage populations of invasive nonnative fish species wherever such species threaten park resources and when such control is prudent and feasible.

## Wilderness

### *Desired Conditions*

*Wilderness areas retain their wilderness characteristics and values. Visitors find opportunities for primitive recreation and solitude. Wilderness areas are affected primarily by the forces of nature, and signs of people remain substantially unnoticeable.*

### **Strategies**

- Develop and maintain a current wilderness stewardship plan for designated wilderness areas to guide preservation, management, and use of these lands.
- Ensure that management decisions affecting wilderness are consistent with the “minimum requirements” concept.
- Manage proposed wilderness areas as wilderness, in keeping with established NPS management policies and Director’s Order 41: *Wilderness Preservation and Management*.
- Establish baseline wilderness character criteria and monitor character trends to maintain or improve the condition of wilderness.

### **Cultural Resources (General)**

#### ***Desired Conditions***

*Cultural resources are identified, evaluated, managed, interpreted, and protected within their broader context. Management decisions about cultural resources are based on scholarly research and scientific information and consultation with the Florida state historic preservation office (SHPO) and with American Indian tribes, and other groups with historic connections to the park, as appropriate. The historic integrity of properties listed in (or eligible for listing in) the National Register of Historic Places is protected. Visitors and employees recognize and understand the value of the park’s cultural resources. Human and natural impacts on cultural resources are monitored, and adverse effects are minimized or eliminated.*

#### **Strategies**

- Continue to collect information to fill gaps in the knowledge and understanding of the national park’s cultural resources, to assess status

and trends, and to effectively protect and manage cultural resources.

- In accordance with the National Historic Preservation Act, continue to locate, identify, and evaluate cultural resources to determine if they are eligible for listing in the National Register of Historic Places (National Register).
- Prepare and update National Register nominations as appropriate.
- Update and keep current the park’s Cultural Landscape Inventory, List of Classified Structures (the NPS inventories of evaluated historic and prehistoric structures and landscapes that have historical, architectural, and/or engineering significance), and archeological information system.
- Work in consultation with the Florida state historic preservation office, American Indian tribes, and other interested parties to identify, evaluate, monitor, and determine appropriate treatment for historic structures, archeological sites, traditional cultural properties and other ethnographic resources, and cultural landscapes.
- Conduct scholarly research and use the best available scientific information and technology for making decisions about management of park cultural resources.
- Build a partnership program that considers appropriate adaptive use to maintain historic buildings and cultural landscapes throughout the park.
- Continue to initiate and regularly update plans and prioritize actions needed to protect cultural resources.
- Continue to research, document, catalogue, exhibit, and store the national park’s museum collection according to NPS standards.



- Make the museum collection more accessible for study and for public observation.
- Continue to educate staff, visitors, and the public about cultural and historic issues relating to the park.

## Historic Structures

### *Desired Conditions*

*The character of historic structures is preserved to retain a high degree of integrity. Whenever possible, adaptive use of historic structures for park needs is considered before building new infrastructure.*

### *Strategies*

- Prepare historic structure inventories and reports and amend them as needed. Implement actions identified in historic structure reports and add a record of treatment to the reports.
- Prepare and update National Register nominations as appropriate.
- Monitor, inspect, and manage identified and evaluated historic structures to enable long-term preservation of historic features, qualities, and materials.
- Use historic structures as they were historically used, or adaptively use them in ways that are compatible with park purpose and that retain historic materials, features, spaces, and spatial relationships to the extent practicable.
- Consider historic buildings for appropriate adaptive use by other public and private entities to assist in preservation of the structures.
- Create design guidelines and/or historic structure reports for specific areas in the national park to preserve architectural and character-defining features. Include provisions for design review to ensure the

compatibility of new planning, design, and construction.

Preservation maintenance and other approved treatments of historic structures are conducted in a manner that maintains, to a high degree, the integrity of historic materials and fabric. Involve historical architects and other professionals in work that could affect historic structures.

## Cultural Landscapes

### *Desired Conditions*

*Everglades National Park's cultural landscapes are preserved to retain a high degree of integrity. (Cultural landscapes reflect human adaptation and use of natural resources and are 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.)*

### *Strategies*

- Prepare cultural landscape inventories and reports and amend existing reports as needed.
- Monitor, inspect, and manage identified and evaluated cultural landscapes to enable long-term preservation of historic features, qualities, and materials.
- Create design guidelines and/or cultural landscape reports for specific developed areas in the national park to preserve character-defining features.
- Implement actions identified in cultural landscape reports and add a record of treatment to the reports.
- Involve cultural landscape specialists in the preparation of plans and specifications for preservation, rehabilitation, and restoration in consultation with park management staff.

- Collaborate with park natural resource staff to develop cultural landscape preservation strategies that complement activities to manage native vegetation and natural processes.
- Include information about archeological resources, as appropriate, in interpretive and educational programs for the public.
- Work with American Indian tribes to identify, evaluate, document, protect, and interpret archeological sites.

## Archeological Resources

### *Desired Conditions*

*Archeological resources are identified and preserved. (Archeological resources are the remains of past human activity and records documenting the scientific analysis of these remains. Archeological features are typically buried, but may extend above ground. Although archeological resources are commonly associated with prehistoric peoples, they may also be products of more recent historical activities.) Archeological sites may also represent or be components of historic structures and cultural landscapes.*

### *Strategies*

- Conduct sufficient research to identify and evaluate park archeological resources and assess condition and potential threats.
- Continue long-term monitoring of archeological sites to measure deterioration from natural and human sources and to evaluate the effectiveness of management actions to protect resources and mitigate impacts.
- Preserve and protect archeological resources by eliminating and avoiding natural and human impacts, stabilizing sites and structures, monitoring conditions, and enforcing protective laws and regulations.
- Make decisions that promote preservation of archeological resources in place.
- Carry out required consultation and legal compliance and consider concerns raised.

## Ethnographic Resources

### *Desired Conditions*

*Ethnographic resources having cultural importance for associated tribes and other traditionally associated groups are identified and protected. Opportunities remain for tribal members and traditionally associated people to access culturally important places in the park. Ethnographic resources are defined by the National Park Service as any “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 28, Cultural Resource Management Guideline, 181).*

### *Strategies*

- Consult with the culturally associated Miccosukee Tribe of Indians of Florida, the Seminole Tribe of Florida, the Seminole Nation of Oklahoma, as well as other American Indian groups and stakeholders such as the Independent Traditional Seminole Nation of Florida to develop and accomplish the programs of Everglades National Park. Park programs and activities would be conducted in a way that respects the beliefs, traditions, and other cultural values of those who have ancestral or historic ties to park lands.
- Identify and document, through studies and consultations, traditional cultural properties and other ethnographic resources, traditionally associated people and other affected

groups, and such groups' cultural affiliations to park resources.

- Recognize the sensitivity of ethnographic resources and associated data and provide confidentiality to the extent possible under the law.
- Collaborate with traditional cultural experts to develop a park strategy for dealing with ethnographic resources.
- Monitor effects of use on ethnographic resources and effects of park plans on authorized uses and traditional users.

## Museum Collections

### *Desired Conditions*

*Everglades National Park's museum management program provides high-quality, professional, museum collection management services, ensuring preservation and accessibility in the most responsive, efficient, and cost-effective manner possible. As a result, the national park's museum collection is properly inventoried, curated, protected, and preserved. New acquisitions are identified, evaluated, accessioned, and cataloged. Collections are managed in accordance with all applicable NPS policies and professional guidelines for museum collection storage, exhibition, and use. Provisions are made for appropriate access to the collection by NPS staff and the public for their use in exhibits, interpretation, resource management, and research. (Museum collections include objects, artifacts, specimens, samples, documents, photographs, artwork, plans, manuscripts, etc., acquired through donation, purchase, exchange, transfer, or field collection that support and document a park's mission, history, resources, management activities, interpretive themes, and administrative history).*

### *Strategies*

- Acquire, develop, and preserve museum collections that document the history, resources, and significance of the national park.
- Maintain high standards for museum practices and ensure accountability for park collections.
- Continue to research, document, and catalog the museum collection, which serves as an interpretive and management resource for park staff and the public.
- Continue to support professional conservation assessments and treatment of objects, specimens, and archival documents in the park's museum collection.
- Continue to seek, use, and cooperate with NPS and non-NPS partners for preservation, exhibition, and management of the park's collection, as appropriate.
- Continue to host and participate in the NPS South Florida Collections Management Center, a multipark museum program to professionally manage the collections from Big Cypress National Preserve, Biscayne National Park, De Soto National Memorial, Dry Tortugas National Park, and Everglades National Park.
- Construct and maintain a new multipark collection storage repository, in keeping with the congressionally approved NPS National Museum Storage Strategy (2007).
- In conjunction with construction of the storage repository, develop a public museum for exhibition of the park's museum collection.
- Develop traditional and web-based exhibits to make collections more accessible.
- Support research and dissemination of information.

- Use existing and emergent technologies for collections access and management.

## Visitor Use and Experience

### *Desired Conditions*

*Visitors from diverse backgrounds can experience a range of opportunities consistent with the purpose and significance of the national park. Most visitors understand and appreciate the purpose and significance of the national park and value their stewardship role in preserving natural and cultural features.*

*They actively contribute to the park's preservation through appropriate use and behavior. Park programs and services are accessible to all, and conflicts between different user groups are minimized.*

*Visitor use levels and activities are consistent with preserving park purpose and significance, and with providing opportunities for recreation, education, and inspiration.*

*Management decisions are based on scholarly and scientific information. When such information is lacking, managers make decisions based on the best available information, adapting as new information becomes available. Regional recreational opportunities continue to be coordinated among agencies for public benefit and ease of use.*

### *Strategies*

- Work toward providing programs and facilities that are effective in reaching and serving diverse communities.
- Collect data over time to monitor visitor experience as part of an overall effort to protect desired resource conditions and visitor experience.
- Address threats to resources and the visitor experience by means other than limiting or restricting use (e.g., through education programs). If

necessary, however, implement more restrictive methods.

- Base restrictions on visitor use on a determination that such measures (1) are consistent with the park's enabling legislation and NPS laws and policies, (2) are necessary to prevent degradation of the resources or values for which the park was established, (3) will minimize visitor use conflicts, and (4) will provide for public safety or provide opportunities for a quality visitor experience.

## Visitor Information, Interpretation, and Education

### *Desired Conditions*

*Interpretive and educational services/ programs at the national park facilitate intellectual and emotional connections between visitors and park resources, foster understanding of park resources and resource stewardship, and build a local and national constituency. Outreach programs through schools, organizations, and partnerships build connections to the park. Curriculum and place-based education inspire student understanding and resource stewardship. Visitors receive adequate information to orient themselves to the park and possible opportunities for a safe and enjoyable visit.*

### *Strategies*

- Develop and update a long-range interpretive plan, with emphasis on providing information, orientation, and interpretive services in the most effective manner possible.
- Stay informed of changing visitor demographics and preferences to effectively tailor programs for visitors. Develop interpretive media supportive of park purpose, significance, and interpretive themes.
- Continue to promote improved pre-trip planning information and

orientation for park visitors through the park's website and other media. Work with local communities and other entities to provide services outside park boundaries, where appropriate.

- Cooperate with partners, other governmental agencies, educational institutions, and other organizations to enrich interpretive and educational opportunities locally, regionally, and nationally.
- Create and implement an education strategy plan that outlines goals and actions for providing curriculum and place-based education programs.
- Continue to regularly update plans and prioritize actions needed to serve visitors and provide effective interpretation.
- Continue to educate staff, visitors, and the public about park interpretation/education programs.

## Viewsheds and Vistas

### *Desired Conditions*

*Natural vistas and cultural landscapes provide park visitors with an immediate and lasting sensory experience that strongly conveys the character of the national park. Key scenic vistas are identified and protected. Park managers work with neighbors, local communities, and land managers to preserve scenic values.*

### *Strategies*

- Identify and document key vistas and viewpoints in the park.
- Work with neighboring landowners, communities, conservancy groups, management agencies, and others to develop preservation goals for identified viewsheds; identify potential threats; and establish a sense of stewardship by these groups for important visual resources.

- Work with neighboring communities, partners, and others to preserve the scenic character of park entrance areas and corridors and complement the park's key viewpoints and vistas.

## Night Sky

### *Desired Conditions*

*The naturally dark night sky is preserved. Artificial light sources in the park and outside the park, to the maximum extent possible, do not hinder opportunities to see the moon, stars, planets, and other celestial features, and they do not hinder the ability of animals to use celestial features for navigation, etc.*

### *Strategies*

- Establish baseline data for the dark night sky through NPS programs.
- Determine if light sources in the national park exceed appropriate levels. Study and implement ways to minimize artificial and unnecessary light.
- Work with neighboring communities and partners and also within a regional context to protect the quality of the night sky and the experience thereof.

## Natural Soundscapes

### *Desired Conditions*

*Natural soundscapes, which are important to many vertebrate and invertebrate species, are preserved. (For example, bats and dolphins use reflected sound waves (echolocation) to navigate and to locate prey; frogs, birds, and insects rely on natural sounds to find mates or avoid predators.) Visitors have opportunities in most areas of the park to experience natural sounds.*

### *Strategies*

- Continue to collect baseline data on park soundscapes to understand characteristics and trends in natural soundscapes.
- Continue to monitor noise from motorboats and airboats, seek and encourage development and use of quieter motorboat and airboat engines, and work with local, state, and federal agencies on other measures to minimize/reduce noise levels.
- Provide opportunities for visitors to enjoy areas within the park with minimal motor noise.
- Educate visitors and encourage them to consider how noise they produce affects others.
- Continue to control land-based noise sources:
  - Enforce existing noise regulations.
  - Require bus tour companies to comply with regulations that reduce noise levels (e.g., turning off engines when buses are parked).
  - Limit use of generators.
  - Maintain quiet hours in campgrounds.
- Continue to work with the Federal Aviation Administration (FAA), military, commercial businesses, and general aviation entities to minimize noise and visual impacts of aircraft on the park.
- Minimize noise generated by NPS use of noise-producing machinery such as motorized equipment. Consider noise potential when procuring and using park equipment.

### **Climate Change**

#### *Desired Conditions*

*Everglades National Park is a leader in efforts to address climate change by reducing the contribution of NPS operations and visitor activities to climate change; preparing for and mitigating climate change impacts; and increasing its use of alternative transportation, renewable energy, and other sustainable practices. NPS staff proactively monitor and mitigate for climate change impacts on cultural and natural resources and visitor amenities. Education and interpretive programs help visitors understand climate change impacts in the national park and beyond, and how they can respond to climate change. Partnerships with various agencies and institutions allow NPS staff to participate in research on climate change impacts to park and ecosystem resources.*

#### *Strategies*

- Identify key natural and cultural resources and visitor amenities that are at risk from climate change. Establish baseline resource conditions, identify thresholds, and monitor for change. Identify key resources in various management zones/areas (e.g., backcountry, seagrass protection, or NPS operations) that may require different management responses to climate change impacts.
- Explore and establish alternative transportation options for staff and visitors such as parking and shuttle or ferry services. Explore use of low-emission vehicles, biofuels, and electric vehicles for NPS operations. Encourage partners and concessioners to provide or use alternative transportation.
- Form partnerships with other resource management entities to maintain regional habitat connectivity and refugia that allow species dependent on national park resources

to better adapt to changing conditions.

- Undertake comprehensive climate change planning to anticipate, adapt to, and mitigate for climate change impacts on the national park. This might include climate change scenario planning, participation in the NPS Climate Friendly Parks program, or adherence to the NPS Climate Change Response Strategy (NPS 2010b) or Green Parks Plan (NPS 2012) guidance. Engage visitors and inspire them to take action through leadership and education. Use the dynamic environment of the south Florida coast as a teaching opportunity about climate change. Educate visitors about climate change and research efforts, and climate change impacts on the resources they are enjoying.
- Restore key ecosystem features and processes, and protect key cultural resources to increase their resiliency to climate change. By reducing other types of impacts on resources, the overall condition of the resources could more easily recover from or resist the impacts of climate change.
- Pursue opportunities through park operations and visitor services to use and promote green technologies and products and reduce overall energy and resource consumption.
- Incorporate sea level rise projections in all park planning efforts and project designs. Consider whether to replace or maintain facilities in flood-prone zones, and if so, how to adapt them to withstand climate change.

## Facilities and Services

### *Desired Conditions*

*Everglades National Park facilities and related development are the minimum necessary to serve visitor needs and protect park resources.*

*Visitor and administrative facilities are as compatible as possible with natural processes and surrounding landscapes, aesthetically pleasing, and functional. Historic structures and properties are adaptively used when practicable and appropriate. Commercial services in the park are limited to those that are necessary and appropriate and that are compatible with the park purpose. If possible, commercial support services are based outside the park rather than inside. Staff housing is sufficient to ensure an adequate level of protection for park resources, visitors, employees, and government property, and to provide necessary services. Adequate response (equipment and people) for visitor, resource, and facility protection; search and rescue; fire management; critical utility operations; and safety is available. Everglades National Park is a leader in sustainability. Decisions regarding NPS operations, facilities management, and development at the national park—from initial concept through design and construction—reflect principles of resource conservation and sustainability.*

### *Strategies*

- Build, locate, and/or modify facilities according to the *Guiding Principles of Sustainable Design* (NPS 1993) or similar guidelines. Establish architectural guidelines to ensure sustainability and compatibility with the natural and cultural environment. Properly maintain and upgrade existing facilities using sustainability principles, where possible, to serve the park mission.
- Implement the Flamingo Commercial Services Plan.
- Consider the availability of existing or planned facilities in nearby communities and on adjacent lands, as well as the possibility of joint facilities with other agencies when deciding whether to pursue new developments in the park. This would ensure that any additional facilities in the park are necessary, appropriate, and cost-effective.

- Integrate NPS asset management practices into decision making and planning. Build, modify, and/or maintain facilities according to projected funding levels and defined park priorities. Consider removal of facilities that do not meet minimum NPS criteria and/or are not cost-effective to maintain.
- Continue to strive to provide affordable housing in or near the park for emergency response staff and seasonal and entry-level employees.
- Provide commercial visitor services (for example, services provided through concessioners) that are necessary and appropriate for visitor use and enjoyment through the use of concession contracts and commercial use authorizations. Ensure that concession operations are consistent with the protection of park resources and values and demonstrate sound environmental management and stewardship.
- Permit new rights-of-way and telecommunication structures only with specific statutory authority and approval by NPS managers, and only if there is no practicable alternative to such use of NPS lands. Site any new telecommunication structures so they do not jeopardize the park's purpose, significance, and viewshed. Consider park management zones, viewsheds and vistas in reaching decisions regarding rights-of-way and telecommunication structures.
- Incorporate mitigative measures into the design and construction of new facilities to address issues related to rising sea level, permanent elevated/hardened/re-locatable facilities, and mobile/seasonal structures.

## Accessibility

### *Desired Conditions*

*New and renovated facilities are designed and constructed to be universally accessible in accordance with the Americans with Disabilities Act of 1990 and the Architectural Barriers Act Accessibility Standards (2006). Visitors with limited mobility have opportunities to experience various portions of the park, including representative portions of the backcountry.*

### *Strategies*

- Identify and modify existing facilities to meet accessibility standards as funding permits, or as facilities are replaced or rehabilitated. Design new facilities to meet accessibility standards.
- Provide public information about ease of access for various facilities and trails.
- Periodically consult with disabled persons or their representatives to increase awareness of the needs of the disabled and to determine how to make the park more accessible.
- Continue to provide boardwalks and other infrastructure for visitors with special accessibility needs.
- Develop park interpretive programs and media based on accessibility standards and needs.

## Relations with Private and Public Organizations, Adjacent Landowners, Government Agencies, and Volunteers

### *Desired Conditions*

*The national park is managed holistically, as part of a greater ecological, social, economic, and cultural system. Positive relations are maintained with those owning property within the park boundary, adjacent landowners,*



*surrounding communities, and private and public groups that affect and are affected by the national park. The national park is managed proactively to ensure that NPS values are effectively communicated and understood.*

### **Strategies**

- Continue to foster partnerships with public and private organizations.
- Foster a spirit of cooperation with neighbors, and encourage compatible uses of adjacent lands. Keep landowners, land managers, tribes, local governments, nongovernmental organizations, and the public informed about park management activities and issues.
- Consult periodically with landowners and communities that are affected by or potentially affected by park visitors and management actions.
- Work closely with local, state, and federal agencies and tribal governments whose programs affect or are affected by activities in the national park.
- Continue to support and encourage volunteers who contribute to national park programs.
- Continue to support the efforts of others to protect adjacent lands that are important to preserving national park resources through appropriate planning, zoning, and other protection methods.

### **Relations with American Indian Tribes**

#### ***Desired Conditions***

*Park staff work to ensure that traditional American Indian ties to the national park are recognized; park staff also strive to maintain positive, productive, government-to-government relationships with tribes culturally associated with the park. The rights, viewpoints, and needs of tribes are respected,*

*and issues that arise are promptly addressed. American Indian values are considered in the management and operation of the park.*

### **Strategies**

- Consult regularly and maintain government-to-government relations with federally recognized tribes that have traditional ties to resources in the national park (the Miccosukee Tribe of Indians of Florida, the Seminole Tribe of Florida, and the Seminole Nation of Oklahoma) to ensure productive, collaborative working relationships.
- Continue to consult, as appropriate, with nonfederally recognized tribal groups and other stakeholders, including the Independent Traditional Seminole Nation of Florida, who also have traditional ties to the park.
- Continue to identify and deepen the understanding of the significance of the national park's resources and landscapes to American Indian people through collaborative research.
- Identify, protect, and preserve sites and resources that are significant to federally recognized tribes as required by federal laws and NPS management policies.
- Create opportunities for and invite the participation of tribes in protecting and interpreting natural and cultural resources of interest within the national park.
- Support the continuation of traditional activities in the park by the Miccosukee Tribe of Indians of Florida, the Seminole Tribe of Florida, and the Seminole Nation of Oklahoma, and the Independent Traditional Seminole Nation of Florida to the extent allowed by law and policy.

- Work with tribes to conduct ethnographic studies that identify culturally significant resources and traditional cultural properties.
- Seek input from tribes during development of interpretive programs that relate to American Indians.
- Consult with American Indians under the Native American Graves Protection and Repatriation Act for actions that affect or have the potential to affect human remains or items of sacred or ceremonial significance.
- Work with the tribes to identify mutual interests and concerns and join with the tribes, as appropriate, to address these matters.

## Research

### *Desired Conditions*

*The National Park Service works with partners to learn about natural and cultural resources and associated values. Research priorities for the national park are aligned with its purpose and significance.*

### *Strategies*

- Encourage and support basic and applied research through various partnerships and agreements to enhance understanding of resources

and processes or to answer specific management questions.

- Mitigate impacts of research conducted on natural and cultural resources and wilderness values, as needed to preserve those resources for future generations to enjoy and study.
- Develop and implement criteria to determine whether requested research supports national park purpose and significance or other park goals.
- Develop/update the list of research issues that are important to the national park.
- Ensure that specimens, artifacts, and archives (e.g., data, research results, photographs, reports, etc.) collected or generated by scientists, partners, and NPS staff conducting research in the park are submitted, retained, and properly curated for long-term access and study.
- Ensure that the long-term benefits of research to park resources by accessioning specimens, vouchers, artifacts, data, and archives into the park museum collection.
- Ensure that all research activities in the park are necessary and cannot be conducted outside park boundaries.

## RELATIONSHIP OF THE GENERAL MANAGEMENT PLAN TO OTHER PLANNING EFFORTS

This section describes other plans and planning efforts that are related to the general management plan for Everglades National Park. These include NPS plans and plans prepared by neighboring agencies and entities. The plans that are *most* important to know about as they relate to this general management plan are discussed in this section. These projects were considered in the cumulative impacts analysis in the environmental analysis in chapter 5. Other relevant plans are included in appendix C.

### EVERGLADES NATIONAL PARK PLANS

#### Long-Range Interpretive Plan

This plan, in preparation, includes park interpretive themes that are the most important ideas and concepts to be communicated to the public about the park and that form the core of interpretive programs and media. The plan also describes visitor experience goals, and it recommends a variety of interpretive services (guided and self-guided) and outreach activities to communicate the park's purpose, significance, and interpretive themes. The development of this interpretive plan is being closely coordinated with this Everglades general management plan so there is consistency between the two.

#### Flamingo Area Improvement Plans

Plans for improving the Flamingo area included the Flamingo Commercial Services Plan and Flamingo Master Plan and Design Program (NPS 2010a), and are further discussed in the following section titled "Ongoing NPS Projects and Projects Planned for the Near Future." Further efforts have been updated and outlined in each of the

alternative narratives related to improvements at Flamingo.

#### Climate Action Plan

This plan, in preparation, outlines ways for Everglades National Park to reduce emissions of park vehicles and facilities, reduce energy consumption, prepare for potential climate change, and improve climate change education programs for staff and visitors alike. This plan will complement the general management plan.

#### Land Protection Plan for the East Everglades Addition

This 1991 plan determined that all lands in the East Everglades Addition are needed for ecosystem restoration. It set priorities for acquisition, and gave examples of compatible and incompatible land uses. Land acquisition is integral to restoration of the hydroperiod and sheet flow of Shark River Slough. The plan determined that no private uses of the land will be compatible with this goal over the long term.

The undisturbed, privately owned tracts needed to enhance and restore the ecology through restoration of the hydrologic system constituted the top priority for protection. State and other nonfederal public lands comprised the second priority group, and the commercial tracts along U.S. Highway 41 constituted the third priority group. Third-party mineral rights were included in the fourth priority grouping.

Activities that would disturb the ecology, interfere with restored hydrologic systems, or prevent public enjoyment of the Addition would be considered incompatible uses.

Residential, commercial, or industrial construction or agricultural activities would not be compatible. Major additions to existing developments or agricultural activities, as well as the construction of utility lines and roads also would not be compatible.

The land protection plan identified that hunting and off-road vehicle use (e.g., airboats and all-terrain vehicles), except as authorized in the enabling legislation, would not be compatible with the purpose of the Addition.

### **Everglades Restoration Plans**

Plans to restore the Florida Everglades, discussed below, are independent of and complementary to this general management plan. Such restoration plans are critical to the health and ecological integrity of Everglades National Park resources.

The south Florida ecosystem stretches south from Orlando through Chain of Lakes, Kissimmee Valley, Lake Okeechobee, and the remaining Everglades to the waters of Florida Bay and the adjacent coral reefs. The ecosystem encompasses 18,000 square miles within 16 counties. 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 that would have the most influence on Everglades National 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 U.S. Army Corps of Engineers (USACE) 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 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 (MWD) project—constructing a 1.0-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. 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 restoration of the Greater Everglades ecosystem (see Comprehensive Everglades Restoration Plan).

### **Comprehensive Everglades Restoration Plan**

The Comprehensive Everglades Restoration Plan (CERP) is a frame work and guide to restore, protect, and preserve the water resources of central and south Florida. It provides a frame work for restoration of 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 to regulate the quality, quantity, timing, and distribution of flows. Implementation of this restoration plan could take more than 30 years to complete and cost at least \$11 billion. There are a number of CERP 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 general management plan.

**Central Everglades Planning Project.** The Central Everglades Planning Project (CEPP) 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 time line than initially described with the plan. It is expected that a final report would be completed in 2014.

**Everglades Restoration Transition Plan.** The Everglades Restoration Transition Plan (ERTP), led by the U.S. Army Corps of Engineers and U.S. 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. ERTP 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 ERTP Record of Decision (ROD) was issued in 2011.

**Water Conservation Area 3 Decompart-mentalization.** Water Conservation Area 3 (WCA 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 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 within Everglades National Park. This project is scheduled for completion in 2019.

**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 within 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 fresh water 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. 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.

**CERP Master Recreation Plan.** The Master Recreation Plan focuses on opportunities to provide recreational features as CERP projects are designed, planned, and implemented. The plan provides guidance for identifying, evaluating, and addressing the

impacts of CERP implementation on existing recreational use in the south Florida ecosystem and identifying and evaluating potential new recreation, public use, and public educational opportunities. This general management plan for Everglades National Park and subsequent implementation activities would pursue opportunities where there is consistency between the CERP Master Recreation Plan and this general management plan.

**Tamiami Trail Modifications: Next Steps.** The Tamiami Trail Modifications: Next Steps project was approved in February 2011 and authorized by Congress later that year. The Next Steps project builds on the 1-mile bridge and Tamiami Trail road improvements discussed under the Modified Water Deliveries project. The selected alternative for this project includes an additional 5.5 miles of bridging within the 10.7-mile section of Tamiami Trail adjacent to the Northeast Shark River Slough. These additional modifications and road raising would allow much greater water flows into the park and provide additional hydrological and ecology restoration of significant park resources. At present, congressional appropriation of this project is needed for implementation.

## ONGOING NPS PROJECTS AND PROJECTS PLANNED FOR THE NEAR FUTURE

Projects that are ongoing or that are funded and likely to be initiated (or in some cases even completed) before the general management plan is completed, are listed below. These projects are *not* part of actions proposed in this *General Management Plan / Wilderness Study / Environmental Impact Statement* and will be (or have been) covered under separate environmental compliance documents (as appropriate). These projects are considered in the cumulative impact sections of this document.

### FLAMINGO AREA IMPROVEMENTS

In 2008, the National Park Service approved the Flamingo Commercial Services Plan, a plan to rehabilitate or replace aged visitor and staff facilities at the historic Flamingo developed area of Everglades National Park that were damaged by successive hurricanes. The redesigned Flamingo area will emphasize operational efficiency, eco-friendly concepts, and sustainable design while preserving the historic character of the district. In recognition of the vulnerable coastal environment of Flamingo, new overnight accommodations and support facilities would be either mobile/seasonal facilities or elevated/hardened/re-locatable structures.

Lodging could include cottages, houseboats, and seasonal ecotents, and additional electrical hook-ups for the RV camping area. The new design would facilitate pedestrian and bicycle access and circulation throughout the Flamingo area. About 50 acres at Flamingo would be restored to more natural conditions.

Although a decision document (Finding of No Significant Impact) was issued in 2008 several factors have required the National Park Service to reassess decisions regarding

the nature of proposed development at Flamingo. These factors include current and anticipated federal funding levels, improved understanding of what would make a viable concessions contract at Flamingo, and the site's susceptibility to climate change and sea level rise.

The Flamingo Master Plan and Design Program (NPS 2010a) provides more detailed guidance (drawings, architectural sketches, design character guidelines, phasing, etc.) for implementing the Flamingo Commercial Services Plan.

Further information about the original 2008a Flamingo Commercial Services Plan and the Flamingo Master Plan and Design Program can be found through links on the park's website.

### SNAKE BIGHT POLE/TROLL ZONE PILOT PROJECT

Everglades National Park has implemented a pole/troll boating zone in Florida Bay to help protect seagrass and wildlife habitat and enhance a range of visitor experiences, including shallow-water fishing, wildlife viewing, and paddling opportunities. This project began in 2009 following recommendations from the public that the park initiate a pilot pole/troll zone project in Florida Bay before completion of this general management plan. A pilot pole/troll zone was established in the Snake Bight area in 2011, totaling about 9,400 acres near Flamingo. Baseline monitoring of seagrass conditions has been completed.

A follow-up seagrass monitoring effort is anticipated in 2013/2014 to determine the success of the zone relative to its identified objectives.

## **FLORIDA POWER AND LIGHT COMPANY LAND ACQUISITION PROJECT**

The Omnibus Public Lands Act of 2009 authorized the Secretary of the Interior to exchange a corridor of Florida Power and Light-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 Florida Power and Light property, to fulfill the park's mission. As of 2012, an environmental impact statement is in progress to decide how/if Florida Power and Light lands would be acquired (by acquisition or exchange). The potential land exchange would be subject to such terms and conditions as the Secretary of the Interior may require.

## **RESTORE DISTURBED AREAS THROUGHOUT EVERGLADES NATIONAL PARK**

The National Park Service will continue to restore areas disturbed by past land uses to more natural conditions. Such areas are concentrated in the East Everglades and Pine Island areas of the park and include former agricultural areas, airstrips, residential fill pads, roads, borrow pits, and canals. The project will attempt to restore natural topography and habitats and involves demolishing and removing nonhistoric structures, removing materials (including fill material), filling in borrow pits, and controlling and removing invasive nonnative vegetation. Any potential cultural resources (such as archeological sites or historic structures) would be evaluated for eligibility for the National Register of Historic Places before a decision about disposition is made. Decisions would be made in consultation with the state historic preservation office, the appropriate tribe(s), local governments, and others.

## **RESTORE WETLANDS IN THE WESTERN EVERGLADES AND BIG CYPRESS NATIONAL PRESERVE**

Groundbreaking took place in 2010 on the 55,000-acre Picayune Strand Restoration project. This project covers a variety of activities (installing culverts and weirs and filling or plugging canals and ditches) to restore water flow in wetlands and estuaries and to enhance wildlife habitat in the southwestern portion of the Everglades ecosystem.

## **IMPROVE WATER FLOW UNDER PARK ROADS**

Culverts are being replaced under several park roads (main park road, Old Ingraham Highway, and Research Road) to reestablish more natural water flow and permit aquatic life to cross underneath the roads, from one side of the road to the other.

## **RESTORE HOLE-IN-THE-DONUT WETLANDS**

The Hole-in-the-Donut project near the main entrance to the park is restoring about 6,000 acres of former agricultural land infested with Brazilian pepper, an invasive nonnative. The land is being restored to wetlands by mechanically removing woody vegetation and scraping away disturbed soils to bedrock. Wildlife and plants then return on their own within a few years. The objectives of the project are: (1) restoration of wetland habitat, (2) removal and control of invasive nonnative plants, especially Brazilian pepper, and (3) restoration of a wetland vegetation community that resembles natural Everglades wetlands in species composition and dynamics. Restoration work, begun in 1996, has been completed on about two-thirds of the project area.



## **REPLACE MARINE BULKHEADS AT FLAMINGO**

This project involves replacing seawalls and marine bulkheads at the Flamingo Visitor Center and two public marina boat basins.

## **RESURFACE MAIN PARK ROAD AND RELATED IMPROVEMENTS**

A project to resurface and improve the main park road, turnout areas, and adjacent parking lots, from the park's main entrance to Flamingo is underway. The project includes replacement of culverts, rehabilitation of road base and shoulders, milling, overlaying asphalt, striping, and establishing passing lanes.

About two-thirds of this effort has been funded and completed. The park is seeking the funds needed to complete the final segment of the project, from the main park entrance to Pa-hay-okee.

## **INVASIVE EXOTIC 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. A recently published U.S. Geological Survey (USGS) study (Rodda, Jarnevich, and Reed 2009) suggests the range of pythons could notably increase in Florida and the southern United States, posing an

increased threat in the future. This same document concludes that there is a high risk of establishment for five species of giant constrictor snakes and a medium risk for four other species of giant snakes. The U.S. Fish and Wildlife Service, National Park Service, and U.S. 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**

Since 2000, seven new invasive nonnative fish species have been collected within the park. Several of these species have established reproductive populations and continue to expand their range and increase in abundance within 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.

