

## CHAPTER 2



ALTERNATIVES, INCLUDING THE PREFERRED ALTERNATIVE



## INTRODUCTION

This chapter is organized into several sections:

- The “**Introduction**” explains how the alternatives, including the preferred alternative, were developed; explains possible boundary adjustments; and describes the management zones.
- Then, **alternatives** (A, B, preferred, and F) are described, both with text and maps, and a summary of the possible costs for each alternative are explained.
- The next large section, “**The Alternatives and User Capacity, Adaptive Management, ORV Administration and Management, and Wilderness,**” describes how the user capacity framework will assist the National Park Service in managing visitor use impacts, how managers will use adaptive management to ensure resource protection; how ORV use will be managed, including permits and numbers of permits, types of vehicles, potential closures, education about ORV use, and a schedule for implementing the ORV program and trail system; and a discussion of wilderness that includes a definition, permitted uses in wilderness, the wilderness eligibility assessment process, and a summary of findings.
- This is followed by sections on
  - **mitigative measures** that will be followed under all the action alternatives,
  - a section that describes **future studies and implementation plans** that will be needed,
  - a discussion about the **environmentally preferred alternative**,
  - a discussion of the **alternatives/actions that were considered but dismissed**,
  - **tables that summarize the alternatives and the impacts of implementing the alternatives** (the analysis for this table is in chapter 4).

Many aspects of the desired conditions of the Big Cypress National Preserve Addition are defined in the Addition’s establishing legislation, its purpose and significance statements, and the guiding principles for management that were described in chapter 1. Within these parameters, the National Park Service solicited input from the public, NPS staff, government agencies, tribal officials, and other organizations regarding issues and desired conditions for the Addition. Planning team members gathered information about expected visitation and the condition of the Addition’s facilities and resources. Then a set of four management zones and four management alternatives were developed to reflect the range of ideas proposed by NPS staff and the public.

This chapter describes the management zones and the alternatives for managing the Addition for the next 15 to 20 years. It includes tables that summarize the key differences among the alternatives (see table 10) and the differences in key impacts (see table 11) that would be expected from implementing each alternative. Table 11 is based on the analysis in “Chapter 4, Environmental Consequences.” Chapter 2 also describes mitigative measures that would be used to lessen or avoid impacts, and the environmentally preferred alternative. Also discussed are the future studies that would be needed, as well as several actions and alternatives that the planning team considered but dismissed.

*This Draft General Management Plan / Wilderness Study / Off-road Vehicle Management Plan / Environmental Impact Statement* presents four alternatives, including the National Park Service’s preferred alternative, for future management of the Big Cypress National Preserve Addition. Alternative A, the “no-action” alternative, which is required by law, presents a continuation of existing management direction and is included as a

baseline for comparing the consequences of implementing each alternative. The other three “action” alternatives are alternative B, the preferred alternative, and alternative F. These action alternatives present different ways to manage resources and visitor use and improve facilities and infrastructure in the Addition. These four alternatives embody the range of what the public and the National Park Service want to see accomplished with regard to natural resource conditions, cultural resource conditions, visitor use and experience conditions, and management in the Addition.

As noted in the previous "Guidance for Planning" section in chapter 1, the National Park Service would continue to follow existing agreements and servicewide mandates, laws, and policies regardless of the alternatives considered in this plan. These mandates and policies are not repeated in this chapter.

## HOW THE ALTERNATIVES WERE DEVELOPED

A set of six preliminary alternatives (alternatives A, B, C, D, E, and F) were developed and presented to the public in October 2005. The alternatives were developed by the National Park Service based on public input and Addition management considerations to explore different ways to manage resources, visitor use, and improve facilities and infrastructure in the Addition.

In April 2007 the preliminary alternatives were revised to include conceptual ORV trails and areas of proposed wilderness; these revisions were presented to the public. Together the alternatives represent a reasonable range of wilderness and ORV opportunities.

Since April 2007, the planning team dismissed preliminary alternatives C, D, and E from further consideration because they included goals and actions for environmental protection, visitor use, and ORV opportunities that

were the same as those in alternative B, the preferred alternative, and alternative F (see the “Alternatives and Management Actions Considered but Dismissed” section later in this chapter for more details). The naming structure of the current set of alternatives is intended to track the original set of preliminary alternatives and minimize confusion.

The alternatives included in this plan present a continuum of resource preservation and recreation opportunities as prescribed in the Addition’s enabling legislation. The no-action alternative (alternative A) is required by law and serves as a baseline for analyzing the action alternatives. Alternative B includes the highest level of motorized access and trail designation and the lowest level of proposed wilderness. Alternative F contains the lowest level of motorized access and trail designation and the highest level of proposed wilderness. The preferred alternative contains the agency’s selected combination of ORV opportunities and resource preservation and proposed wilderness. In developing this range of alternatives, the National Park Service adhered to the requirements of the National Environmental Policy Act and the Wilderness Act, while giving careful consideration to the national preserve designation that Congress assigned to the Addition.

The alternatives focus on *what* resource conditions and visitor uses/experiences should be at the Addition rather than on details of *how* these conditions and uses/experiences should be achieved. Thus, the alternatives do not include many details on resource or visitor use management.

More detailed plans or studies will be required before most conditions proposed in the alternatives are achieved. The implementation of any alternative also depends on future funding and completion of appropriate environmental compliance. Approval of this plan does not guarantee that funding will be forthcoming. The plan establishes a vision of the future that will guide day-to-day and year-

to-year management of the Addition, but full implementation could take many years.

## IDENTIFICATION OF THE PREFERRED ALTERNATIVE

The development of a preferred alternative involved evaluating the alternatives through the use of an objective analysis process called “choosing by advantages” or CBA. Through this process, the planning team identified and compared the relative advantages of each alternative according to a set of factors. The benefits or advantages of each alternative were compared for each of the following CBA factors:

1. provide for a range of appropriate visitor opportunities and access
2. protect cultural and natural resources and restore natural processes
3. preserve or enhance wilderness values
4. provide for effective/efficient NPS operations and public safety

The relationships between the advantages and costs of each alternative were established. This information was used to combine the best attributes of the preliminary alternatives into the preferred alternative. This alternative gives the National Park Service (and the public) the greatest overall benefits for each point listed above for the most reasonable cost.

This process indicated that alternative D provided the greatest advantages. The differences between alternatives B and C and between E and F were relatively slight. Factor 2 was identified as having the paramount advantage and the scoring for this factor varied widely among the alternatives.

As part of the CBA process, the highest ranking advantages of the alternatives were analyzed and considered for inclusion in the development of the preferred alternative. Important elements of preliminary alternatives C, D, and E were used to develop the

preferred alternative, providing the highest number of advantages to the National Park Service. The preferred alternative provides the best combination of motorized access, back-country recreational opportunities, proposed wilderness, new visitor facilities, and facilities needed for Addition operations and management.

## POTENTIAL FOR BOUNDARY ADJUSTMENTS

The National Park and Recreation Act of 1978 requires general management plans to address whether boundary modifications should be made to park units. The planning team reviewed the Addition boundary and determined that no boundary adjustments are warranted. The alternatives do not contain any proposals for boundary adjustments.

## MANAGEMENT ZONES

The management zones were developed as part of this planning effort and were presented to the public in newsletters and public meetings; then they were modified in response to public comments. A management zone defines specific resource conditions and visitor experiences to be achieved and maintained in each specific area of the Addition under each action alternative. (Because management zones are not part of the Addition’s current management tools, management zones are not included in the no-action alternative.) The four management zones for the Addition are presented in table 2. In the table, resource conditions, visitor experience, and appropriate activities and facilities are described for each zone. Although the zones describe the type of development that is allowed, they do not dictate the developments that will occur.

In formulating the alternatives, the management zones were placed in different locations or configurations on the maps according to

the overall concept of each alternative. That is, each management alternative represents a different way to apply the four management zones to the Addition. For example, alternative B, whose overall concept includes having as much motorized recreation as possible, has more of the backcountry recreation zone than alternative F, whose overall concept is to maximize wilderness in the Addition.

The primitive backcountry management zone is compatible with the legal requirements associated with wilderness. Should wilderness

be designated in the Addition, the management emphasis and actions of this zone would preserve wilderness resources and values. Furthermore, as discussed in the “Guiding Principles for Management” section of this document, management decisions for designated wilderness areas would be made in accordance with the minimum requirement concept outlined in the Wilderness Act and NPS policies. Permitted and prohibited uses in designated wilderness are addressed on page 113 .

TABLE 2: MANAGEMENT ZONES

Management Zone	Resource Conditions	Visitor Experience	Appropriate Facilities / Activities
<b>DEVELOPED</b>  Visitor orientation/education would be the dominant goals for this zone. NPS administrative facilities would also be included in this zone.	<ul style="list-style-type: none"> <li>Natural environment could be modified for essential visitor and NPS operational needs.</li> <li>Known cultural resources would be avoided to extent possible or impacts would be mitigated appropriately.</li> <li>Facilities would be designed and managed to ensure resource protection and public safety.</li> <li>Human-related noise would predominate. Natural sounds may be audible during low visitor use periods.</li> </ul>	<ul style="list-style-type: none"> <li>Visitor attractions would be convenient and easily accessible.</li> <li>NPS or self-guided opportunities would be available.</li> <li>Moderate to high levels of encounters with other visitors and NPS staff would be expected, including relatively high levels of human-related noise.</li> </ul>	<ul style="list-style-type: none"> <li>I-75 access points</li> <li>orientation and interpretation facilities, such as visitor centers</li> <li>comfort stations</li> <li>boardwalks and trails to access adjacent natural/cultural features</li> <li>NPS administrative/staff facilities — offices, housing, support facilities for NPS management (shops, storage areas, fire cache, etc.)</li> <li>commercial facilities to support appropriate visitor activities</li> <li>closed to hunting</li> </ul>
<b>FRONTCOUNTRY</b>  Visitor orientation and access would be the dominant goals for this zone.	<ul style="list-style-type: none"> <li>Natural environment could be modified for essential visitor needs.</li> <li>Known cultural resources would be avoided to extent possible or impacts would be mitigated appropriately.</li> <li>Facilities would be designed and managed to ensure resource protection and public safety.</li> <li>Natural sounds may exist, but they would be frequently interrupted by human activity.</li> </ul>	<ul style="list-style-type: none"> <li>Visitor attractions would be convenient and easily accessible.</li> <li>Self-guided opportunities would be available.</li> <li>Low to moderate levels of encounters with other visitors and NPS staff would be expected, including relatively moderate levels of human-related noise.</li> </ul>	<ul style="list-style-type: none"> <li>recreational access or trailhead parking</li> <li>picnic areas</li> <li>orientation facilities and signs</li> <li>campgrounds</li> <li>comfort stations</li> <li>boardwalks and trails to access adjacent natural/cultural features</li> <li>commercial activities that are consistent with the visitor opportunities and activities</li> <li>closed to hunting</li> </ul>

Management Zone	Resource Conditions	Visitor Experience	Appropriate Facilities / Activities
<b>BACKCOUNTRY RECREATION</b>  Preservation of natural and cultural resources, restoration of degraded resources, and continuation of natural processes would be the dominant goals in this zone. Visitors would experience a natural landscape through a variety of recreational opportunities supported by a network of roads and designated trails.	<ul style="list-style-type: none"> <li>Native species and natural processes would predominate.</li> <li>Cultural resources would exhibit a high degree of integrity.</li> <li>Evidence of human impact would be apparent along roads, trail corridors, and designated campsites, but would be infrequent and limited in extent elsewhere in this zone.</li> <li>Natural sounds would be audible in this zone, but they would be interrupted by noises from motors and other human activity.</li> </ul>	<ul style="list-style-type: none"> <li>Some opportunities for solitude, challenge, adventure, and self-reliance would be provided.</li> <li>Variety of visitor experiences would be available — from NPS-led to self-discovery.</li> <li>Encounters with NPS staff and other visitors could be frequent — should expect to experience human-related noise.</li> </ul>	<ul style="list-style-type: none"> <li>activities could include hiking, backpacking, hunting, fishing, horseback riding, camping, boating, bicycling, ORV use</li> <li>trails and routes may be designated for hiking, bicycling, and boating.</li> <li>navigational markers may be provided</li> <li>information/interpretation kiosks and signs</li> <li>backcountry support facilities such as ranger stations and fire cache</li> <li>resource protection and monitoring equipment</li> <li>vehicle and stock use allowed only on designated roads and trails</li> <li>hunting allowed in designated areas and seasons as determined by the National Park Service in consultation with the Florida Fish and Wildlife Conservation Commission</li> <li>camping allowed only in designated sites</li> <li>outfitter/guide activities would be consistent with visitor opportunities and activities</li> </ul>



Management Zone	Resource Conditions	Visitor Experience	Appropriate Facilities / Activities
<b>PRIMITIVE BACKCOUNTRY</b>  Preservation of natural and cultural resources, restoration of degraded resources, and continuation of natural processes would be the dominant goals in this zone. Visitors would experience a natural landscape with opportunities for primitive and unconfined recreation directly dependent on ability, knowledge, and self-reliance.	<ul style="list-style-type: none"> <li>• Native species and natural processes would predominate.</li> <li>• Cultural resources would exhibit a high degree of integrity.</li> <li>• Evidence of human impact would be infrequent and limited in extent.</li> <li>• Natural sounds would dominate in this zone; however, human-related noise would likely be more audible near other zones and primary visitor use areas.</li> </ul>	<ul style="list-style-type: none"> <li>• Numerous opportunities would be available for challenge, adventure, solitude, and self-reliance.</li> <li>• Visitors might find discovery areas with no on-site interpretation and very limited facilities.</li> <li>• Encounters with NPS staff and other visitors would be infrequent — should expect to experience natural sounds.</li> </ul>	<ul style="list-style-type: none"> <li>• visitor facilities — limited to designated trails, marked routes, and designated campsites</li> <li>• dispersed camping, and designated campsites where necessary for resource protection</li> <li>• resource protection and monitoring equipment</li> <li>• activities could include hiking, backpacking, hunting, fishing, horseback riding, camping, nonmotorized boating, bicycling</li> <li>• no motorized use allowed</li> <li>• mechanized use would be limited to bicycling on designated roads and trails only (outside eligible wilderness)</li> <li>• hunting allowed in designated areas and seasons as determined by the National Park Service in consultation with the Florida Fish and Wildlife Conservation Commission</li> <li>• outfitter/guide activities would be consistent with visitor opportunities</li> </ul>

## **ALTERNATIVE A (NO-ACTION: CONTINUATION OF CURRENT MANAGEMENT)**

### **CONCEPT AND GENERAL MANAGEMENT STRATEGIES**

The Addition would be managed the way it is being managed now. No management zones would be used to guide planning and decision-making — current management trends and strategies would continue.

### **MOTORIZED RECREATIONAL OPPORTUNITIES — TRAILS AND PERMITS**

The Addition would continue to be closed to public recreational ORV use. Motorized boating would continue to be permitted in the canals and waterways adjacent to SR 29.

No ORV permits would be granted, and no trails would be designated because public recreational ORV use would not be allowed. ORV access to private property by inholders would continue to be allowed by special use permit.

### **NONMOTORIZED RECREATIONAL OPPORTUNITIES**

Limited opportunities for hiking, paddling, horseback riding, and bicycling would continue to be available. New opportunities for walk-in hunting would be provided.

Access points would be developed at mile markers 51 and 63 under the *I-75 Recreational Access Plan*; however, access would be walk-in only.

Access to the Florida National Scenic Trail would remain at I-75 mile marker 63, and the northern route would remain temporary and undesignated.

The National Park Service would work with the Florida Fish and Wildlife Conservation Commission to provide hunting access, define hunting seasons, and develop hunting regulations consistent with both agencies' policies and goals for the Addition.

### **VISITOR ORIENTATION AND EDUCATION**

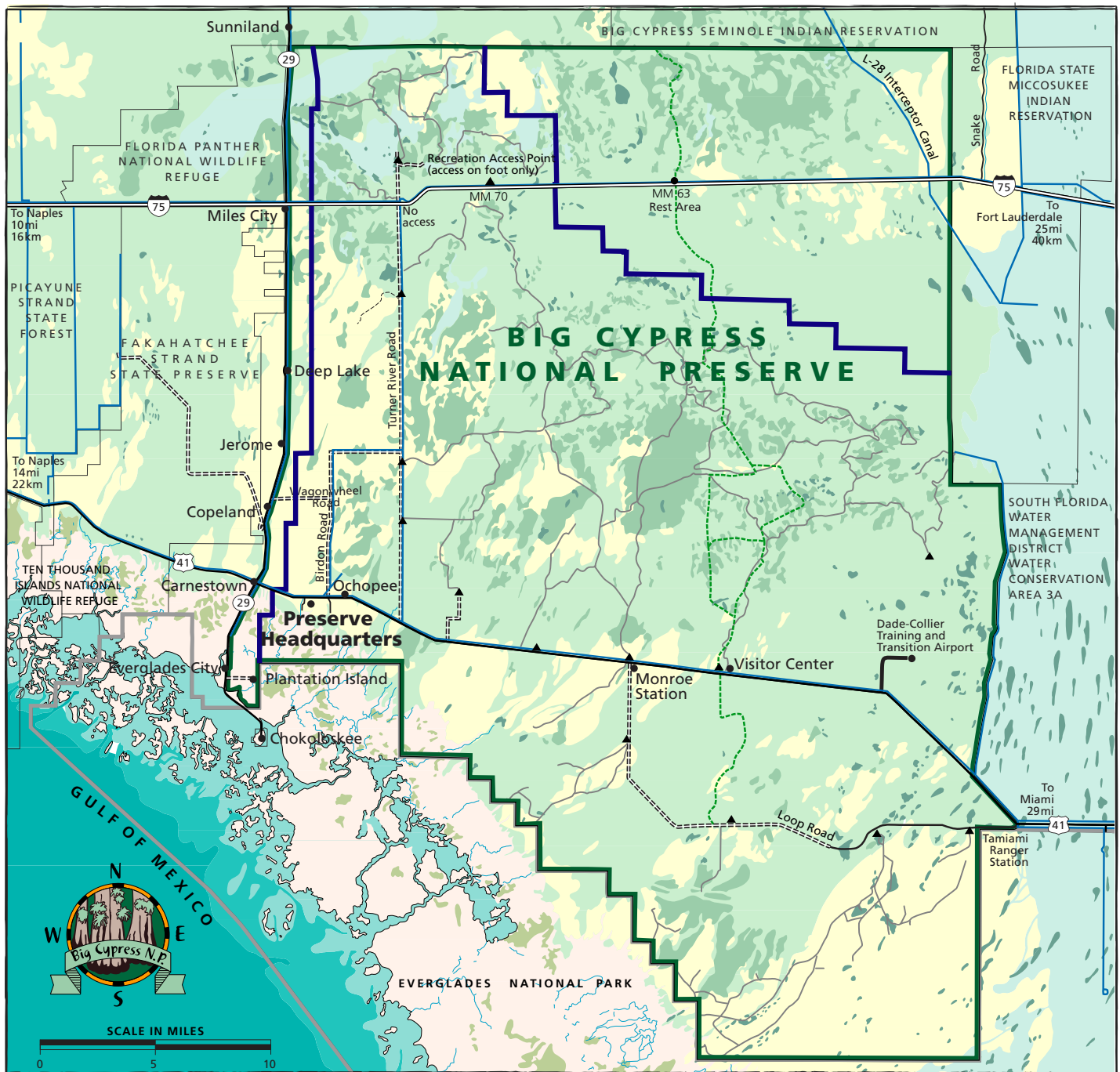
No new facilities would be developed under this alternative, which means that no visitor contact facilities would be present in the Addition. Visitor orientation to the Addition would continue to occur at the NPS facilities on U.S. Highway 41 (hereafter referred to as U.S. 41). Environmental education would continue to be conducted at the Birdon Road facility, with no presence in or connection to the Addition.

### **WILDERNESS**

No land would be proposed for wilderness designation under this alternative; however, those lands in the Addition eligible for wilderness designation would continue to be managed to preserve their wilderness characteristics and values (see following map).

### **PARTNERSHIPS, PROGRAMS, AND ACTIVITIES**

No new partnerships, programs, or activities would be initiated for the Addition. Existing partnerships, programs, and activities would continue.



## Legend

- Preserve Boundary
- Addition Boundary
- Designated ORV trail
- Unpaved Road
- Existing Hiking Trail
- Florida National Scenic Trail
- Canal
- ▲ Existing Access Point

## Key to Ecosystems

- |   |   |  |  |
|---|---|--|--|
| <span style="color: lightgreen;">■</span> Cypress         | <span style="color: green;">■</span> Pineland                 | <span style="color: pink;">■</span> Mangrove               | <span style="color: olive;">■</span> Coastal Marsh       |
| <span style="color: darkgreen;">■</span> Hardwood Hammock | <span style="color: yellow;">■</span> Freshwater Marl Prairie | <span style="color: lightblue;">■</span> Freshwater Slough | <span style="color: teal;">■</span> Marine and Estuarine |

Map 3

# Alternative A No-Action Alternative Big Cypress National Preserve – Addition General Management Plan

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## FACILITIES

No new facilities would be developed under this alternative. Existing facilities would continue to be maintained as at present.

### I-75 Mile Marker 51

No new NPS access points would be developed at this location. An access point would be developed at mile marker 51 under the *I-75 Recreational Access Plan*; however access would be only from nonmotorized use.

### I-75 Mile Marker 63

Informal walk-in access would continue to be available via the rest area. An access point would be developed at mile marker 63 under the *I-75 Recreational Access Plan*; however access would be only from nonmotorized use.

### Bear Island Grade at SR 29

This location would remain undeveloped and informal, nonmotorized access would continue.

### Nobles and Jones Grades

No new facilities would be developed. Nonmotorized access would remain only along the road grades.

### Miles City (I-75 at SR 29)

This intersection would remain undeveloped.

### Deep Lake (SR 29)

No facility improvements would be made at this location. Parking would remain on the

shoulder of SR 29, and access to the site would continue to be informal.

### Copeland (SR 29)

The NPS Fire Operations Center would continue to be used by fire management staff and would remain at this location.

### Carnestown (U.S. 41 at SR 29)

The facilities would continue to be leased to other government agencies and organizations.

## ESTIMATED COSTS

The NPS staffing level under the no-action alternative would continue to be the equivalent of 77 full-time staff members. This includes 6 employees in the superintendent's office, 10 in administration, 20 in maintenance, 12 in interpretation, 14 in resource management, and 15 in visitor and resource protection. An additional 21 employees work for the Preserve's fire program, but these full-time-equivalent employees are not accounted for in the staffing numbers because they would remain the same across all alternatives. Volunteers and partnerships would continue to be key contributors to NPS operations. The total cost of this alternative (annual operating costs) would be \$6.5 million.

The cost estimates provided here are given for comparison to other alternatives only; they are not to be used for budgeting purposes. Although the numbers appear to be absolutes, they represent a midpoint in a possible range of costs.

Presentation of these costs in this plan does not guarantee future NPS funding. Project funding would not come all at once; it would likely take many years to secure and may be provided by partners, donations or other nonfederal sources. Although the National

Park Service hopes to secure this funding and would prepare itself accordingly, the Preserve may not receive enough funding to achieve all desired conditions within the timeframe of the *General Management Plan* (the next 20 or

more years). More information on costs is provided in the “Development of Cost Estimates” section and table 6.

## ALTERNATIVE B

### CONCEPT AND GENERAL MANAGEMENT STRATEGIES

Alternative B would enable participation in a wide variety of outdoor recreational experiences. It would maximize motorized access, provide the least amount of proposed wilderness, and develop limited new hiking-only trails. New visitor and operations facilities along the I-75 corridor would also be provided.

The approximate acreages and percentages of the Addition that would be in each of the management zones under alternative B are shown in table 3.

TABLE 3: MANAGEMENT ZONES IN ALTERNATIVE B

Zone	Acreage	% of Addition
Developed	18	< 1
Frontcountry	6	< 1
Backcountry Recreation	94,817	65
Primitive Backcountry	51,045	35

Management of the Addition and the actions that would be taken by the National Park Service in the next 20 years under alternative B are described in the following sections.

### MOTORIZED RECREATIONAL OPPORTUNITIES — TRAILS AND PERMITS

Motorized recreational opportunities, including ORV use, motorized boating, and hunting, would be maximized under this alternative. The maximum amount of sustainable trails (about 140 miles) would be included as part of the conceptual primary (see glossary) ORV trail network. Specific access points and facilities to support motorized use are described in the “Facilities” section.

A maximum of 700 ORV permits would be issued annually for the Addition, and up to 140 miles of primary ORV trails would be designated.

The National Park Service would work with the Florida Fish and Wildlife Conservation Commission to provide hunting access, define hunting seasons, and develop hunting regulations that are consistent with both agencies’ policies and goals for the Addition.

### NONMOTORIZED RECREATIONAL OPPORTUNITIES

New access points would be established for hiking, bicycling, horseback riding, and hunting. Some new hiking trails would be developed at frontcountry locations. Access points would be developed at mile markers 51 and 63 under the *I-75 Recreational Access Plan*. These access points would provide access for both motorized and nonmotorized uses. Hiking, bicycling, and horseback riding would also be allowed on the approximately 140 miles of primary ORV trails in the Addition. New paddling trails would be developed in the tidal areas south of U.S. 41 in the Western Addition. Specific access points and facilities to support nonmotorized uses are described in the “Facilities” section.

Conceptual hiking trails would be included as part of this alternative — one completing a north-south connection and one completing an east-west connection through the Addition.

The National Park Service would work cooperatively with the Florida Trail Association to determine the appropriate access points and routing of the Florida National Scenic Trail, and the trail would be formally designated.

## **VISITOR ORIENTATION AND EDUCATION**

Only a visitor contact station and outdoor orientation and interpretive panels would be developed along I-75 under this alternative as described in the “Facilities” section.

## **WILDERNESS**

About 48,919 acres of land would be proposed for wilderness designation under this alternative (see following map).

## **PARTNERSHIPS, PROGRAMS, AND ACTIVITIES**

The National Park Service would explore new partnerships to provide visitor services at Carnestown.

## **FACILITIES**

### **I-75 Mile Marker 51**

A new access point would be developed at this location that includes parking and restrooms. The site would provide access for motorized and nonmotorized activities. Visitor orientation and interpretation panels would also be installed. The National Park Service would establish a partnership with the Florida Department of Transportation and the Florida Fish and Wildlife Conservation Commission to establish other facilities as appropriate, such as a wildlife check station and boat ramp to access South Florida Water Management District canal.

### **I-75 Mile Marker 63**

Using the Florida Department of Transportation rest area at this location, a new access point would be developed that would

include parking and trailhead. The site would provide access for motorized and nonmotorized activities. A new visitor contact station and NPS operations facility would also be developed at this location. The National Park Service would establish a partnership with the Florida Department of Transportation and the Florida Fish and Wildlife Conservation Commission to establish other facilities as appropriate, such as a wildlife check station.

### **Bear Island Grade at SR 29**

A new trailhead and parking area would be developed at this location, providing motorized and nonmotorized access to the Bear Island Grade. This new access point would provide a connection to ORV trails in the original Preserve. Visitor orientation and interpretation panels would also be installed.

### **Nobles and Jones Grades**

No new facilities would be developed. The road grades would only be used for access.

### **Miles City (I-75 at SR 29)**

This intersection would remain undeveloped.

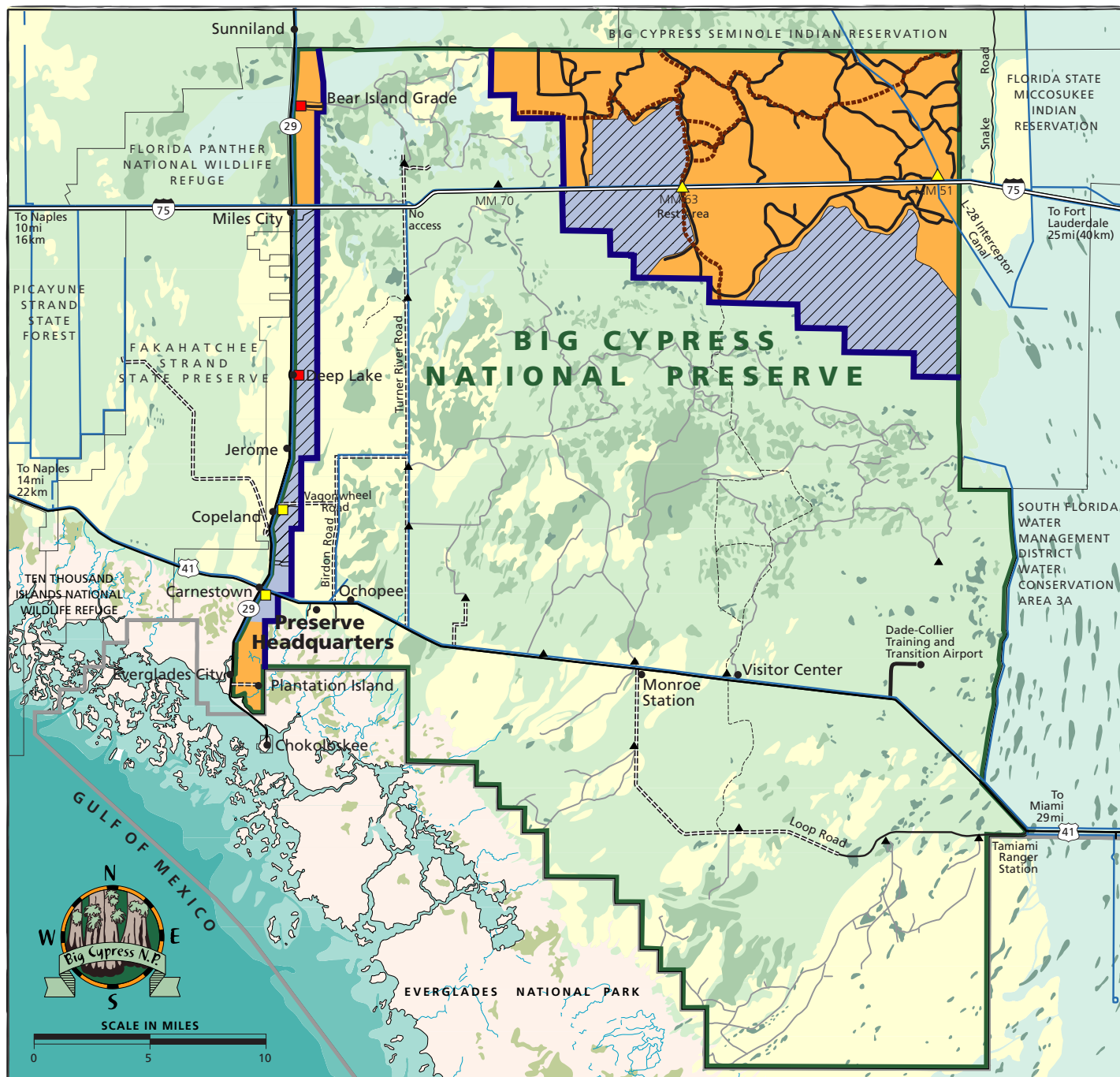
### **Deep Lake (SR 29)**

The site would be developed into a day use area with parking, restrooms, and a hiking trail/boardwalk to Deep Lake.

### **Copeland (SR 29)**

The NPS Fire Operations Center would remain at this location.





## Legend

- Preserve Boundary
- Addition Boundary
- Designated ORV Trail
- Conceptual Primary ORV Trails
- Unpaved Road
- Existing Hiking Trail
- Conceptual Hiking Trail
- Canal
- ▲ Existing Access Point
- ▲ Proposed Access Point
- Frontcountry
- Primitive Backcountry
- Backcountry Recreation
- Developed
- Proposed Wilderness

## Key to Ecosystems

- Cypress
- Pineland
- Mangrove
- Coastal Marsh
- Hardwood Hammock
- Freshwater Marl Prairie
- Freshwater Slough
- Marine and Estuarine

Map 4

Alternative B

# Big Cypress National Preserve – Addition General Management Plan

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## Carnestown (U.S. 41 at SR 29)

Facilities at the site would be used to support visitor service partnership needs.

## ESTIMATED COSTS

The NPS staffing level needed to implement alternative B would be the equivalent of 93 full-time staff members (16 additional full-time-equivalent employees or 17 positions) — 15 permanent full-time employees and 2 half-time temporary/seasonal employees). These 16 additional employees include 2 permanent interpreters, 2 seasonal interpreters, 4 maintenance workers, 5 law enforcement rangers, 2 visitor use assistants, 1 ORV program manager, and 1 biological science technician. Volunteers and partnerships would continue to be key contributors to NPS operations.

One-time capital costs of alternative B, including projects that are planned for the near future or are underway, new construction, and nonfacility costs such as

major resource plans and projects, are estimated at \$6.7 million. Annual operating costs under this alternative would be \$7.9 million.

The cost estimates provided here are given for comparison to other alternatives only; they are not to be used for budgeting purposes. Although the numbers appear to be absolutes, they represent a midpoint in a possible range of costs.

Presentation of these costs in this plan does not guarantee future NPS funding. Project funding would not come all at once; it would likely take many years to secure and may be provided by partners, donations or other nonfederal sources. Although the National Park Service hopes to secure this funding and would prepare itself accordingly, the Preserve may not receive enough funding to achieve all desired conditions within the timeframe of the *General Management Plan* (the next 20 or more years). More information on costs is provided in the “Development of Cost Estimates” section and table 6.

## PREFERRED ALTERNATIVE

### CONCEPT AND GENERAL MANAGEMENT STRATEGIES

The preferred alternative would provide diverse frontcountry and backcountry recreational opportunities, enhance day use and interpretive opportunities along road corridors, and enhance recreational opportunities with new facilities and services. This alternative would maximize ORV access, provide a moderate amount of wilderness, provide nonmotorized trail opportunities and new camping opportunities, and develop a partnership approach to visitor orientation. New visitor and operations facilities along the I-75 corridor would also be provided.

The approximate acreages and percentages of the Addition that would be in each of the management zones under the preferred alternative are shown in table 4.

**TABLE 4: MANAGEMENT ZONES IN THE PREFERRED ALTERNATIVE**

Zone	Acreage	% of Addition
Developed	18	< 1
Frontcountry	11	< 1
Backcountry Recreation	52,431	36
Primitive Backcountry	93,426	64

Management of the Addition and the actions that would be taken by the National Park Service in the next 20 years under the preferred alternative are described in the following paragraphs.

### MOTORIZED RECREATIONAL OPPORTUNITIES — TRAILS AND PERMITS

Motorized recreational opportunities, including ORV use, motorized boating, and hunting would be maximized, but phased in over time. The maximum amount of sustainable trails (about 140 miles) would be included as part of the conceptual primary (see glossary) ORV trail network. Access points and facilities to support motorized use are described in the “Facilities” section, including a potential connection to existing trails in the Bear Island area. Future connections from this location to existing ORV trails south of the Northeast Addition would require additional National Environmental Policy Act compliance.

The National Park Service would work with the Florida Fish and Wildlife Conservation Commission to provide hunting access, define hunting seasons, and develop hunting regulations that are consistent with both agencies’ policies and goals for the Addition.

A maximum of 700 ORV permits would be issued annually for the Addition, and up to 140 miles of primary ORV trails would be designated. However, the extent of trails and the number of permits available to the public would be accomplished in phases. For example, a certain amount of trails would be designated and a certain number of permits would be allowed. The number of initial permits available would be proportionate to the initial extent of the trail system. For example, using a factor of five permits per mile of trail, if 20 miles of trail were opened, then 100 permits would be issued. The National Park Service would determine the initial extent of the trail system based on field conditions, proximity to access points, and levels of trail stabilization needed. Monitoring of the impacts would take place,

and if impacts were at or below acceptable limits, more trails would be designated and more permits would be allowed.

## **NONMOTORIZED RECREATIONAL OPPORTUNITIES**

New access points would be established for hiking, bicycling, horseback riding, and hunting. Access points would be developed at mile markers 51 and 63 under the *I-75 Recreational Access Plan*. These access points would provide access for both motorized and nonmotorized uses. Hiking, bicycling, and horseback riding would also be allowed on the up to 140 miles of ORV trails in the Addition. Some new hiking trails would be developed at frontcountry locations. New paddling trails would be developed in the tidal areas south of U.S. 41 in the Western Addition. Specific access points and facilities to support nonmotorized uses are described in the “Facilities” section.

Conceptual hiking trails would be included as part of this alternative — one completing a north-south connection and one completing an east-west connection through the Addition.

The National Park Service would work cooperatively with the Florida Trail Association to determine the appropriate access points and routing of the Florida National Scenic Trail, and the trail would be formally designated.

## **VISITOR ORIENTATION AND EDUCATION**

A new visitor contact station and some outdoor orientation and interpretive panels would be developed along I-75 under this alternative as described in the “Facilities” section.

## **WILDERNESS**

About 85,862 acres of land would be proposed for wilderness designation under this alternative (see following map).

## **PARTNERSHIPS, PROGRAMS, AND ACTIVITIES**

The National Park Service would pursue partnerships to achieve management objectives and consider partnerships that provide a range of commercial services, including boat tours south of U.S. 41. The original Preserve’s *Commercial Services Plan* would be amended to include the Addition.

## **FACILITIES**

### **I-75 Mile Marker 51**

A new access point would be developed at this location that includes parking. The site would provide access for motorized and nonmotorized activities. Visitor orientation and interpretation panels would also be installed. The National Park Service would establish a partnership with the Florida Department of Transportation and the Florida Fish and Wildlife Conservation Commission to establish other facilities as appropriate, such as a wildlife check station and boat ramp to access South Florida Water Management District canal.

### **I-75 Mile Marker 63**

Using the Florida Department of Transportation rest area at this location, a new access point would be developed that includes parking and trailhead. The site would provide access for motorized and nonmotorized activities. A new visitor center and NPS operations facility would also be developed at this location. The National Park Service would establish a partnership with the Florida Department of Transportation and

the Florida Fish and Wildlife Conservation Commission to establish other facilities as appropriate, such as a wildlife check station.

#### **Bear Island Grade at SR 29**

A new trailhead and parking area would be developed at this location, providing motorized and nonmotorized access to the site and to Bear Island Grade. This new access point would provide a connection to ORV trails in the original Preserve. Visitor orientation and interpretation panels would also be installed.

#### **Nobles and Jones Grades**

Backcountry camping areas would be developed along these grades.

#### **Miles City (I-75 at SR 29)**

A new hiking trailhead, information kiosk, and small parking area would be developed outside the interchange area, which is closed to development.

#### **Deep Lake (SR 29)**

The site would be developed into a day use area with parking, restrooms, picnic shelters, and a hiking trail/boardwalk to Deep Lake.

#### **Copeland (SR 29)**

The NPS Fire Operations Center would be maintained at this location and expanded as necessary for other NPS operational needs.

#### **Carnestown (U.S. 41 at SR 29)**

The facilities would be used to support commercial services and/or partner organizations (such as the Sheriff's Office) that would operate at this location.

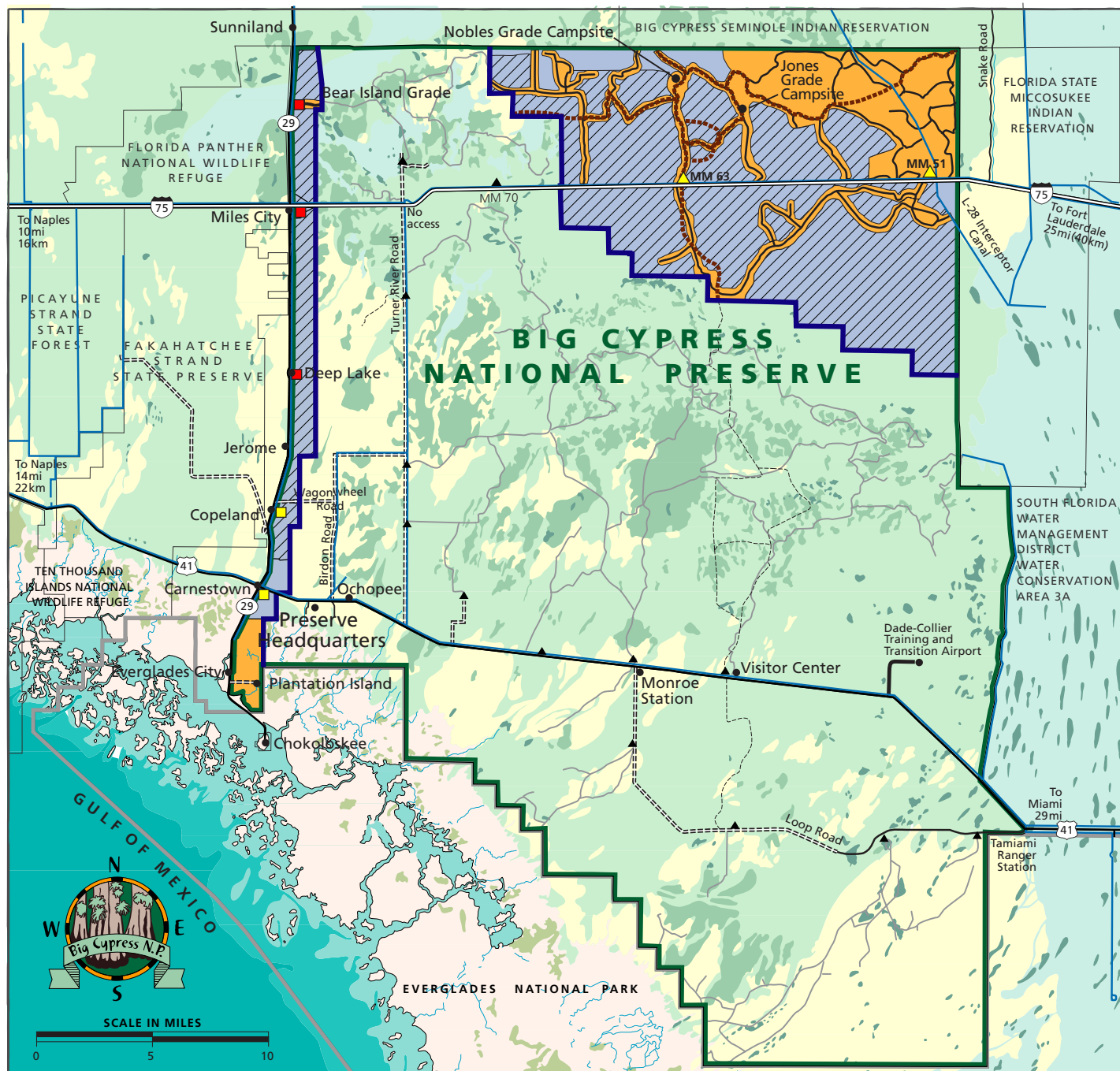
### **ESTIMATED COSTS**

The NPS staffing level needed to implement the preferred alternative would be the equivalent of 93 full-time staff members (16 additional full-time-equivalent employees or 17 positions) — 15 permanent full-time-employees and 2 half-time temporary/seasonal employees). These 16 additional employees include 2 permanent interpreters, 2 seasonal interpreters, 4 maintenance workers, 5 law enforcement rangers, 2 visitor use assistants, 1 ORV program manager, and 1 biological science technician. Volunteers and partnerships would continue to be key contributors to NPS operations.

One-time capital costs of the preferred alternative, including projects that are planned for the near future or are underway, new construction, and nonfacility costs such as major resource plans and projects, are estimated at \$6.7 million. Annual operating costs under this alternative would be \$7.9 million.

The cost estimates provided here are given for comparison to other alternatives only; they are not to be used for budgeting purposes. Although the numbers appear to be absolutes, they represent a midpoint in a possible range of costs

Presentation of these costs in this plan does not guarantee future NPS funding. Project funding would not come all at once; it would likely take many years to secure and may be provided by partners, donations or other nonfederal sources. Although the National Park Service hopes to secure this funding and would prepare itself accordingly, the Preserve may not receive enough funding to achieve all desired conditions within the time frame of the *General Management Plan* (the next 20 or more years). More information on costs is provided in the "Development of Cost Estimates" section and table 6.



## Legend

- Preserve Boundary
- Addition Boundary
- ~ Designated ORV Trail
- ~ Conceptual Primary ORV Trails
- Unpaved Road
- Existing Hiking Trail
- Conceptual Hiking Trail
- Canal
- ▲ Existing Access Point
- ▲ Proposed Access Point
- Frontcountry
- Primitive Backcountry
- Backcountry Recreation
- Developed
- Proposed Wilderness

## Key to Ecosystems

- |   |   |   |  |
|---|---|---|--|
| <span style="color: green;">■</span> Cypress          | <span style="color: green;">■</span> Pineland                 | <span style="color: pink;">■</span> Mangrove          | <span style="color: green;">■</span> Coastal Marsh       |
| <span style="color: green;">■</span> Hardwood Hammock | <span style="color: yellow;">■</span> Freshwater Marl Prairie | <span style="color: blue;">■</span> Freshwater Slough | <span style="color: blue;">■</span> Marine and Estuarine |





## ALTERNATIVE F

### CONCEPT AND GENERAL MANAGEMENT STRATEGIES

Alternative F would emphasize resource preservation, restoration, and research while providing recreational opportunities with limited facilities and support. This alternative would provide the maximum amount of wilderness, no ORV use, and minimal new facilities for visitor contact along I-75.

The approximate acreages and percentages of the Addition that would be in each of the management zones under alternative F are shown in table 5.

TABLE 5: MANAGEMENT ZONES IN ALTERNATIVE F

Zone	Acreage	% of Addition
Developed	15	< 1
Frontcountry	6	< 1
Backcountry Recreation	3,422	2
Primitive Backcountry	142,442	98

The management of the Addition and the actions that would be taken by the National Park Service in the next 20 years under alternative F are described in the following paragraphs.

### MOTORIZED RECREATIONAL OPPORTUNITIES — TRAILS AND PERMITS

No ORV use would be available under this alternative. Motorized boating would continue to be permitted in certain areas of the canals and waterways adjacent to SR 29.

No ORV permits would be granted and no trails would be designated because public recreational ORV use would not be allowed. ORV access to private property by inholders

would continue to be allowed by special use permit.

### NONMOTORIZED RECREATIONAL OPPORTUNITIES

New access points would be established, and trails would be developed for hiking, camping, bicycling, horseback riding, and walk-in hunting. Access points would be developed at mile markers 51 and 63 under the *I-75 Recreational Access Plan*; however, access would be walk-in only. Some new hiking trails would be developed at frontcountry locations. New paddling trails would be developed in the tidal areas south of U.S. 41 in the Western Addition. Specific access points and facilities to support nonmotorized uses are described in the “Facilities” section.

Conceptual hiking trails would be included as part of this alternative — one completing a north-south connection and one completing an east-west connection through the Addition.

The National Park Service would work cooperatively with the Florida Trail Association to determine the appropriate access points and routing of the Florida National Scenic Trail, and the trail would be formally designated.

The National Park Service would work with the Florida Fish and Wildlife Conservation Commission to provide hunting access, define hunting seasons, and develop hunting regulations that are consistent with both agencies’ policies and goals for the Addition.

## **VISITOR ORIENTATION AND EDUCATION**

Visitor information/orientation panels would be developed along I-75 under this alternative, as described in the “Facilities” section.

## **WILDERNESS**

About 111,601 acres of land would be proposed for wilderness designation under this alternative, including the Everglades City area which would allow historic motorboating to continue within designated wilderness (see following map).

## **PARTNERSHIPS, PROGRAMS, AND ACTIVITIES**

No new partnerships, programs, or activities would be initiated for the Addition.

## **FACILITIES**

### **I-75 Mile Marker 51**

A new access point (nonmotorized only) would be developed at this location that includes parking and visitor information. Visitor orientation and interpretation panels would also be installed. The National Park Service would establish a partnership with the Florida Department of Transportation and the Florida Fish and Wildlife Conservation Commission to establish other facilities as appropriate, such as a wildlife check station and boat ramp to access South Florida Water Management District canal.

### **I-75 Mile Marker 63**

Using the Florida Department of Transportation rest area at this location, a new access point (nonmotorized only) would be developed that includes parking, a trailhead,

and visitor information. Visitor orientation and interpretation panels would be installed. A new NPS operations facility would also be developed at this location. The National Park Service would establish a partnership with the Florida Department of Transportation and the Florida Fish and Wildlife Conservation Commission to establish other facilities as appropriate, such as a wildlife check station.

### **Bear Island Grade at SR 29**

A new trailhead and parking area would be developed at this location, providing non-motorized access to the Bear Island Grade. Only hiking, bicycling, and horseback riding would be allowed on the trail within the Western Addition. Outside the Western Addition (in the original Preserve), ORV use would continue on the designated ORV trails in the Bear Island area. Visitor orientation and interpretation panels would also be installed at the trailhead.

### **Nobles and Jones Grades**

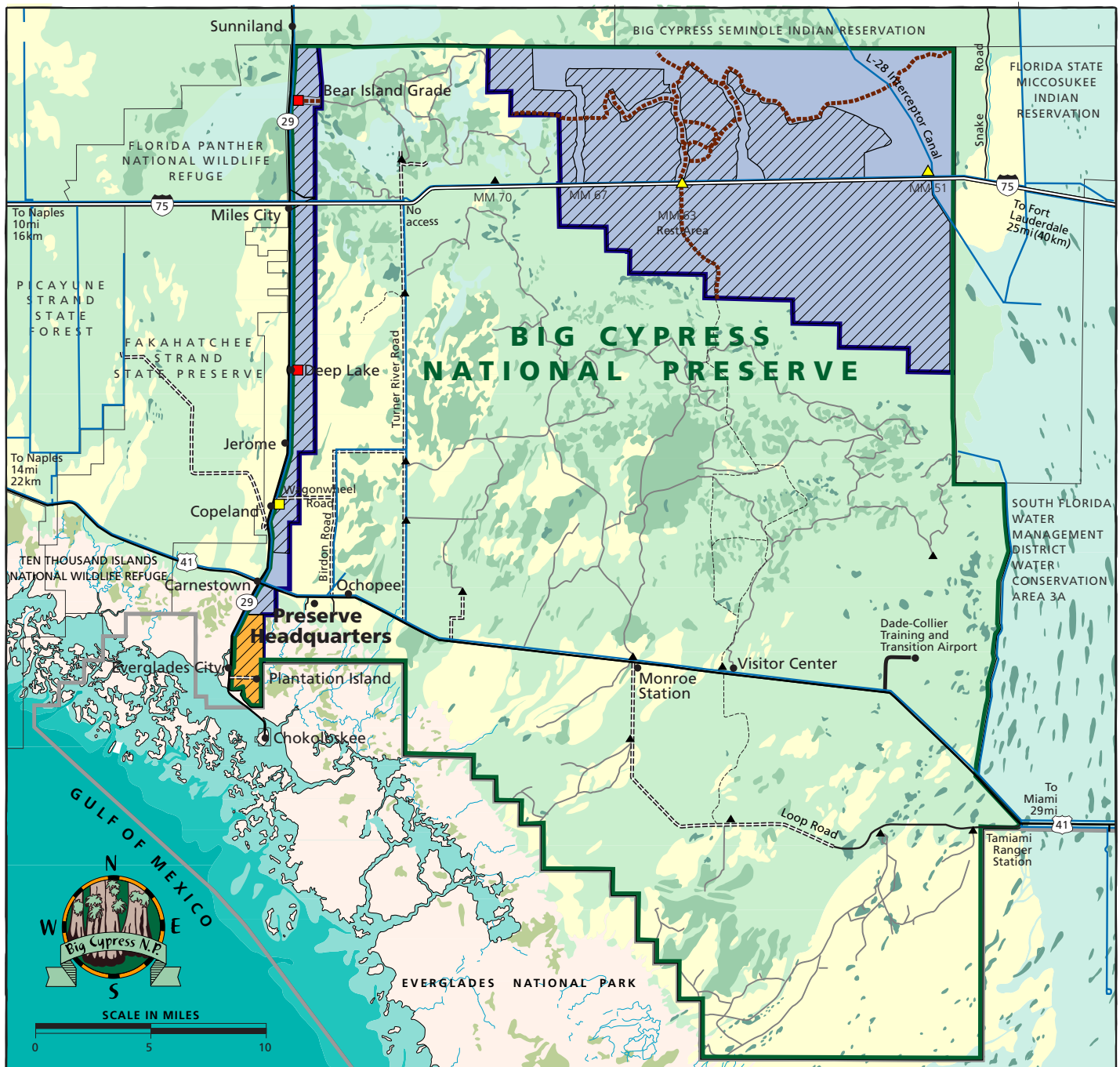
These sites would remain undeveloped, and Nobles Grade would be removed and restored. Nonmotorized public access would remain on Jones Grade.

### **Miles City (I-75 at SR 29)**

This intersection would remain undeveloped.

### **Deep Lake (SR 29)**

A new trailhead would be developed at this location, including a hiking trail/boardwalk to Deep Lake.



## Legend

- Preserve Boundary
- Addition Boundary
- Designated ORV Trail
- Unpaved Road
- Existing Hiking Trail
- Conceptual Hiking Trail
- Canal
- Existing Access Point
- Proposed Access Point
- Frontcountry
- Primitive Backcountry
- Backcountry Recreation
- Developed
- Proposed Wilderness

## Key to Ecosystems

- |   |  |  |   |
|---|--|--|---|
| <span style="display: inline-block; width: 15px; height: 15px; background-color: #c8e6c9; border: 1px solid black; margin-right: 5px;"></span> Cypress          | <span style="display: inline-block; width: 15px; height: 15px; background-color: #c8e6c9; border: 1px solid black; margin-right: 5px;"></span> Pineland                | <span style="display: inline-block; width: 15px; height: 15px; background-color: #ffe0b2; border: 1px solid black; margin-right: 5px;"></span> Mangrove          | <span style="display: inline-block; width: 15px; height: 15px; background-color: #c8e6c9; border: 1px solid black; margin-right: 5px;"></span> Coastal Marsh        |
| <span style="display: inline-block; width: 15px; height: 15px; background-color: #a5d6a7; border: 1px solid black; margin-right: 5px;"></span> Hardwood Hammock | <span style="display: inline-block; width: 15px; height: 15px; background-color: #fff176; border: 1px solid black; margin-right: 5px;"></span> Freshwater Marl Prairie | <span style="display: inline-block; width: 15px; height: 15px; background-color: #e0f2f1; border: 1px solid black; margin-right: 5px;"></span> Freshwater Slough | <span style="display: inline-block; width: 15px; height: 15px; background-color: #b2dfdb; border: 1px solid black; margin-right: 5px;"></span> Marine and Estuarine |



### **Copeland (SR 29)**

The NPS Fire Operations Center would be maintained at this location and expanded as necessary for other NPS operational needs.

### **Carnestown (U.S. 41 at SR 29)**

Facilities would be removed, and the site would be restored to natural conditions.

## **ESTIMATED COSTS**

The NPS staffing level needed to implement alternative F would be the equivalent of 87 full-time staff members (10 additional positions). These 10 additional positions (10 full-time employees) would include 2 permanent interpreters, 2 maintenance workers, 5 law enforcement rangers, and 1 visitor use assistant. Volunteers and partnerships would continue to be key contributors to NPS operations.

One-time capital costs of alternative F, including projects that are planned for the

near future or are underway, new construction, and nonfacility costs such as major resource plans and projects, are estimated at \$4.9 million. Annual operating costs under this alternative would be \$7.5 million.

The cost estimates provided here are given for comparison to other alternatives only; they are not to be used for budgeting purposes. Although the numbers appear to be absolutes, they represent a midpoint in a possible range of costs.

Presentation of these costs in this plan does not guarantee future NPS funding. Project funding would not come all at once; it would likely take many years to secure and may be provided by partners, donations or other nonfederal sources. Although the National Park Service hopes to secure this funding and would prepare itself accordingly, the Preserve may not receive enough funding to achieve all desired conditions within the timeframe of the *General Management Plan* (the next 20 or more years). More information on costs is provided in the “Development of Cost Estimates” section and table 6.

## DEVELOPMENT OF COST ESTIMATES

NPS decision-makers and the public must consider an overall picture of the complete costs and advantages of various alternatives, including the no-action alternative, to make wise planning and management decisions for the Big Cypress National Preserve Addition.

In estimating costs of the alternatives, different types of costs need to be taken into account, including one-time and annual operating costs.

One-time costs include initial construction for new facility development (including NPS infrastructure costs) or for nonfacility costs related to natural and cultural resources management and visitor use projects.

Annual operating costs are the total annual costs for maintenance and operations associated with each alternative, including maintenance, utilities, supplies, staff salaries and benefits, leasing, and other materials.

The presentation of costs within a general management plan is applied to the types and general intensities of development in a comparative format. The following applies to costs presented within this general management plan:

- The costs are presented as estimates and are not appropriate for budgeting purposes.

- The cost estimates were developed in 2008; they are very general and intended for alternative comparison purposes only.
- The costs presented have been developed using industry standards to the extent available.
- Actual costs will be determined at a later date and will take into consideration the design of facilities, identification of detailed resource protection needs, and changing visitor expectations.
- Approval of the general management plan does not guarantee funding or staffing for proposed actions.
- Project funding will not come all at once; it will likely take many years to secure and may be provided by partners, donations, or other nonfederal sources.
- Some proposals may not be funded within the life of this *General Management Plan* and full implementation may occur many years into the future.

The implementation of the approved plan will depend on future funding. The approval of a plan does not guarantee that the funding needed to implement the plan will be forthcoming. Full implementation of the approved plan could be many years in the future or may not occur if funding is not obtained.

**TABLE 6: COST COMPARISON OF THE ALTERNATIVES**

	Alternative A	Alternative B	Preferred Alternative	Alternative F
<b>Annual Operating Costs (ONPS)<sup>1,6</sup></b>	\$6,500,000	\$7,900,000	\$7,900,000	\$7,500,000
<b>Staffing (FTE)<sup>2</sup></b>	77	93	93	87
<b>One-Time Costs</b>				
Visitor Contact Station	0	\$1,200,000	\$1,200,000	0
Operations Center	0	\$4,000,000	\$4,000,000	\$3,400,000
Other Facility Costs <sup>4</sup>	0	\$1,500,000	\$1,500,000	\$900,000
Nonfacility Costs <sup>5</sup>	0	0	0	\$600,000
<b>Total One-Time Costs<sup>3</sup></b>	<b>0</b>	<b>\$6,700,000</b>	<b>\$6,700,000</b>	<b>\$4,900,000</b>

Note: All cost estimates are in 2008 dollars.

1. Annual operating costs (ONPS) are the total costs per year for maintenance and operations associated with each alternative, including utilities, facility and trail maintenance, staff salaries, and benefits. Cost and staffing estimates assume that the alternative is fully implemented as described in the narrative.
2. The total number of FTEs (full-time equivalent employees) is the number of person-years of staff required to maintain the assets of the Preserve and Addition at a good level, provide acceptable visitor services, protect resources, and generally support NPS operations. The FTE number indicates ONPS-funded NPS staff only, not volunteer positions or positions funded by partners. FTE salaries and benefits are included in the annual operating costs.
3. The total one-time costs are the sum of all elements listed in the rows that precede the total.
4. One-time facility costs include those for the design, construction, or rehabilitation of housing, ORV trails, campgrounds, trailheads, and day use areas.
5. One-time nonfacility costs include removal of the Carnestown facilities and associated revegetation.
6. These costs do not include research and monitoring efforts as identified later in table 8.

## THE ALTERNATIVES AND USER CAPACITY, ADAPTIVE MANAGEMENT, ORV ADMINISTRATION AND MANAGEMENT, AND WILDERNESS

User capacity, adaptive management, ORV administration and management, and wilderness topics discussed in this section are very much part of the action alternatives (B, preferred, and F) just described, and thus this management plan. They are presented separately because they apply to all action alternatives, although some applications vary by alternative — for example, the numbers of ORV trails and permits vary depending on the alternative.

### USER CAPACITY

General management plans are required by law to address the topic of user capacity, also known as carrying capacity. The National Park Service defines user capacity as the types and extent of visitor use that can be accommodated while sustaining the quality of resources and visitor opportunities consistent with the purposes of the park unit. It is a process involving planning, monitoring, and management actions to ensure that a park unit's values are protected.

Managing user capacity in national park units is inherently complex and depends not only on the number of visitors, but also on where they go, what they do, and the “footprints” they leave behind. In managing for user capacity, NPS staff rely on various management tools and strategies, rather than solely on regulating the number of people in a park unit or simply establishing limits on visitor use. In addition, the ever-changing nature of visitor use in park units requires a deliberate and adaptive approach to user capacity management.

The foundations for making user capacity decisions in this plan are the Addition's purpose, significance, special mandates, and management zones. These define why the

Addition was established and identify the most important resources and values, including visitor experience opportunities, that will be protected or provided. The management zones qualitatively describe the desired resource conditions and visitor experiences, including appropriate recreation activities, for different locations throughout the Addition. These elements direct the National Park Service how to protect resources while offering a diversity of visitor opportunities.

Based on the desired conditions described in the management zones, indicators and standards are identified in this plan. An indicator is a measurable variable that can be used to track changes in resource and social conditions related to human activity, so that existing conditions can be compared to desired conditions. A standard is the minimum acceptable condition for an indicator. The indicators and standards help translate the broader qualitative descriptions of desired conditions in the management zones into measurable conditions. As a result, NPS managers can track changes in resource conditions and visitor experiences, and provide a basis for the NPS staff to determine whether desired conditions are being met. The monitoring component of this process also helps test the effectiveness of management actions and provides a basis for informed adaptive management of visitor use.

This plan also includes a range of actions that would be taken to maintain or restore desired conditions. For example, management actions may include providing information about low impact recreational use and the principles of “Leave No Trace” and “Tread Lightly”; directing visitors to designated facilities or areas; adding or altering facilities (e.g., trails, campsites) for containment of use to designated areas; directing visitors to lesser-



used areas or off-peak times; restricting the types of recreation activities permitted; and/or reducing the amount of visitor use in certain areas.

With limited staffs and budgets, NPS managers will focus more frequently on areas where there are likely visitor use changes, and/or clear evidence of problems, or where problems can reasonably be anticipated during the life of this plan. This means monitoring will more frequently take place where conditions are approaching or violate standards, conditions are changing rapidly, specific and important values are threatened by visitation, and/or the effects of management actions taken to address impacts are uncertain.

User capacity decision-making is a continuous process; decisions are adjusted based on monitoring the indicators and standards. Management actions are taken to minimize impacts when needed. As monitoring of the Addition's conditions continues, managers might decide to modify, add, or eliminate indicators if better ways are found to measure important changes in resource and social conditions. Also, if new use-related resource or visitor experience concerns arise in the future, additional indicators and standards will be identified as needed to address these concerns.

User capacity management for general visitor and ORV use in the Addition is addressed in different ways. Capacity management for general visitor use is grounded in the desired conditions for the management zones. NPS staff would monitor use levels and patterns and would conduct periodic visitor surveys of visitor characteristics, expectations, evaluations, and preferences — as they do in the original Preserve. Certain indicators (see table 7) would be used to monitor visitor use and experience as identified later in this chapter. The effectiveness of management actions

would be tested against meeting the desired conditions.

User capacity management for ORV use in the Addition would be guided by the elements and criteria included in the later “ORV Administration and Management” section of this chapter. This section includes indicators, standards, and management strategies that are designed to protect resources and enhance visitor experiences, including strategies to minimize and manage adverse impacts from motorized use — such as vehicle regulations, user permit allocations, a monitoring program, and potential management actions that would be used to correct issues and minimize impacts on resources. The overall approach to user capacity for ORV use also includes adaptive management, which allows managers to base decisions on monitoring results. In addition, the committee charter for the original Preserve's ORV Advisory Committee would be amended to include the Addition. This would enable the committee to work with the National Park Service on adopting and refining the indicators and standards over time.

In summary, this *General Management Plan / Wilderness Study / Off-road Vehicle Management Plan* addresses user capacity in the following ways:

- The plan outlines the Addition's purpose, significance, and management zones, which provide the foundation for user capacity management.
- The plan describes the Addition's most pressing use-related resource and visitor experience concerns. This helps NPS managers focus limited resources on specific issues that may need management attention now or into the future. It also helps determine the most important potential indicators and standards to consider.

TABLE 7: USER CAPACITY INDICATORS AND STANDARDS

Indicator Topic	Indicator Measure	What Does It Indicate?	Standard
<b>Change in population of prey species as a result of visitor use</b>	abundance and distribution; demographics	change in population trend	populations of prey species are maintained to satisfy sustainable predator needs*  *Continued census of predator and prey species will be necessary to determine # of prey available/# of predators that will be seeking the prey.
<b>Change in population of game species as a result of visitor use</b>	abundance and distribution; demographics	change in population trend	populations of game species are maintained to satisfy sustainable harvest*  * Continued census of game species and hunter success will be necessary to determine # of game species available for harvest as game and for predators.
<b>Change in population of T&amp;E species/ species of management concern as a result of visitor use</b>	abundance and distribution; demographics	change in population trend	no adverse affects*  *Further specificity on standards for population changes will be provided in the future hunting management plan. Monitoring of T&E populations will be conducted to determine if species' status is stable, improving, or in decline.
<b>Surface Water Flow</b>	feet of elevation expressed in .00 of a foot mean sea level	whether land use affecting natural surface water flow requires mitigation	surface water flow is maintained*  *The specific effects of visitor use will be determined as part of a problem analysis prior to taking corrective management action.
<b>Water Quality</b>	turbidity, total phosphorus, total nitrogen	water quality change	persistence of parameters greater than background relative to the Outstanding Florida Waters designation*  * The specific effects of visitor use will be determined as part of a problem analysis prior to taking corrective management action.
<b>Change or measured difference from ambient soil conditions</b>	nitrogen, sodium, ammonium, pH, carbon, ion absorption, inorganic/organic soil composition	change in soil chemistry or structure that affects its ability to maintain plant growth	thresholds and parameters could vary, depending on the setting. Goal is to maintain background soil chemistry and structure*  *The specific effects of visitor use will be determined as part of a problem analysis prior to taking corrective management action.
<b>Invasive plants, changes in plant communities</b>	% of plant densities, presence of individual nonnative or invasive plants	potential distribution of nonnative or invasive plants by disturbance (ORVs, land development, backcountry use)	Maintenance of native plant communities and eradication of invasive or nonnative plants resulting from land use.
<b>Incidences of disturbance to cultural resources</b>	number of incidences of disturbance to cultural resources per year	trends in visitor behavior and compliance with Preserve rules/regulations	no (0) incidences of disturbance to cultural resources

Indicator Topic	Indicator Measure	What Does It Indicate?	Standard
<b>Off-trail travel by motorized and non-motorized users</b>	number of incidences* per winter/spring (i.e., high use) season of off-trail travel  *Incidences = observed real-time occurrence of off-trail activity, as well as physical impact resulting from off-trail activity.	vegetation loss, spread of invasive species, disruption to surface water flow, contact with sensitive resources, habitat fragmentation, noncompliance with Preserve rules/regulations	no more than 6 incidences per winter/spring season of off-trail travel for either motorized or nonmotorized use
<b>Trail widening as a result of motorized and nonmotorized use</b>	number of occurrences per winter/spring (i.e., high use) season of motorized and nonmotorized trails exceeding a length of widening beyond the standard	vegetation loss, spread of invasive species, disruption to surface water flow, contact with sensitive resources, habitat fragmentation, noncompliance with Preserve rules/ regulations	no more than 6 occurrences per winter/spring season of motorized trails exceeding 36 feet wide for at least 50 linear feet  no more than 6 occurrences per winter/spring season of nonmotorized trails exceeding 18 feet wide for at least 25 linear feet
<b>Documented visitor use related complaints or conflicts per area</b>	documented visitor use related complaints or conflicts between users per month for each management unit,* trail system, or visitor facility  * N of I-75, S of I-75, and Western Addition	potential user conflicts on trails or in specific areas	5 per month per management unit, trail system, or visitor facility
<b>Documented visitor use-related complaints or conflicts for the Addition</b>	documented visitor use-related complaints or conflicts between users per year for the entire Addition	potential user conflicts on trails or in specific areas	25 per year for the Addition
<b>Documented violations</b>	number of documented violations (includes warnings, citations, or arrests) for noncompliance per month for each management unit, trail system, or access point	compliance with designated trail policy and identification of specific areas of concern	30 per month per management unit, trail system, or access point
<b>Number of groups encountered</b>	number of groups (hunting and non-hunting) encountered per hour in the Frontcountry zone	crowding and use conflicts	20 groups encountered per hour
<b>Number of groups encountered</b>	number of groups (hunting and non-hunting) encountered per day more than 1 mile from access points in Backcountry Recreation zone	crowding and use conflicts	10 groups encountered per day more than 1 mile from access points

Indicator Topic	Indicator Measure	What Does It Indicate?	Standard
Number of groups encountered	number of groups (hunting and non-hunting) encountered per day on trails in the Primitive Backcountry zone	crowding and use conflicts	6 groups encountered per day

- The plan identifies the most important indicators that will be monitored and sets standards to determine if desired conditions are not being met due to impacts from visitor use.
- The plan outlines management actions that might be used to avoid or minimize impacts from visitor use, especially ORV use.

## ADAPTIVE MANAGEMENT

Within the context of ORV management at the Addition, the adaptive management framework was first described in the 2000 *Recreational ORV Management Plan*. That plan described a decision-making framework that was based on evaluating impacts, increasing the understanding of resource dynamics, and adjusting management actions to meet objectives. Since that time, the U.S. Department of the Interior (DOI) has developed guidance on adaptive management and how to apply it to federal land management decisions. The *Adaptive Management Technical Guide* (Williams et al. 2007) uses the National Research Council's definition of adaptive management:

[A] decision process that promotes flexible decision making that can be adjusted in the face of uncertainties as outcomes from management actions and other events become better understood. Careful monitoring of these outcomes both advances scientific understanding and helps adjust policies or operations as part of an iterative learning process. Adaptive management also recognizes the importance of

natural variability in contributing to ecological resilience and productivity. It is not a “trial and error” process, but rather emphasizes learning while doing. Adaptive management does not represent an end in itself, but rather a means to more effective decisions and enhanced benefits. Its true measure is in how well it helps meet environmental, social, and economic goals, increases scientific knowledge, and reduces tensions among stakeholders.

The *Technical Guide* describes adaptive management as a systematic approach for improving resource management by learning from management outcomes. Figure 1 below illustrates the adaptive management process.

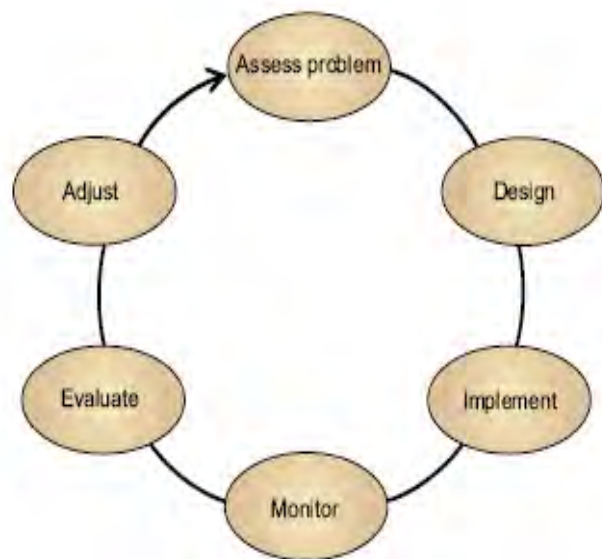


FIGURE 1: DIAGRAM OF THE ADAPTIVE MANAGEMENT PROCESS

The adaptive management framework included in the 2000 *Recreational ORV Management Plan* is compatible with current DOI guidance.

## **ORV ADMINISTRATION AND MANAGEMENT**

### **ORV Administration**

Administration and management of ORV use (the ORV program) for the Addition would be the same as it is in the original Preserve, with a few exceptions.

- Only wheeled mechanized use would be allowed on designated trails in the Addition.
- No public recreational airboat use would be allowed in the Addition because no public access can be provided to areas that would be appropriate for airboat use. Furthermore, this is consistent with other closures in the original Preserve and adjacent Everglades National Park.
- The motorized boating that occurred historically would be allowed to continue in the Everglades City area.

Other exceptions are discussed below, where necessary, and include topics such as the number of vehicle permits.

**Vehicle Types and Specifications.** It is the intent of the National Park Service to establish vehicle specifications that protect the Addition's resources while providing for reasonable recreational access. Vehicle specifications for the Addition would be the same as what is currently in place for the original Preserve.

Vehicles are currently required to meet the following specifications.

- Vehicle width and length:

- Wheeled vehicles could not exceed 8.0 feet in total width, including tires.
- Noise control:
  - All wheeled vehicles would be required to have a muffler in good working condition and in constant operation.
- Other ORV equipment:
  - All ORV mechanical systems important for safe operation must be in good operating condition.
  - Tires on all buggies and street-legal vehicles must have a minimum of 9 inches of tread face.
  - On all-terrain cycles, the minimum tire tread face requirement would be 7 inches in the front and 9 inches in the rear.
  - Any device used to push aside, shear off, or otherwise damage vegetation would be prohibited.
  - Any tire chain, bar grip, or other device affixed to a tire in any way would be prohibited.
  - All tracked vehicles would continue to be prohibited.

These vehicle specifications were established in the *Final Recreational Off-road Vehicle Management Plan / Supplemental Environmental Impact Statement* (NPS 2000). The criteria used to develop these specifications were based on the best available information and the *Code of Federal Regulations* (CFR). Vehicle types are defined in 36 CFR 7. The vehicle specifications contained in the 2000 plan as shown above would be adopted by this *General Management Plan* and would be common to all alternatives except alternatives A and F where ORV use for the general public would not be allowed.

NPS staff would continuously evaluate ORV equipment and its effects on resources and the visitor experience. If it was determined that

certain ORV equipment was causing unacceptable impacts, ORV equipment specifications would be modified and the NPS would promulgate regulations accordingly.

NPS staff would continue to research vehicle specifications to refine them to prevent resource damage. Based on research results, limits could be established in the future for a number of vehicle characteristics, such as overall weight, tire size, tire type, noise, and ground-bearing pressure (measured in weight per unit area, such as pounds per square inch).

**Vehicle Inspection Program.** The vehicle inspection program for the Addition would be operated the same as it is in the original Preserve. Vehicles would be required to meet specifications for that particular type of vehicle (all-terrain cycle, swamp buggy, or street-legal four-wheel-drive vehicle) before being eligible for a permit. Each vehicle would have to pass an inspection conducted by the National Park Service.

Vehicle inspections would result in a sticker that designated the vehicle as having met vehicle specification and safety requirements. This sticker would identify the vehicle over time. The inspection number would be included in a computer database and would stay with the vehicle for the entire time it was under the same ownership. Possession of an inspection sticker would mean only that the vehicle was eligible for the vehicle permit drawing and would not, by itself, allow for use of the vehicle in the Addition.

ORV owners would be encouraged to have their vehicles inspected between October 1 and November 30, before the drawing. This would allow the ORV owner to be ready to participate in the drawing.

NPS staff would affix inspection stickers as follows:

- swamp buggy — steering column
- street legal — inside the driver's door

- all-terrain cycle — center of steering mechanism

The free inspection sticker would be valid for a three-year period, and then the vehicle would need to be reinspected and a revalidated sticker would be obtained.

**Number of Vehicle Permits.** The ORV program for the Addition would be managed much the same as it is in the original Preserve. However, a total of three permits would be required: an ORV permit (specific to the Addition), an ORV operator's permit, and a backcountry use permit. Users who already have a permit for the original Preserve wishing to access the Addition would also be required to have a separate permit for the Addition.

The number of vehicle permits issued for the Addition would depend on the alternative selected. A maximum number of permits have been established for each alternative. The maximum number of permits established under alternative B and the preferred alternative (700 for each) is based on the ratio of vehicle permits to trail miles in the original Preserve (2,000 permits:400 miles or 5:1), where the ORV management program has been successful based on management experience and associated monitoring. Under the preferred alternative, the number of initial permits issued would be based on the initial extent of primary ORV trails included times five. For example, if 20 miles of sustainable trail were designated as part of the initial trail network, then 100 permits (20 miles x 5 permits/mile = 100 permits) would be released. Additional permits would be phased in as monitoring results indicate that resource conditions are acceptable and additional trails are designated.

**Allocation of Vehicle Permits.** The allocation of vehicle permits would be as it is for the original Preserve. A random drawing would be held each December for the opportunity to obtain a permit. Permits would be valid from January 1 of each year through

January 31 of the following year. This 13-month permit would allow for a month grace period to obtain a new permit, should the owner be successful in the drawing the previous year.

Announcement of the drawing would be sent out each October by letter to all permit holders and by press release. For the first year of Addition permits, all holders of permits for the original Preserve would be notified about the drawing. In subsequent years, only holders of permits for the Addition would continue to be notified. Cards for the drawing would be sent with announcement letters and would also be available at the Addition. Cards would also be given to those who had their vehicles inspected during the 13 months from October 1 to November 30. During the first year of implementation, drawing cards would be filled out at the time of inspection. Drawing cards would be due into the permit station or postmarked by November 30.

The system would be designed to provide an opportunity for each vehicle owner, regardless of how many vehicles they may own, to receive at least one ORV permit unless the total number of individual owners exceeded the maximum number of permits available. More than one permit per person would be available if the initial drawing resulted in fewer permit requests than was available. A maximum of five permits would be allowed per individual. A waiting list would be developed to reassign permits not claimed by January 31.

Successful drawing participants would be notified immediately after the drawing and would be required to purchase their permit by mail or in person before January 31. If the individual failed to purchase the permit by that date, the permit would go to the next person on the waiting list.

The owner would have the option of placing the purchased permit on any of the vehicles that were entered in the drawing. However,

because the vehicle inspection number would be on the permit, the owner would have to specify the vehicle at the time of permit purchase. Permits would be permanently fixed to the vehicle and would be nontransferable. In each subsequent year, the vehicle owner would be required to reapply for the drawing, but could do so by mail unless an inspection was due.

**Fees.** The recreational ORV special use permit for the Addition would initially cost \$50.00 per year — a separate fee from that for the original Preserve. ORV inspections, ORV operator's permits, and backcountry use permits would continue to be free. Funds generated from the vehicle permits would be applied toward such costs as permit printing, administration of the drawing, education program materials, and operating the ORV permit system. Although the cost of the permit is supposed to offset the cost of administering the ORV program, the fee would actually pay only a small portion of the program costs. The fee could be changed.

**Special Use Permit for Private Property Owners.** Access for owners of private property within the Addition would be permitted, the same as it is in the original Preserve. Legislation, laws, and regulations do not provide right of access via off-road vehicles unless an exempt property owner has legal right-of-way or preexisting access rights.

Owners of improved private property within the Addition would be issued a free special use permit that would allow them reasonable access to and from their private property. The special use permit would authorize them to cross federal lands to access their property via a reasonably direct route. In most cases, the property access trail would be limited to use by the landowner. The property access route would be

- resource-protection based
- described in detail on the permit

- determined by the National Park Service in consultation with the landowner

The special use permit would not be included in the number of recreational ORV permits allocated annually. However, it also would not allow for recreational ORV use in the Addition. If landowners wanted to recreate with an off-road vehicle within the Addition, they would have to participate in the annual drawing for vehicle permits. If they did not draw vehicle permits, landowners would be restricted to using their off-road vehicles on their private property and on the access route specified on their special use permit.

Owners of private properties would not be allowed to enter the Addition on off-road vehicles from any point along their property boundary. They would have to use a designated access point.

Special use permit holders would have to meet all of the other requirements for ORV use in the Addition. This would include, but not be limited to, holding a valid ORV operator permit for the Addition, meeting all vehicle specifications, completing the education course annually, and complying with all rules and regulations relating to recreational ORV use in the Addition.

## ORV Management

**Methods for Determining Sustainable Trails.** To develop a conceptual ORV trail system for the Addition, NPS staff first mapped the locations of existing roads, trails, and other disturbed areas in the Addition. Staff used available maps, aerial photographs, and global positioning system equipment to locate roads and trails in the field and produce a map of potentially sustainable ORV trails (see Map 7: Conceptual ORV Trails map).

A sustainable trail is defined as a travel surface that can support currently planned and future

uses with minimal impact to the natural systems of the area. Sustainable trails have negligible soil loss or movement and allow naturally occurring plant communities to inhabit the area; however, pruning, removal of certain plants, and stabilization over time may be required to accommodate recreational use. Sustainable trails should not adversely affect the naturally occurring hydrology, flora, and fauna. Sustainable trail design accommodates existing and future uses while only allowing appropriate uses.

The GMP planning team conducted field investigations (see Map 7: Conceptual ORV Trails) to determine which roads and trails could sustain ORV use. The following information was collected to help determine trail sustainability:

- vegetation and soil type
- trail width
- level of use
- the presence of ruts, water, exotic plants, trail improvements, and rare or protected species

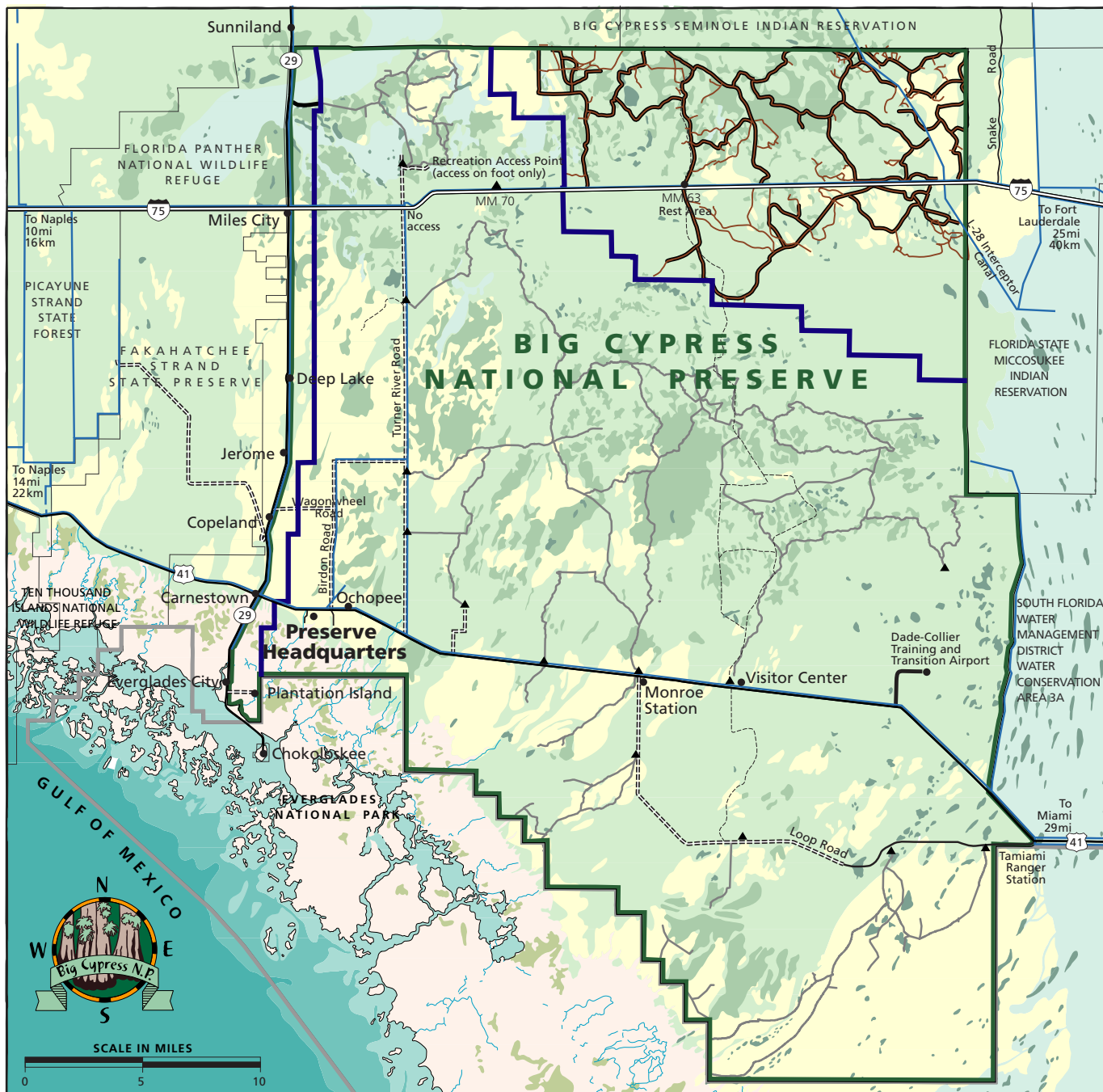
The data were then consolidated to produce a map of sustainable trails that served as the basis for the conceptual trail systems that are included in the alternatives.

Of the 253 miles of trail assessed in the Addition, approximately 140 miles of primary ORV trails were considered sustainable and potentially usable as part of a conceptual ORV trail system (see Map 7: Conceptual ORV Trails).

## ORV Access Points and Trails.

**Access Points** — As described earlier in the description of the alternatives, the number and type of designated ORV access points in the Addition varies by alternative. Each alternative includes a description of the locations, parking, types of vehicles allowed, and facilities that would be available at each access point.





## Legend

- Preserve Boundary
- Addition Boundary
- ~ Sustainable Primary ORV Trail
- ~ Assessed Trails
- ~ Existing Hiking Trail
- Canal
- Unpaved Road
- ▲ Existing Access Point

## Key to Ecosystems

- |   |   |  |  |
|---|---|--|--|
| <span style="color: lightgreen;">■</span> Cypress         | <span style="color: green;">■</span> Pineland                 | <span style="color: pink;">■</span> Mangrove               | <span style="color: olive;">■</span> Coastal Marsh       |
| <span style="color: darkgreen;">■</span> Hardwood Hammock | <span style="color: yellow;">■</span> Freshwater Marl Prairie | <span style="color: lightblue;">■</span> Freshwater Slough | <span style="color: teal;">■</span> Marine and Estuarine |

Map 7

# Conceptual ORV Trails

## Big Cypress National Preserve – Addition

## General Management Plan

United States Department of the Interior • National Park Service  
DSC • March 2009 • 176/20079





Sustainable trail



Unsustainable trail



Trail with spot treatment

**ORV Trails** — ORV trails would be designated within the Addition, and the location and number of miles of trails would also vary by alternative. Each alternative includes a map that identifies the conceptual location of the primary ORV trails within the Addition as well as the total miles of designated primary trails available. The trail mileage is based on the conceptual alignments of the sustainable trails previously identified. Trails would be designated for specific vehicle types.

Primary trails would be those trails emanating from the designated access points and providing recreational access within the Addition. Secondary trails would be identified to provide access to private property or specific destinations such as campsites. Like the primary network, secondary trail alignments would be based on field surveys and GIS analyses. Secondary trails would branch off the primary trails and would receive less use. Secondary trails for accessing features such as designated campsites, hunting areas, or other recreational use areas would extend for a short distance from the primary trail. Trails accessing a private property would be limited to use by that landowner if no other destination existed along that route.

**Closure of Areas.** Recreational ORV use would be permitted only on designated trails within the Addition. All other areas of the Addition would be closed to ORV use under the authority of 36 CFR.

To protect resources and to ensure visitor safety a series of regular closures would be implemented for the Addition. These closures are similar to the actions that have been implemented in the original Preserve and include the following:

**Nightly Closures** — Recreational ORV use would be prohibited throughout the Addition between 10:00 p.m. and 5:00 a.m.

**Seasonal Closures** — A seasonal 60-day period would be established to allow resources a time free from any pressures related to ORV use. This moratorium on ORV use would not apply to landowners who held special use permits to access their private properties via a designated route through the Addition. The optimal time for the seasonal rest period would be determined by research.

In addition to these regular closures, the National Park Service may need to institute occasional closures of the designated trail system to ORV travel. These would include, but not be limited to, the following:

**Safety Closures** — Safety closures would be implemented in all or portions of the Addition to ensure the protection of visitors. Safety closures primarily would be related to environmental conditions such as high fire danger or threats from hurricanes.

**Resource Protection Closures** — All or portions of the designated trail system could be closed to ensure protection of Preserve resources. These would include, but not be limited to, the following:

***High and Low Water Events.***

Closures could be implemented for extreme high- or low-water events. High-water conditions place demands on the Preserve's terrestrial wildlife (Jansen 1996). Low water can represent high fire danger. Therefore, the National Park Service would combine the high-water criteria developed in 2006 for resource protection with any new criteria developed specifically for the Addition and would temporarily close areas when those criteria were met.

***Preservation of Threatened and Endangered Species.*** Under the Endangered Species Act, the National

Park Service has an obligation to protect federally listed threatened and endangered species. If the National Park Service, in consultation with the U.S. Fish and Wildlife Service, determines that ORV use might result in adverse effects on listed species, area closures might be implemented. Such closures could be seasonal or permanent, depending on the nature of the adverse effects. Under the adaptive management framework, additional closures might be implemented where monitoring shows adverse environmental impacts.

Criteria for closing areas to protect threatened and endangered wildlife would include, but may not be limited to, the following:

- Wood stork — determination that a designated trail was within the distance stated in the revised guidelines currently being prepared.
- Red-cockaded woodpecker — determination that a designated trail was within 200 feet of an active cavity tree (Hendry 1989).
- Florida panther — determination that a designated trail was within 0.5 mile of a den.

**Education and Communication.** Education and communication about the ORV management program for the Addition would be the same as it is for the original Preserve. To protect resources and provide a safe operating environment, the following types of information would be given to ORV users:

- an orientation to the Addition, the mission of the National Park Service, and the geography of the area
- a review of the rules and regulations governing ORV use in the Addition
- safety procedures for operating an off-road vehicle in the Addition

- introduction to the designated access points and trails
- resource sensitivity, including staying on designated trails, low-impact camping techniques, and wildlife awareness
- details of the permit process, including how to apply and the privileges and responsibilities of the permit holder
- awareness of previous adverse effects, how they occurred, ways the new ORV management system mitigates past effects, and what is being done to restore areas

This information would be provided through any or all of the following:

- an ORV user's guide, with map
- an operator's orientation that would be required as a prerequisite to obtaining an ORV operator's permit
- an Internet page specifically for ORV users
- posting on the bulletin boards at each access point

All materials would be designed to be easily understood. They would be easily adapted to changing management strategies and flexible enough to incorporate new materials as research revealed additional information on operating techniques. NPS staff, subject-matter experts, and local recreational ORV users would be sources of information for the materials.

**Rules and Enforcement.** The secretary of the Department of the Interior is authorized to designate, pursuant to standards prescribed in regulations by the secretary,

certain officers or employees of the Department of the Interior whom shall maintain law and order and protect persons and property within areas of the national park system. The Secretary of the Interior shall make and publish

such rules and regulations, as he may deem necessary or proper for the use and management of the parks, monuments, and reservations under the jurisdiction of the national park system (16 USC).

ORV rules for the Addition would be the same as those for the original Preserve, which are published in *Code of Federal Regulations* (36 CFR 7.86). In general, these include

- using only designated access points and trails
- staying out of closed areas
- having all required licenses and permits
- meeting all applicable vehicle specifications and training requirements

To facilitate compliance with regulations, the National Park Service would publish and distribute an ORV user's handbook, which would be updated as needed.

Enforcement of ORV rules for the Addition would be the same as in the original Preserve. NPS rangers would regularly conduct ground and aerial patrols of the Addition, visiting the access points, and traveling the designated trails to determine compliance.

As provided by law, a person convicted of violating a provision of the regulations within the Addition could be punished by a fine, by imprisonment, or both, and could be adjudged to pay all costs of the proceedings (36 CFR 1.3). ORV operators who did not comply with Addition rules or permit requirements could also have their permits suspended or revoked, could be required to pay restitution for damages caused to the resources, could be subject to seizure of their vehicle and other property used during the offense, and could be banned from applying for an ORV permit for a specified period. It would continue to be the responsibility of the

user to know and follow all rules and regulations that apply to the Addition.

**Monitoring.** Monitoring of potential impacts from ORV use in the Addition would be conducted using the indicators and standards included previously in table 7 (page 94). These indicator topics were selected based on their ease of measuring important changes to resource conditions and visitor experiences. Additions and improvements to these indicators would be made based on experience gained in implementing this plan, including revisions to the unit of measurement used for each indicator topic.

Standards are would be identified for each of the indicators to define minimum acceptable conditions and establish a trigger mechanism for management action. The standards included in table 7 are a starting point and would be further developed and refined with the assistance of interested federal agencies and the Preserve's ORV Advisory Committee. Once adopted, the indicators and standards would be periodically reevaluated as the National Park Service collects additional data.

The National Park Service would continue to consult with the U.S. Fish and Wildlife Service regarding potential impacts to federally listed species and the Florida Department of Environmental Protection regarding research on water quality impacts from off-road vehicles.

**Methods of Monitoring.** Monitoring for most of the indicators (including water resources, soils and vegetation, compliance, and cultural resources) would be performed along or near the trails and access points designated for use by off-road vehicles and would be designed to determine whether management actions were needed. Monitoring for wildlife would cover a larger area and would be part of the Preserve's and Addition's larger wildlife research and monitoring program. The optimal frequency of monitoring would be determined as part of the adaptive management approach. The monitoring

results would be used to help NPS managers identify important trends and, along with professional judgment, select appropriate management actions.

Monitoring protocols and techniques would be developed following the approval of this plan. Monitoring would be conducted during routine field activities by NPS staff specifically assigned to carry out the duties and responsibilities of the user capacity monitoring program.

### Management Actions

To protect Addition resources, if monitoring indicated that standards had been exceeded, based on the indicators and standards described in table 7, the National Park Service would implement management actions. The management actions could include, but would not be limited to, trail closures, trail relocation, trail maintenance, and alteration of the level or type of use on the trail. A description of these management actions is presented below. The course of action would be based on problem analysis, including such factors as the degree of the problem, the location of the trail, experience at other similar sites, consultation with experts, and the professional judgment of NPS staff.

- **trail/area closures** — Closures could be implemented immediately if a trail exceeded the standards for any of the trail-related indicators in table 7. The National Park Service would use problem analysis to evaluate the situation and to determine if problems could be corrected to allow recreational use to continue. If the trail problem could not be corrected, the closure would be made permanent, and the trail/area would be restored.
- **trail relocation** — This option would be used when trail degradation was occurring and more suitable routes were available that would resolve unsuitable

conditions. When trails were relocated, the original trail would be restored. The new trail locations would be based on the geographic information system suitability model and professional judgment of NPS staff.

- **trail maintenance** — Maintenance would be used to stabilize or improve trails that were degrading. Maintenance would be conducted so that any improvements did not cause further adverse impacts on resources (for example, impede sheet flow). Maintenance activities would use methods and materials that were compatible with the surroundings.
- **alter levels or types of trail use** — This option would be used if the National Park Service determined that trail degradation was being caused by a particular type of ORV or by excessive use. As part of this action, the National Park Service may implement a program to further regulate use at access points for resource protection and/or visitor safety.
- **education** — Educate the public on the impacts and effects of their actions and encourage them to alter their behavior. This technique would be used in advance, or in combination with, the other management actions.

It would not be necessary or desirable to bring rough routes up to a filled-roadway standard. Stabilization and improvement methods would be chosen based on their ability to reverse existing impacts and prevent additional deterioration. For example,

- Existing filled roads or trams (an elevated causeway or travel corridor) would be maintained as roads, where appropriate. Where existing filled trams or roads were used for designated trails, water conveyance structures would be maintained to allow water flow.

- Trails would be improved at the natural grade so that water flow was not compromised. Trails would not be improved to such a standard as to make a trail easy or to encourage a higher level of ORV use than would occur in the absence of such improvements.

Standard trail stabilization would typically include the use of lime rock fill supplemented by geotextile and geowebbing. The goal would be to determine the most appropriate methods of stabilization at each type of site based on site characteristics. Consistent with the adaptive management framework, recommendations for management actions would be continually updated as better information became available.

Whenever management actions involved dredging or filling of wetlands, the National Park Service would consult with the agencies involved in regulating activities in wetlands. Appropriate permits, such as Section 404 permits under the Clean Water Act, would be obtained as necessary.

**Restoration.** The National Park Service would restore areas that had been impacted by off-road vehicles in the Addition using the same approach and techniques that were developed for the original Preserve in the 2000 *Recreational ORV Management Plan*. NPS staff would seek to return areas impacted by ORV traffic to their desired condition and monitor the success of those recovery activities. This section briefly describes the approach that was included in the 2000 plan.

Restoration is defined as the “return of an ecosystem to a close approximation of its condition prior to disturbance” (National Research Council 1992). The Addition staff would seek to

- remove the scars caused by vehicles and recover a sustainable, self-regulating, self-organizing ecosystem, by restoring the biological, physical, and chemical

characteristic of the system to the extent possible

- meet biological, physical, and chemical targets defined by performance measures

Restoration plans would be developed for identified areas and would provide specific guidance for earthwork, revegetation, invasive plant control, and recovery monitoring at each site. Factors that would be considered when selecting the most feasible restoration techniques for a given area include the spatial scale, cost, and environmental impacts or risk associated with the technique. The adaptive management framework would be implemented to meet restoration goals.

**Research.** The need for research related to ORV impacts would be the same as it is in the original Preserve; therefore, the research framework, goals, and actions included in the 2000 *Recreational ORV Management Plan* would be implemented in the Addition. The following six research goals were included in the 2000 plan:

1. Support the siting, construction, maintenance, and monitoring of the designated trail system.
2. Determine existing levels of recreational use and the types of vehicles best suited for use in the Big Cypress environment.
3. Initially conduct or update inventories of the Addition’s flora, fauna, and soils. The results would be used to establish a baseline to determine future trends in resource condition, identify ecosystem stresses and associated environmental indicators, and determine if sensitive resources were or had the potential to be adversely affected by the designated trail system.
4. Determine the effects of ORV use on the Addition’s flora, fauna, and soils.
5. Examine recreational interactions to ensure that all visitors to the Addition have an enjoyable and educational experience.



6. Determine the most efficient and effective means of mitigating effects caused by ORVs and establish best management practices for use in the Addition.

The results from this research would be used to make continuous improvements to the ORV management program.

The 2000 *Recreational ORV Management Plan* recommended studies for each of the research goals and the priorities of each. However, as many as 25 of the studies may not have the relevance that they had in 2000. For example, the ground-truthing of University of Georgia mapping data was assigned a high priority in 2000. Those data were based on 1994 and 1995 aerial photography, which has little relevance now that implementation of the original Preserve's trail system is well underway. Also, evaluation of trail stabilization techniques, given a high priority in 2000, is no longer needed, since the National Park Service has, through experimentation and at least eight years of trail stabilization experience, determined the best and most cost-efficient methods.

Several studies recommended in the 2000 *Recreational ORV Management Plan* and the corresponding U.S. Fish and Wildlife Service's "Biological Opinion" have been completed or are in progress. Florida-panther-related research includes an ongoing study of levels of ORV use and panther response in Bear Island. This study is first analyzing historical data concerning 25 years of hunting, ORV use, panther telemetry, and backcountry use to provide baseline information for a more comprehensive examination of ORV use and its impacts on panthers and other natural resources. Completion of this study will determine whether further research is needed to determine carrying capacity, or if that determination can be made immediately. Baseline inventories of reptiles, amphibians, fishes, and vascular plants have been com-

pleted, and a small mammal inventory is in progress. Although a research project regarding surface water flow, water quality impacts, or wildlife effects has not been conducted, the Preserve has established 20 permanent water quality and water stage monitoring stations that could alert Preserve staff to changing conditions resulting from not only ORV use but other land uses as well, and monitoring of endangered/threatened species has been constant since before the ORV planning process began.

### **Implementation Strategy and Schedule**

Development of the designated access points and trail system that would provide riding opportunities for the public may take up to five years. Initially, recreational ORV use would be restricted to those trails requiring little or no treatment and for which access points would already be in place. More trails would be added to the system as the necessary treatment is completed and access points are constructed. It is important for the designated access points and trail system to be in place before opening the area for ORV use so that NPS staff can design and provide quality visitor experiences and minimize resource impacts. NPS staff would strive to provide ORV opportunities to the public as quickly as possible. Table 8 includes the major action items required to provide ORV access, implement the ORV trail network, and develop necessary programs for research, ORV management, and resource management in the Addition.

The implementation of the approved general management plan will depend on future funding. The approval of a plan does not guarantee that the funding needed to implement the plan will be forthcoming. Full implementation of the approved plan could be many years in the future or may not occur if funding is not obtained.

TABLE 8: IMPLEMENTATION SCHEDULE FOR THE ORV PROGRAM

Activity	Phase I	Phase II	Phase III
Trail system			
Design plan for trail designation and construction	X		
Ground-truth and mark trails	X	X	
Establish temporary trails around designated sensitive areas	X		
Stabilize existing trails selected for designation	X	X	X
Maintain trail system	X	X	X
Access points			
Designate	X		
Develop	X	X	
Maintain	X	X	X
Implement spatial closures. Refine the boundaries of sensitive areas and endangered species nesting areas closed under the authority of 36 CFR.	X	X	X
Implement temporal closures	X	X	X
Hydrologic triggers for resource protection			
Seasonal closure to provide rest period for resources (optimal season to be determined as part of the program's adaptive management)			
Prohibit recreational ORV operation between 10:00 p.m. and 5:00 a.m.			
ORV user map			
Develop	X		
Revise as needed		X	X
Permit program			
Define vehicle specifications	X	X	X
Initiate vehicle inspection program	X		
Issue annual recreational ORV permits	X		
Initiate ORV operator permit program and education requirement	X		
Initiate permit system for all backcountry use	X		
On-going implementation		X	X
Research			
Initiate highest priority research projects	X		
On-going		X	X
Initiate environmental permitting, compliance, and mitigation required for various ORV program components	X		
Expand scope of advisory committee	X		
Restoration			
Establish interdisciplinary team	X		
Initiate implementation	X		

Activity	Phase I	Phase II	Phase III
Continue implementation		X	X
Education program			
Initiate ORV operators course	X		
Refine course and other materials		X	X
Trail condition monitoring			
Develop trail standards	X		
Establish techniques for determining baseline conditions	X		
Monitor trail conditions		X	X
Resource recovery monitoring			
Establish and refine monitoring techniques	X	X	
On-going monitoring		X	X
Enforce all NPS legal mandates related to ORV program management	X	X	X
Apply adaptive management to ORV program based on research and feedback from implementation	X	X	X

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Phase I would start in the first year of implementation. It would include actions that could be completed or initiated immediately, or would be necessary for completion of subsequent actions.

Phase II generally would be started in years 2 through 3 of the program. It would include a continuation of some of the actions started in phase I and the initiation of actions dependent on phase I completion.

Phase III would include long-term and on-going efforts, including monitoring, research, restoration, maintenance, and enforcement. All of these activities would be started before the end of year five.

## WILDERNESS

The United States Congress established the national wilderness preservation system to ensure that an increasing population, accompanied by expanding settlement and growing mechanization, does not occupy and modify all areas within the United States. Wilderness designation is intended to preserve and protect certain lands in their natural state and provide for compatible recreational opportunities, education, and scientific study. Wilderness areas are intended to contrast with lands where human activities dominate the landscape. Only Congress may designate areas as wilderness.

The enabling legislation for Big Cypress National Preserve (Public Law 93-440), as amended by the Addition Act (Public Law 100-301), requires that the National Park Service conduct a wilderness study of all lands in the Addition that it finds to be eligible for wilderness designation. The wilderness study must consider a range of alternatives for wilderness designation, including a “no wilderness” alternative. The purpose of the wilderness study is to develop a formal proposal for designating wilderness in the Addition, which will serve as the basis for any wilderness recommendation that the president may submit to Congress, should he choose to do so. The wilderness study is guided by the Wilderness Act of 1964, where wilderness is defined and its values are articulated.

### Definition of Wilderness

The Wilderness Act (16 USC 1132) defines wilderness in the following manner:

*A wilderness, in contrast with those areas where man and his own works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain. An area of wilderness is further defined to mean . . . an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value.*

### Uses and Management in Wilderness

**NPS Wilderness Policy.** *NPS Management Policies 2006* contains the following provisions related to wilderness planning and management:

- All NPS lands will be evaluated for their eligibility for inclusion within the national wilderness preservation system. (6.2.1)
- Lands will be evaluated according to the provisions outlined in the Wilderness Act of 1964. (6.2.1.1)

### USES AND MANAGEMENT IN WILDERNESS

Although this study is not examining use or management of wilderness, the Wilderness Act and NPS policies permit and prohibit various uses, developments, and actions. These directions need to be considered in evaluating the impacts of the wilderness proposals.

Various recreational uses, management actions, and facilities are permitted in wilderness areas under the Wilderness Act and NPS policies. Among the uses, management actions, and facilities **permitted** in wilderness are:

- nonmotorized recreational uses (e.g., hiking, backpacking, picnicking, camping)
- hunting, trapping, and fishing
- Native American religious activities and other actions recognized under treaty-reserved rights
- guided interpretive walks and onsite talks and presentation
- use of wheelchairs, service animals, and reasonable accommodations for the disabled that are not in conflict with the Wilderness Act (e.g., barrier-free trails, accessible campsites)
- scientific activities/research
- monitoring programs
- management actions taken to correct past mistakes or impacts of human use, including restoration of extirpated species, controlling invasive alien species, endangered species management, and protection of air and water quality
- fire management activities (including fire suppression)
- protection and maintenance of historic properties eligible for the National Register of Historic Places
- trails
- campsites
- certain administrative facilities if necessary to carry out wilderness management objectives (e.g., storage or support structures, ranger station)
- signs necessary for visitor safety or to protect wilderness resources
- uses and facilities permitted for landowners with valid property rights in a wilderness area

The Wilderness Act also specifically **prohibits** certain uses and developments. Under sections 2(c) and 4(c) of the act, the following uses are not permitted in a wilderness:

- permanent improvements or human habitation
- structures or installations
- permanent roads
- temporary roads
- use of motor vehicles
- use of motorized equipment
- landing of aircraft (except for emergency purposes)
- other forms of mechanical transport (e.g., bicycles)
- commercial enterprises (except for commercial services that are necessary for realizing the recreational or other wilderness purposes of the area, such as guiding and outfitting)

With the exception of permanent roads, the act does recognize that the above uses **may be permitted** if necessary to meet the minimum requirements for the administration of the area as wilderness or for emergency purposes.

In addition to the above prohibitions, NPS policies **also prohibit** some developments:

- new utility lines
- permanent equipment caches
- site markings or improvements for nonemergency use
- borrow pits (except for small quantity use of borrow material for trails)
- new shelters for public use
- picnic tables
- interpretive signs and trails and waysides (unless necessary for visitor safety or to protect wilderness resources)

- Lands that have previously been used for extractive purposes may be found eligible for wilderness designation so long as their wilderness character could be restored through appropriate management action. Furthermore, lands subject to existing rights (e.g., mineral exploration and development) may be considered for designation as wilderness or potential wilderness so long as they have been found to contain wilderness character. Lands containing aboveground or buried utility lines normally will not be considered eligible for wilderness designation, but they can be considered as eligible for “potential” wilderness if there is a long-term intent to remove the lines. The established use of motorboats does not make an area ineligible for wilderness. (6.2.1.2)
- For lands found to possess wilderness characteristics, no action that would diminish their wilderness eligibility will be taken until the legislative process of wilderness designation has been completed. (6.3.1)
- All decisions concerning management activities in proposed or designated wilderness will be based on the minimum requirements concept. This concept is a process that determines (1) if the proposed action is necessary for administration of the area as wilderness, and (2) if so, the techniques and equipment needed to ensure that impacts on wilderness resources and character are minimized. (6.3.5)
- Wilderness considerations will be integrated into all planning documents to guide the preservation, management, and use of a park’s wilderness area and ensure that wilderness is unimpaired for future use and enjoyment as wilderness. (chapter 6, title page)
- The superintendent of each park containing wilderness resources will develop and maintain a wilderness management plan or equivalent planning document. (6.3.4.2)

### Wilderness Eligibility Assessment

In 2006 an interdisciplinary NPS team comprised of Preserve, Denver Service Center, Southeast Regional Office, and Washington Office staff conducted an evaluation of the Addition to determine those areas meeting the criteria for wilderness described in the Wilderness Act. Per NPS *2006 Management Policies*, to be eligible for wilderness designation, an area of federal land in the Addition had to have the following characteristics:

1. Generally appear to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable,
2. Be undeveloped and retain its primeval character and influence, without permanent improvements or human habitation,
3. Be untrammeled by man, where man himself is a visitor who does not remain,
4. Offer outstanding opportunities for solitude or a primitive and unconfined type of recreation, and
5. Be protected and managed so as to preserve its natural conditions.

The team first examined data to exclude from wilderness consideration lands clearly not meeting one or more of the above criteria, such as private lands and lands containing permanent improvements, e.g., buildings, roads, and canals. The remaining lands were evaluated against the criteria and visited as necessary. All lands meeting the criteria and at least 5,000 acres or of such size that they could be managed as wilderness were determined to be eligible; all other lands were excluded from further wilderness consideration.

## **Summary of Findings**

The study area contains lands and waters owned by federal and state governments, as well as private owners; however, only federal and state lands (with state permission) were evaluated for wilderness eligibility.

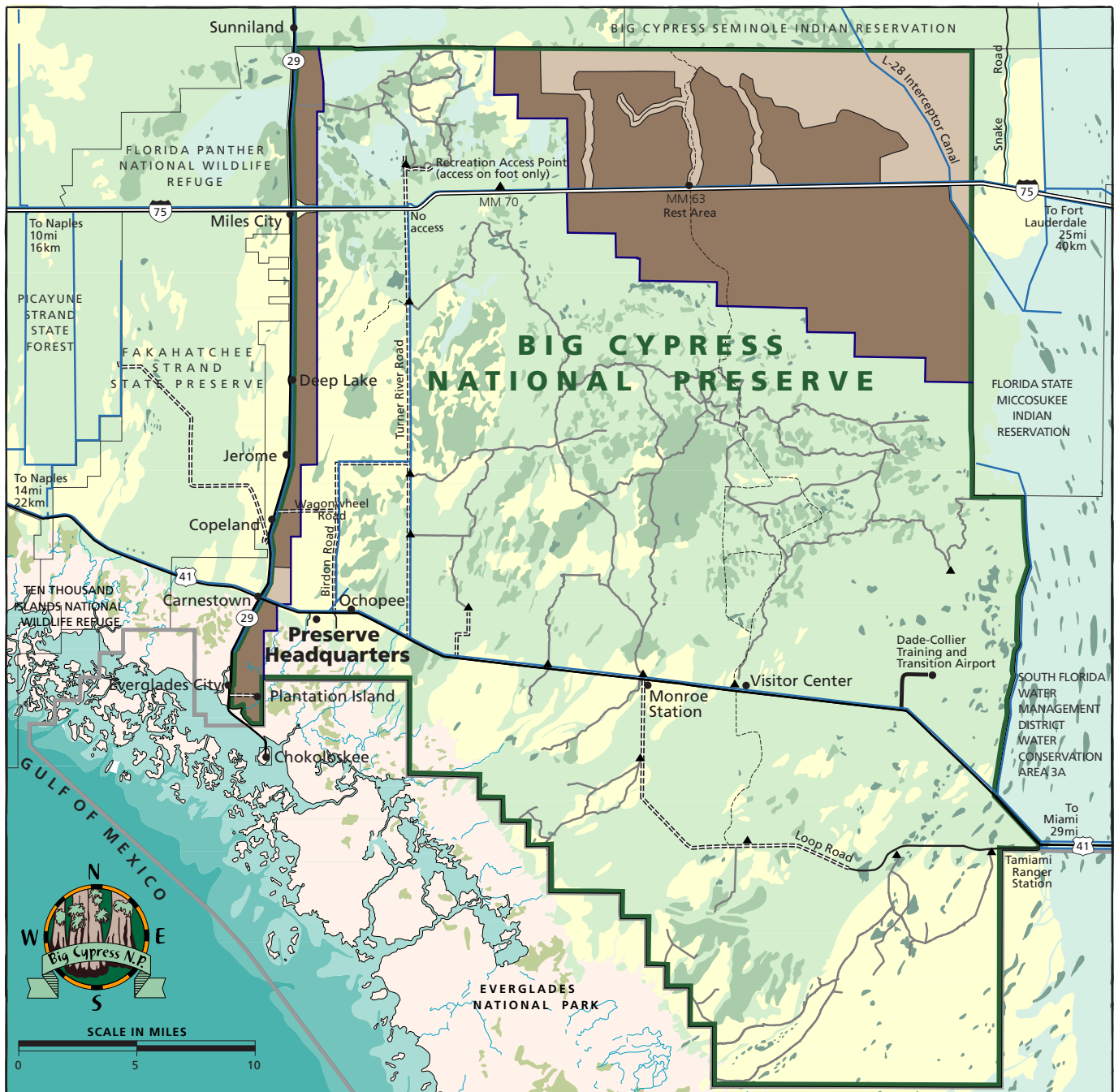
A field evaluation was conducted by NPS staff to determine the suitability of Addition lands for wilderness character. The wilderness study identified about 111,601 acres (approximately 76% of the Addition's total acreage) as meeting the wilderness criteria outlined above and being eligible for wilderness designation (see Map 8: Eligible

Wilderness). This land consists of 93,959 acres in the Northeast Addition and 17,642 acres in the Western Addition east of SR 29. Eligible acreage includes federal lands owned by the National Park Service and state lands owned by the Florida Department of Transportation and Florida State Lands.

Areas that were determined not to be eligible (approximately 35,345 acres) did not meet wilderness criteria. For a more detailed description of this analysis and the wilderness eligibility findings, see appendix B on page 398.







## Legend

- Preserve Boundary
- Addition Boundary
- Wilderness Eligible Land
- Wilderness Ineligible Land
- Unpaved Roads
- Existing Hiking Trail
- Canal
- ▲ Existing Access Point

## Key to Ecosystems

- |   |   |  |  |
|---|---|--|--|
| <span style="color: lightgreen;">■</span> Cypress         | <span style="color: green;">■</span> Pineland                 | <span style="color: pink;">■</span> Mangrove               | <span style="color: olive;">■</span> Coastal Marsh       |
| <span style="color: darkgreen;">■</span> Hardwood Hammock | <span style="color: yellow;">■</span> Freshwater Marl Prairie | <span style="color: lightblue;">■</span> Freshwater Slough | <span style="color: teal;">■</span> Marine and Estuarine |

Map 8

## Eligible Wilderness

## Big Cypress National Preserve ~ Addition General Management Plan

United States Department of the Interior • National Park Service  
DSC • March 2009 • 176/20080



## MITIGATIVE MEASURES COMMON TO ALL ACTION ALTERNATIVES

Congress charged the National Park Service with managing the lands under its stewardship “in such manner and by such means as will leave them unimpaired for the enjoyment of future generations” (NPS Organic Act, 16 USC 1). As a result, NPS staff routinely evaluate and implement mitigation measures whenever conditions occur that could adversely affect the sustainability of national park system resources.

To ensure that implementation of the action alternatives protects natural and cultural resources that are unimpaired and the quality of the visitor experience, a consistent set of mitigation measures would be applied to actions proposed in this plan. The National Park Service would prepare appropriate environmental compliance (i.e., those required by the National Environmental Policy Act (NEPA), National Historic Preservation Act (NHPA), and other relevant legislation) for these future actions. As part of the environmental compliance, the National Park Service would avoid, minimize, and mitigate adverse impacts when practicable. The implementation of a compliance-monitoring program would be within the parameters of NEPA and NHPA compliance documents, U.S. Army Corps of Engineers Section 404 permits, etc. The compliance-monitoring program would oversee these mitigation measures and would include reporting protocols.

The following mitigation measures and best management practices would be applied to avoid or minimize potential impacts from implementation of the action alternatives.

### NATURAL RESOURCES

#### General

The Addition’s resources, including air, water, soils, vegetation, and wildlife, would be

periodically inventoried and monitored to provide information needed to avoid or minimize impacts of future development. Any museum collections related to natural resources generated by such activities would be managed according to NPS policies.

Whenever possible, new facilities would be built in previously disturbed areas or in carefully selected sites with as small a construction footprint as possible and with sustainable design. During design and construction periods, NPS natural and cultural resource staff would identify areas to be avoided and monitor activities.

Fencing or other means would be used to protect sensitive resources adjacent to construction areas.

Construction materials would be kept in work areas, especially if the construction takes place near streams, springs, natural drainages, or other water bodies.

Visitors would be informed of the importance of protecting the Addition’s natural resources and leaving these undisturbed for the enjoyment of future generations.

#### Air Quality

A dust abatement program would be implemented. Standard dust abatement measures could include watering or otherwise stabilizing soils, covering haul trucks, employing speed limits on unpaved roads, minimizing vegetation clearing, and revegetating after construction.

#### Soils

New facilities would be built on soils suitable for development. Soil erosion would be

minimized by limiting the time soil is left exposed and by applying other erosion control measures such as erosion matting, silt fencing, and sedimentation basins in construction areas to reduce erosion, surface scouring, and discharge to water bodies. Once work was completed, construction areas would be revegetated with native plants in a timely period.

To minimize soil erosion on new trails, best management practices for trail construction would be used. Examples of best management practices could include installing water bars, check dams and retaining walls; contouring to avoid erosion; and minimizing soil disturbance.

### **Water Resources**

To prevent water pollution during construction, erosion control measures would be used, discharges to water bodies would be minimized, and construction equipment would be regularly inspected for leaks of petroleum and other chemicals.

Best management practices, such as the use of silt fences, would be followed to ensure that construction-related effects were minimal and to prevent long-term impacts on water quality, wetlands, and aquatic species.

Caution would be exercised to protect water resources from activities with the potential to damage water resources, including damage caused by construction equipment, erosion, and siltation. Measures would be taken to keep fill material from escaping work areas, especially near streams, springs, natural drainages, and wetlands.

For new facilities, and to the extent practicable for existing facilities, stormwater management measures would be implemented to reduce nonpoint source pollution discharge from parking lots and other impervious surfaces. Such actions could include use of oil/sediment separators, street sweeping,

infiltration beds, permeable surfaces, and vegetated or natural filters to trap or filter stormwater runoff.

The NPS spill prevention and pollution control program for hazardous materials would be followed and updated on a regular basis. Standard measures could include (1) procedures for hazardous materials storage and handling, spill containment, cleanup, and reporting, and (2) limitation of refueling and other hazardous activities to upland/nonsensitive sites.

### **Wetlands**

Wetlands would be avoided if possible, and protection measures would be applied during construction. Wetlands would be delineated by qualified NPS staff or certified wetland specialists and clearly marked before construction work. Construction activities would be performed in a cautious manner to prevent damage caused by equipment, erosion, siltation, etc.

### **Vegetation**

Areas used by visitors (e.g., trails) would be monitored for signs of native vegetation disturbance. Public education, revegetation of disturbed areas with native plants, erosion control measures, and barriers would be used to control potential impacts on plants from trail erosion or social trailing.

Proposed sites for new trails and other facilities would be surveyed for sensitive species before construction. If sensitive species were present, new developments would be relocated to avoid impacts.

Revegetation plans would be developed for disturbed areas. Revegetation plans should specify such features as seed/plant source, seed/plant mixes, soil preparation, fertilizers, and mulching. Salvage vegetation, rather than

new planting or seeding, would be used to the greatest extent possible. To maintain genetic integrity, native plants that grow in the project area or the region would be used in restoration efforts, whenever possible. Use of non-native species or genetic materials would be considered only where deemed necessary to maintain a cultural landscape or to prevent severe resource damage, and would be approved by the NPS resource management staff. Restoration activities would be instituted immediately after construction was completed. Monitoring would occur to ensure that revegetation was successful, plantings were maintained, and unsuccessful plant materials were replaced.

### **Nonnative Species**

Special attention would be devoted to preventing the spread of exotic and invasive plants. Standard measures could include the following elements: ensure that construction-related equipment arrives on-site free of mud or seed-bearing material, certify all seeds and straw material as weed-free, identify areas of nonnative plants before construction, treat exotic plants or exotic infested topsoil before construction (e.g., topsoil segregation, storage, herbicide treatment), and revegetate with appropriate native species.

### **Wildlife**

To the extent possible, new or rehabilitated facilities would be sited to avoid sensitive wildlife habitats, including feeding and resting areas, major travel corridors, nesting areas, and other sensitive habitats.

Construction activities would be timed to avoid sensitive periods, such as nesting or spawning seasons. Ongoing visitor use and NPS operational activities could be restricted if their potential level of damage or disturbance warranted doing so.

Measures would be taken to reduce the potential for wildlife to get food from humans. Wildlife-proof garbage containers would be required in developed areas (including visitor centers, picnic areas, trails, and interpretive waysides). Signs would continue to educate visitors about the need to refrain from feeding wildlife.

Other visitor impacts on wildlife would be addressed through such techniques as visitor education programs, restrictions on visitor activities, and ranger patrols.

### **Threatened and Endangered Species and Species of Concern**

Conservation measures would occur during normal operations as well as before, during, and after construction to minimize long-term, immediate impacts on rare species, and threatened and endangered species where they are identified in the Addition. These measures would vary by specific project and the affected area of the Addition. Many of the measures listed above for vegetation and wildlife would also benefit rare, threatened, and endangered species by helping to preserve habitat. Conservation measures specific to rare, threatened, and endangered species would include the following actions:

- Surveys would be conducted for special status species, including rare, threatened, and endangered species, before deciding to take any action that might cause harm. In consultation with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, and Florida Fish and Wildlife Conservation Commission, appropriate measures would be taken to protect any sensitive species whether identified through surveys or presumed to occur.
- If breeding or nesting areas for threatened and endangered species were observed in the Addition, these areas would be protected from human disturbance.

- New facilities and management actions would be located and designed to avoid adverse effects on rare, threatened, and endangered species. If avoidance of adverse effects on rare, threatened, and endangered species was infeasible, appropriate conservation measures would be taken in consultation with the appropriate resource agencies.
- Restoration or monitoring plans would be developed as warranted. Plans should include methods for implementation, performance standards, monitoring criteria, and adaptive management techniques.
- Measures would be taken to reduce adverse effects of nonnative plants and wildlife on rare, threatened, and endangered species.

### Soundscape

Standard noise abatement measures would be followed during construction. Standard noise abatement measures could include the following elements: a schedule that minimizes impacts on adjacent noise-sensitive resources, the use of the best available noise control techniques wherever feasible, the use of hydraulically or electrically powered tools when feasible, and the location of stationary noise sources as far from sensitive resources as possible. Facilities would be located and designed to minimize objectionable noise.

### Scenic Resources

Mitigation measures are designed to minimize visual intrusions. These measures could include the following:

- Where appropriate, facilities such as boardwalks and fences would be used to route people away from sensitive natural and cultural resources while still permitting access to important viewpoints.

- Facilities would be designed, sited, and constructed to avoid or minimize visual intrusion into the natural environment or landscape.
- Vegetative screening would be provided, where appropriate.

### CULTURAL RESOURCES

All projects with the potential to affect historic properties and cultural landscapes would be carried out in compliance with Section 106 of the National Historic Preservation Act to ensure that the effects are adequately addressed. All reasonable measures would be taken to avoid, minimize, or mitigate adverse effects in consultation with the Florida State Historic Preservation Officer and, as necessary, the Advisory Council on Historic Preservation and other concerned parties, including American Indian tribes. In addition to adhering to the legal and policy requirements for cultural resources protection and preservation, the National Park Service would also undertake the measures listed below to further protect the Addition's resources.

All areas selected for construction (including any trail improvements) would be surveyed to ensure that cultural resources (i.e., archaeological, historic, ethnographic, and cultural landscape resources) in the area of potential effects are adequately identified and protected by avoidance or, if necessary, mitigation.

Compliance with the Native American Graves Protection and Repatriation Act of 1990 would apply in the unlikely event that human remains believed to be Native American were discovered inadvertently during construction. Prompt notification and consultation with the tribes traditionally associated with Big Cypress National Preserve would occur in accordance with the act. If such human remains were believed to be non-Indian, standard reporting procedures to the proper

authorities would be followed, as would all applicable federal, state, and local laws.

Archeological documentation would be done in accordance with the *Secretary of the Interior's Standards for Archeology and Historic Preservation* (1983, as amended and annotated).

If during construction previously unknown archeological resources were discovered, all work in the immediate vicinity of the discovery would be halted until the resources could be identified and documented and, if the resources cannot be preserved *in situ*, an appropriate mitigation strategy would be developed in consultation with the state historic preservation officer and, if necessary, associated Indian tribes.

Ethnographic resources would be protected and mitigated by such means as identifying and maintaining access for recognized and affiliated groups to traditional, spiritual/ceremonial, resource gathering, and other activity areas. As practical, new developments would be screened from these areas, and conflicting uses would be relocated or timed to minimize disruptions.

Further background research, resource inventories, and National Register of Historic Places evaluation of historic properties would be carried out where management information is lacking. The surveys and research necessary to determine the eligibility of a structure, district, or landscape for listing in the national register are a prerequisite for understanding the resource's significance, as well as the basis of informed decision-making in the future regarding how the resource should be managed. The results of these efforts would be incorporated into site-specific planning and compliance documents.

No National Register of Historic Places listed or eligible property would be

removed or allowed to decay naturally ("molder") without prior review by NPS cultural resource specialists and consultation with the Florida state historic preservation office. Before a national register listed or eligible property is removed or allowed to molder, appropriate documentation recording the property would be prepared in accordance with Section 110 (b) of the National Historic Preservation Act and the documentation submitted, as appropriate, to the Historic American Buildings Survey/Historic American Engineering Record/ Historic American Landscapes Survey program.

Visitors would be educated on the importance of protecting the Addition's historic properties and leaving these undisturbed for the enjoyment of future visitors.

## VISITOR SAFETY AND EXPERIENCES

Measures to reduce adverse effects of construction on visitor safety and experience would be implemented, including project scheduling and best management practices.

Visitor safety concerns would be integrated into Preserve educational programs. Directional signs would continue to orient visitors, and education programs would continue to promote understanding among visitors.

## SOCIOECONOMIC ENVIRONMENT

During the future planning and implementation of the approved management plan for the Addition, NPS staff would work with local communities and county governments to further identify potential impacts and mitigation measures that would best serve the interests and concerns of both the National Park Service and the local communities. Partnerships would be pursued to improve the quality and diversity of community amenities and services.

## FUTURE STUDIES AND IMPLEMENTATION PLANS NEEDED

After the completion and approval of this *General Management Plan* for the Addition, other more detailed studies and plans will be needed before specific actions can be implemented.

As required, additional environmental compliance (National Environmental Policy Act, National Historic Preservation Act, and other relevant laws and policies) and public involvement would be conducted. These additional studies include the following:

- a restoration plan that provides guidance and implementation details for restoring unsustainable trails and old camps in the Addition
- a resource stewardship strategy that provides comprehensive, long-range direction for natural and cultural resource management (policy now requires that a resource stewardship strategy be completed to replace the resource management plan)
- a climate change action plan or other implementation plan that outlines the NPS response to global warming and the effects of climate change on Addition resources
- a wilderness management plan (should wilderness be designated in the Addition)
- a hunting management plan for the Addition
- a backcountry management plan
- a commercial services plan for the Addition (through an update to the *Commercial Services Plan* for the original Preserve) to guide private businesses (such as tour boat operations and concessioners) as necessary for visitor services
- an air tour management plan as required by the National Parks Air Tour Management Act of 2000
- evaluate the feasibility and cost-effectiveness of creating a combined general management plan, wilderness management plan, and off-road vehicle management plan for the entire Preserve (including the Addition) so that all pertinent information would be in one document

Implementation of these recommended studies/plans will depend on future funding. The approval of this management plan does not guarantee that the funding needed for implementation will be forthcoming. Full implementation could be many years in the future or may not occur if funding is not obtained.



## ENVIRONMENTALLY PREFERABLE ALTERNATIVE

The environmentally preferable alternative is defined as “the alternative that will promote national environmental policy as expressed in Section 101 of the National Environmental Policy Act.” Section 101 states that it is the continuing responsibility of the federal government to

1. fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
2. assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings;
3. attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences;
4. preserve important historic, cultural, and natural aspects of our national heritage; and maintain, wherever possible, an environment which supports diversity, and a variety of individual choices;
5. achieve a balance between population and resource use which would permit high standards of living and a wide sharing of life's amenities; and
6. enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

A description of how each alternative would or would not achieve the requirements of sections 101 and 102(1) of the National Environmental Policy Act criteria is provided below and illustrated through a rating system in table 9.

**Criteria 1** — The Big Cypress National Preserve Addition is a unit of the national park system, and as the trustee of this area the National Park Service would continue to fulfill its obligation to protect this area for future

generations. The no-action alternative would provide less direction on important issues needed to successfully manage the Addition; consequently it was ranked lower than the action alternatives. Alternative F would provide the greatest level of protection for Preserve resources over time.

**Criteria 2** — All the alternatives would ensure safe, healthful, productive, and culturally pleasing surroundings for all Americans.

**Criteria 3** — Alternative F includes more emphasis on resource preservation and enhancement; however, it limits the beneficial uses that could be derived from human recreation and learning. Therefore, alternative B and the preferred alternative received equally high ratings. The no-action alternative provides less beneficial uses due to the fact that it would remain closed to public recreational off-road vehicle use.

**Criteria 4** — Alternatives A and F do not include the same level of diversity of recreational opportunities and individual choices that are included in the preferred alternative and alternative B. The preferred alternative includes the same level of recreational opportunities as in alternative B. However, the phased implementation of ORV permits and trails under the preferred alternative best protects the natural resources and values of the Addition.

**Criteria 5** — All of the alternatives offer environmental protection benefits to society. However, alternative B and the preferred alternative both offer opportunities for resource use and enjoyment that are not available in alternatives A and F.

**Criteria 6** — All of the alternatives would result in enhancing the quality of the renewable resources through NPS management.

The environmentally preferable alternative for the Addition's *General Management Plan* is the preferred alternative. According to the ratings included in table 9, this alternative would surpass the other alternatives in realizing the full range of national environmental policy goals in Section 101. In

particular, the preferred alternative best responds to criteria 4 by providing maximum opportunities for diverse types of recreation while ensuring that resources are not degraded and are protected through sound management.

TABLE 9: ENVIRONMENTALLY PREFERABLE ALTERNATIVE ANALYSIS

CRITERIA	ALTERNATIVES			
	A	B	Preferred	F
1. Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations.	3	4	4	5
2. Ensure safe, healthful, productive, and aesthetically and culturally pleasing surroundings for all Americans.	5	5	5	5
3. Attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences.	2	5	5	4
4. Preserve important historic, cultural, and natural aspects of our national heritage and maintain, wherever possible, an environment that supports diversity and a variety of individual choices.	2	4	5	3
5. Achieve a balance between population and resource use that will permit high standards of living and a wide sharing of life's amenities.	2	5	5	3
6. Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.	5	5	5	5
<b>Total Points*</b>	<b>19</b>	<b>28</b>	<b>29</b>	<b>25</b>

\* Five points were given to the alternative if it fully meets the criteria; four points if it meets nearly all of the elements of the criteria; three points if it meets more than one element of the criteria; two points if it meets only one element of the criteria; and one point if the alternative does not meet the criteria.

## ALTERNATIVES AND MANAGEMENT ACTIONS CONSIDERED BUT DISMISSED

During the planning process for the Addition, six preliminary alternatives (alternatives A, B, C, D, E, and F) were developed. These six alternatives represented a range of management options that focused on different amounts of ORV trails, visitor use opportunities, facility development, and proposed wilderness.

Upon further analysis, the planning team decided that preliminary alternatives C, D, and E should be eliminated from further consideration because they included goals and actions for environmental protection, visitor use, and ORV opportunities that were the same as those in alternative B, the preferred

alternative, and alternative F. The differences between those alternatives dismissed from consideration were minor and contained only slight iterations along the continuum of motorized recreation and proposed wilderness. Furthermore, public comment and support for alternatives C, D, and E were relatively low.

With the development of the preferred alternative, which includes many of the important elements contained in those preliminary alternatives, a range of reasonable management alternatives is adequately reflected through the four alternatives included in this plan.

TABLE 10: SUMMARY COMPARISON OF THE ALTERNATIVES

	Alternative A (No Action)	Alternative B	Preferred Alternative	Alternative F
<b>Concept and General Management Strategies</b>	This alternative would continue current management.	Alternative B would enable participation in a wide variety of outdoor recreational experiences. It would provide the maximum amount of motorized access, the least amount of proposed wilderness, and limited new hiking-only trails. New visitor and operations facilities would be provided along the I-75 corridor.	The preferred alternative would provide diverse frontcountry and backcountry recreational opportunities, enhance day use and interpretive opportunities along road corridors, and enhance recreational opportunities with new facilities and services. This alternative would maximize ORV access and include a moderate amount of wilderness, nonmotorized trail opportunities, new camping opportunities, and a partnership approach to visitor orientation. New visitor and operations facilities would be provided along the I-75 corridor.	Alternative F would emphasize resource preservation, restoration, and research while providing recreational opportunities with limited facilities and support. This alternative would provide the maximum amount of wilderness, no ORV use, and minimal new facilities for visitor contact along I-75.
<b>Approximate Acreages and Percentages for Addition Management Zones</b>	No management zones are currently in use for guidance.	Developed <1% of Addition Frontcountry <1% of Addition Backcountry Recreation 94,817 acres (65 % of Addition) Primitive Backcountry 51,045 acres (35% of Addition)	Developed <1% of Addition Frontcountry <1% of Addition Backcountry Recreation 52,431 acres (36 % of Addition) Primitive Backcountry 93,426 acres (64% of Addition)	Developed <1% of Addition Frontcountry <1% of Addition Backcountry Recreation 3,422 acres (2% of Addition) Primitive Backcountry 142,442 acres (98% of Addition)
<b>Motorized Recreational Opportunities</b>	The Addition would continue to be closed to public recreational ORV use. Motorized boating would continue to be permitted in certain areas in canals and waterways adjacent to SR 29.	Motorized recreational opportunities, including ORV use, motorized boating, and hunting, would be maximized. The maximum amount of sustainable trails (about 140 miles) would be included as part of the conceptual primary ORV trail network.	Essentially the same as alternative B except that opportunities would be phased in over time. This alternative includes a potential connection to existing trails in the Bear Island area and a potential connection from the Bear Island area to existing ORV trails south of the Northeast Addition.	No ORV use would be available under this alternative. Motorized boating would continue to be permitted in certain areas in the canals and waterways adjacent to SR 29.

Table 10: Summary Comparison of the Alternatives

	Alternative A (No Action)	Alternative B	Preferred Alternative	Alternative F
<i>ORV Permits and Trail Mileage</i>	No ORV permits would be granted and no trails would be designated because public recreational ORV use would not be allowed. ORV access to private property by inholders would continue to be allowed by special use permit.	A maximum of 700 ORV permits for the Addition would be issued annually for the Addition, and up to 140 miles of primary ORV trails would be designated.	A maximum of 700 ORV permits for the Addition would be issued annually, and up to 140 miles of primary ORV trails would be designated; number of trail miles completed and number of permits would be accomplished in phases.	Same as alternative A.
<b>Nonmotorized Recreational Opportunities</b>  <i>Activities/ Access</i>	No new NPS formal access points would be developed as a result of this management plan; access would continue to be walk-in only. Limited opportunities for hiking, paddling, horseback riding, and bicycling would continue to be available. New opportunities for walk-in hunting would be provided.	New access points would be established for hiking, bicycling, horseback riding, and hunting.	Same as alternative B.	New access points would be established, and trails would be developed for hiking, camping, bicycling, horseback riding, and walk-in hunting.
<i>Trails</i>	No new trails would be developed.	Some new hiking trails would be developed at frontcountry locations. Hiking, bicycling, and horseback riding would be allowed on the up to 140 miles of primary ORV trails in the Addition. New paddling trails would be developed in the tidal areas south of U.S. 41 in the Western Addition (see “Facilities” below). Conceptual hiking trails would be included — one completing a north-south connection and one completing an east-west connection through the Addition.	Same as alternative B.	Some new hiking trails would be developed at frontcountry locations. New paddling trails would be developed in the tidal areas south of U.S. 41 in the Western Addition. Conceptual hiking trails would be included — one completing a north-south connection and one completing an east-west connection through the Addition.

	Alternative A (No Action)	Alternative B	Preferred Alternative	Alternative F
<i>Florida National Scenic Trail</i>	Access to the Florida National Scenic Trail would remain at I-75 mile marker 63, and the route would remain temporary and undesignated.	Appropriate access points and routing of the Florida National Scenic Trail would be determined, and the trail would be formally designated.	Same as alternative B.	Same as alternative B.
<b>Visitor Orientation and Education</b>	No new facilities would be developed under this alternative, which means that no visitor contact facilities would exist in the Addition. Visitor orientation to the Addition would continue to occur at the NPS facilities on U.S. 41.	Only a visitor contact station and outdoor orientation and interpretive panels would be developed along I-75 (see "Facilities" below).	A new visitor contact station and visitor center and some outdoor orientation and interpretive panels would be developed along I-75 (see "Facilities" below).	Visitor information/orientation panels would be developed along I-75 (see "Facilities" below).
<b>Wilderness</b>	No land would be proposed for wilderness designation; however, those lands in the Addition eligible for wilderness designation would continue to be managed to preserve their wilderness characteristics and values.	About 48,919 acres of land would be proposed for wilderness designation.	About 85,862 acres of land would be proposed for wilderness designation.	About 111,601 acres of land would be proposed for wilderness designation, including the Everglades City area.
<b>Partnerships, Programs, and Activities</b>	No new partnerships, programs, or activities would be initiated for the Addition.	New partnerships to provide visitor services at Carnestown would be explored.	The National Park Service would pursue partnerships to achieve management objectives and consider partnerships that provide a range of commercial services, including boat tours south of U.S. 41. The original Preserve's <i>Commercial Services Plan</i> would be amended to include the Addition.	Same as alternative A.

Table 10: Summary Comparison of the Alternatives

	Alternative A (No Action)	Alternative B	Preferred Alternative	Alternative F
<b>Facilities</b>				
<i>I-75 Mile Marker 51</i>	No new NPS access would be developed at this location. Access would be provided under the <i>I-75 Recreational Access Plan</i> ; however, access would be for nonmotorized uses only.	A new access point would be developed that includes parking and restrooms. The site would provide access for motorized and nonmotorized activities. Visitor orientation and interpretation panels would also be installed. Also, the National Park Service would establish a partnership to establish other facilities as appropriate, such as a wildlife check station and boat ramp access to the water district canal.	Same as alternative B except no restrooms would be developed.	A new access point (nonmotorized only) would be developed that includes parking and visitor information. Visitor orientation and interpretation panels would also be installed. Also, the National Park Service would establish a partnership to establish other facilities as appropriate, such as a wildlife check station and boat ramp access to the water district canal.
<i>I-75 Mile Marker 63</i>	Informal walk-in access would continue to be available via the rest area. Access would be provided under the <i>I-75 Recreational Access Plan</i> ; however, access would be for nonmotorized uses only.	A new access point would be developed that includes parking and trailhead. The site would provide access for motorized and nonmotorized activities. A new visitor contact station and NPS operations facility would also be developed at this location. The National Park Service would establish a partnership with the Florida Department of Transportation and the Florida Fish and Wildlife Conservation Commission to establish other facilities as appropriate, such as a wildlife check station.	Same as alternative B except a new visitor center and NPS operations facility would be developed here. The National Park Service would establish a partnership with the Florida Department of Transportation and the Florida Fish and Wildlife Conservation Commission to establish other facilities as appropriate, such as a wildlife check station.	A new access point (nonmotorized only) would be developed that includes parking, a trailhead, and visitor information. Visitor orientation and interpretation panels would be installed. A new NPS operations facility would also be developed at this location. The National Park Service would establish a partnership with the Florida Department of Transportation and the Florida Fish and Wildlife Conservation Commission to establish other facilities as appropriate, such as a wildlife check station.

CHAPTER 2: THE ALTERNATIVES, INCLUDING THE PREFERRED ALTERNATIVE

	Alternative A (No Action)	Alternative B	Preferred Alternative	Alternative F
<i>Bear Island Grade at SR 29</i>	This location would remain undeveloped, and informal nonmotorized access would continue.	A new trailhead and parking area would be developed at this location, providing motorized and nonmotorized access to the Bear Island Grade. This new access point would provide a connection to ORV trails in the original Preserve. Visitor orientation and interpretation panels would also be installed.	Same as alternative B.	A new trailhead and parking area would be developed at this location, providing nonmotorized access to the Bear Island Grade. Only hiking, bicycling, and horseback riding would be allowed on the trail in the Western Addition. Visitor orientation and interpretation panels would also be installed at the trailhead.
<i>Nobles and Jones Grades</i>	No new facilities would be developed. Nonmotorized access would remain only along the road grades.	No new facilities would be developed. The road grades would only be used for access.	Backcountry camping areas would be developed along these grades.	These sites would remain undeveloped, and Nobles Grade would be removed and restored. Nonmotorized public access would remain on Jones Grade.
<i>Miles City (I-75 at SR 29)</i>	This intersection would remain undeveloped.	Same as alternative A.	A new hiking trailhead, information kiosk, and small parking area would be developed outside the interchange area that is closed to development.	Same as alternative A.
<i>Deep Lake (SR 29)</i>	No facility improvements would be made at this location. Parking would remain on the shoulder of SR 29, and site access would continue to be informal.	The site would be developed into a day use area with parking, restrooms, and a hiking trail/boardwalk to Deep Lake.	Same as alternative B plus picnic shelters.	A new trailhead would be developed, including a hiking trail/boardwalk to Deep Lake.
<i>Copeland (SR 29)</i>	The NPS Fire Operations Center would remain at this location.	Same as alternative A.	The NPS Fire Operations Center would be maintained at this location and expanded as necessary for other NPS operational needs.	Same as preferred alternative.



Table 10: Summary Comparison of the Alternatives

	Alternative A (No Action)	Alternative B	Preferred Alternative	Alternative F
<i>Carnestown</i>	Facilities at the site would continue to be leased to other government agencies and organizations.	Facilities at the site would be used to support visitor service partnership needs.	Facilities would be used to support commercial services and/or partner organizations that would operate here.	Facilities would be removed and the site would be restored to natural conditions.
<b>STAFFING</b>	Total staff of 77 full-time-equivalent employees	Total staff of 93 full-time-equivalent employees (16 additional full-time-equivalent employees (or 17 positions)	Total staff of 93 full-time-equivalent employees (16 additional full-time-equivalent employees (or 17 positions)	Total staff of 87 full-time-equivalent employees (10 additional full-time-equivalent employees/positions)
<b>Estimated One-Time Construction Costs</b>	N/A	\$6.7 million	\$6.7 million	\$4.9 million
<b>Annual Operating Costs</b>	\$6.5 million	\$7.9 million	\$7.9 million	\$7.5 million



Table 11: Summary of Key Impacts of Implementing the Alternatives

TABLE 11: SUMMARY OF KEY IMPACTS OF IMPLEMENTING THE ALTERNATIVES

Alternative A – No Action		Alternative B	Preferred Alternative	Alternative F
Impacts on Natural Resources				
Surface Water Flow	<p>Under alternative A, impacts on surface water flow would be long term, adverse, minor to moderate, and localized.</p> <p>There could be a long-term, minor, adverse cumulative impact on surface water flow. The actions contained in alternative A would contribute a small increment to this cumulative impact.</p>	<p>Under alternative B, impacts on surface water flow would be long term, moderate, adverse, and mostly localized.</p> <p>There could be a long-term, minor, adverse cumulative impact on surface water flow. The actions contained in alternative B would contribute a small increment to this cumulative impact.</p>	Same as alternative B.	<p>Under alternative F, impacts on surface water flow would be long term, minor, beneficial, and mostly localized.</p> <p>There could be a long-term, moderate, beneficial cumulative impact on surface water flow. The actions contained in alternative F would contribute a small increment to this cumulative impact.</p>
Water Quality	<p>Under alternative A, impacts on water quality would be long term, minor, adverse, and localized.</p> <p>There would be a long-term, adverse cumulative impact on water quality in the watershed. The intensity of the impact is unknown. The actions contained in alternative A would contribute a very small adverse increment to this cumulative impact.</p>	<p>Under alternative B, impacts on water quality would be long term, moderate, adverse, and localized.</p> <p>There would be a long-term, adverse cumulative impact on water quality in the watershed. The intensity of the impact is unknown. The actions contained in alternative B would contribute a very small increment to this cumulative impact.</p>	Same as alternative B.	Same as alternative A.
Wetlands	<p>Under alternative A, impacts on wetlands would be long term, minor, adverse, and localized.</p> <p>There would be a long-term, minor, adverse cumulative impact on wetlands. The actions contained in alternative A would contribute a small increment to this cumulative impact.</p>	<p>Under alternative B, impacts on wetlands would be long term, minor to moderate, adverse, and localized.</p> <p>There would be a long-term, moderate, adverse cumulative impact on wetlands. The actions contained in alternative B would contribute a small increment to this cumulative impact.</p>	Same as alternative B.	<p>Under alternative F, impacts on wetlands would be long term, minor to moderate, beneficial and localized.</p> <p>There would be a long-term, minor, adverse cumulative impact on wetlands. The actions contained in alternative F would contribute a small increment to this cumulative impact.</p>
Soils	<p>Under alternative A, impacts on soils would be long term, minor, adverse, and localized.</p> <p>There would be a long-term, moderate, adverse cumulative impact on soils. The actions contained in alternative A would contribute a very small increment to this cumulative impact.</p>	<p>Under alternative B, impacts on soils would be long term, moderate, adverse, and localized.</p> <p>There would be a long-term, moderate, adverse cumulative impact on soils. The actions contained in alternative B would contribute a small increment to this cumulative impact.</p>	Same as alternative B.	Same as alternative A.
Floodplains	<p>Under alternative A, impacts on floodplains would continue to be long term, minor, adverse, and localized.</p> <p>There would be a long-term, minor to major, adverse cumulative impact on floodplains. The actions contained in alternative A would contribute a very small increment to this cumulative impact.</p>	<p>Alternative B would have no impact on floodplains. Two facilities located in the 100-year floodplain would be retained, but would cause no additional impacts on floodplains beyond what is accounted for under the no-action alternative.</p> <p>No cumulative impacts on floodplains would occur under alternative B because there would be no impacts on floodplains resulting from actions proposed in the preferred alternative.</p>	Same as alternative B.	<p>Under alternative F, impacts on floodplains would be long term, minor to moderate, beneficial, and localized.</p> <p>There would be a long-term, minor to major, adverse cumulative impact on floodplains. The actions contained in alternative F would contribute a very small increment to this cumulative impact.</p>

	Alternative A – No Action	Alternative B	Preferred Alternative	Alternative F
Vegetation —Cypress Strands and Domes, Mixed Hardwood Swamps, and Sloughs	<p>Under alternative A, impacts on cypress strands and domes, mixed hardwood swamps, and sloughs would be long term, adverse, minor, and localized.</p> <p>There could be a long-term, minor, beneficial cumulative impact on cypress strands and domes, mixed hardwood swamps, and sloughs. The actions contained in alternative A would contribute a small increment to this cumulative impact.</p>	<p>Under alternative B, impacts on cypress strands and domes, mixed hardwood swamps, and sloughs would be long term, moderate, adverse, and localized.</p> <p>There could be a long-term, minor, beneficial cumulative impact on cypress strands and domes, mixed hardwood swamps, and sloughs. The actions contained in alternative B would contribute a small increment to this cumulative impact.</p>	Same as alternative B.	<p>Under alternative F, impacts on cypress strands and domes, mixed hardwood swamps, and sloughs would be long term, minor, adverse and localized.</p> <p>There could be a long-term, minor, beneficial cumulative impact on cypress strands and domes, mixed hardwood swamps, and sloughs. The actions contained in alternative F would contribute a small increment to this cumulative impact.</p>
Vegetation — Prairies and Marshes	<p>Under alternative A, impacts on prairies and marshes would be long term, adverse, minor, and localized.</p> <p>There could be a long-term, minor, adverse cumulative impact on prairies and marshes. The actions contained in alternative A would contribute a very small increment to this cumulative impact.</p>	<p>Under alternative B, impacts on prairies and marshes would be long term, minor, adverse, and localized.</p> <p>There would be a long-term, minor, adverse cumulative impact on prairies and marshes. The actions contained in alternative B would contribute a small increment to this cumulative impact.</p>	Same as alternative B.	<p>Under alternative F, impacts on prairies and marshes would be long term, minor, adverse, and localized.</p> <p>There would be a long-term, minor, adverse cumulative impact on prairies and marshes. The actions contained in alternative B would contribute a very small increment to this cumulative impact.</p>
Vegetation — Mangrove Forests	<p>Under alternative A, impacts on mangrove forests would continue to be long term, minor, adverse, and localized.</p> <p>Cumulative impacts on mangrove forests would be negligible. The actions contained in alternative A would contribute a very small increment to this cumulative impact.</p>	<p>Alternative B would have no impact on mangrove forests. Impacts on mangroves would be the same as what was accounted for under the no-action alternative.</p> <p>There would be no cumulative impacts on mangrove forests under alternative B.</p>	Same as alternative B.	Same as alternative B.
Vegetation — Pinelands	<p>Under alternative A, impacts on pinelands would be long term, adverse, minor, and localized.</p> <p>There could be a long-term, moderate to major, adverse cumulative impact on pinelands. The actions in alternative A would contribute a small increment to this cumulative impact.</p>	Same as alternative A.	Same as alternative A.	Same as alternative A.
Vegetation — Hardwood Hammocks	<p>Under alternative A, impacts on hardwood hammocks would be long term, adverse, minor, and localized.</p> <p>There could be a long-term, minor, beneficial cumulative impact on hardwood hammocks. The actions contained in alternative A would contribute a small increment to this cumulative impact.</p>	<p>Under alternative B, impacts on hardwood hammocks would be long term, minor, adverse, and localized.</p> <p>There could be a long-term, minor, adverse cumulative impact on hardwood hammocks. The actions contained in alternative B would contribute a small increment to this cumulative impact.</p>	Same as alternative B.	Same as alternative A.
Exotic/Nonnative Plants	<p>Under alternative A, impacts on exotic plants and nonnative vegetation would be long term, minor, beneficial, and potentially Addition-wide.</p> <p>There could be a long-term, minor, adverse cumulative impact on exotic plants and nonnative vegetation. The actions contained in alternative A would contribute a very small increment to this cumulative impact.</p>	<p>Under alternative B, impacts on exotic plants and nonnative vegetation would be long term, moderate, adverse, and potentially Addition-wide.</p> <p>There could be a long-term, minor, adverse cumulative impact on exotic plants and nonnative vegetation. The actions contained in alternative B would contribute a small increment to this cumulative impact.</p>	Same as alternative B.	<p>Under alternative F, impacts on exotic plants and nonnative vegetation would be long term, minor, adverse, and potentially Addition-wide.</p> <p>There could be a long-term, minor, adverse cumulative impact on exotic plants and nonnative vegetation. The actions contained in alternative F would contribute a small increment to this cumulative impact.</p>

Table 11: Summary of Key Impacts of Implementing the Alternatives

Alternative A – No Action		Alternative B	Preferred Alternative	Alternative F
Impacts on Federal Threatened and Endangered Species				
Florida Panther	<p>Continuation of current management under alternative A would result in long-term, minor adverse, mostly localized impacts on the Florida panther across the Addition. The determination of effect under Section 7 of the Endangered Species Act would be <i>not likely to adversely affect</i>.</p> <p>There would be a long-term, minor to moderate, adverse cumulative impact on the Florida panther. The actions contained in alternative A would contribute a small increment to this cumulative impact.</p>	<p>Impacts on the Florida panther under alternative B would be long term, moderate, adverse, and mostly localized. The determination of effect under Section 7 of the Endangered Species Act would be <i>likely to adversely affect</i>.</p> <p>There would be a long-term, moderate, adverse cumulative impact on the Florida panther. The actions contained in alternative B would contribute a modest increment to this cumulative impact.</p>	Same as alternative B.	Same as alternative A.
West Indian Manatee	<p>Implementation of alternative A would result in localized, long-term, minor adverse impacts on the West Indian manatee. The determination of effect under Section 7 of the Endangered Species Act would be <i>not likely to adversely affect</i>.</p> <p>There would be a long-term, moderate, adverse cumulative impact on the West Indian manatee. The actions contained in alternative A would contribute a very small increment to this cumulative impact.</p>	<p>Impacts on the West Indian manatee under alternative B would be long term, minor, adverse, and localized. The determination of effect under Section 7 of the Endangered Species Act would be <i>not likely to adversely affect</i>.</p> <p>There would be a long-term, moderate, adverse cumulative impact on the West Indian manatee. The actions contained in alternative B would contribute a very small increment to this cumulative impact.</p>	Same as alternative B.	Same as alternative B.
Red-Cockaded Woodpecker	<p>The continuation of current management (alternative A) would result in long-term, minor to moderate, beneficial impacts across the Addition. The determination of effect under Section 7 of the Endangered Species Act would be <i>not likely to adversely affect</i>.</p> <p>There would be a long-term, minor to moderate, adverse cumulative impact on the red-cockaded woodpecker. The actions contained in alternative A would contribute a small beneficial increment to this cumulative impact.</p>	<p>Impacts on the potential habitat for and thus the red-cockaded woodpecker under alternative B would be long term, minor to moderate, adverse, and mostly localized. The determination of effect under Section 7 of the Endangered Species Act would be <i>likely to adversely affect</i>.</p> <p>There would be a long-term, moderate, adverse cumulative impact on the potential habitat for and thus the red-cockaded woodpecker. The actions contained in alternative B would contribute a small increment to this cumulative impact.</p>	Same as alternative B.	<p>Impacts on the potential habitat for and thus the red-cockaded woodpecker under alternative F would be long term, minor, adverse, and mostly localized. The determination of effect under Section 7 of the Endangered Species Act would be <i>not likely to adversely affect</i>.</p> <p>There would be a long-term, minor to moderate, adverse cumulative impact on the potential habitat for and thus the red-cockaded woodpecker. The actions contained in alternative F would contribute a small increment to this cumulative impact.</p>
Wood Stork	<p>Under alternative A, impacts on the wood stork would be long term, negligible, and adverse. The determination of effect under Section 7 of the Endangered Species Act would be <i>no effect</i>.</p> <p>There would be a long-term, minor, adverse cumulative impact on the wood stork. The actions contained in alternative A would add a very small increment to this cumulative impact.</p>	<p>Impacts on the wood stork under alternative B would be long term, minor, adverse, and mostly localized. The determination of effect under Section 7 of the Endangered Species Act would be <i>not likely to adversely affect</i>.</p> <p>There would be a long-term, minor, adverse cumulative impact on the wood stork. The actions contained in alternative B would add a very small increment to this cumulative impact.</p>	Same as alternative B.	Same as alternative B.

	Alternative A – No Action	Alternative B	Preferred Alternative	Alternative F
Major Game Species	<p>Under alternative A, impacts on major game species from the continuation of current management would be long term, beneficial, minor, and Addition-wide.</p> <p>There would be a long-term, minor, adverse cumulative impact on the major game species. The actions contained in alternative A would contribute an appreciable beneficial increment to this cumulative impact.</p>	<p>Impacts on major game species under alternative B would be long term, minor to moderate, adverse, and mostly localized.</p> <p>There would be a long-term, minor to moderate, adverse cumulative impact on the major game species. The actions contained in alternative B would contribute a small increment to this cumulative impact.</p>	<p>Same as alternative B.</p>	<p>Impacts on major game species under alternative F would be long term, minor, adverse, and mostly localized.</p> <p>There would be a long-term, minor, adverse cumulative impact on the major game species. The actions contained in alternative F would contribute an appreciable beneficial increment to this cumulative impact.</p>
Wilderness Resources and Values	<p>Under alternative A, impacts on wilderness resources and values from the continuation of current management would be long term, minor, beneficial, and localized.</p> <p>There would be a long-term, minor, adverse cumulative impact on wilderness resources and values in the region. The actions contained in alternative A would contribute a very small increment to this cumulative impact.</p>	<p>Impacts on wilderness resources and values under alternative B would be long term, moderate, beneficial, and Addition-wide.</p> <p>There would be a long-term, moderate, adverse cumulative impact on wilderness resources and values in the region. The actions contained in alternative B would contribute a modest beneficial increment to this cumulative impact.</p>	<p>Impacts on wilderness resources and values under the preferred alternative would be long term, moderate, beneficial, and Addition-wide.</p> <p>There would be a long-term, moderate, adverse cumulative impact on wilderness resources and values in the region. The actions contained in the preferred alternative would contribute a modest beneficial increment to this cumulative impact.</p>	<p>Impacts on wilderness resources and values under alternative F would be long term, major, beneficial, and Addition-wide.</p> <p>There would be a long-term, minor, adverse cumulative impact on wilderness resources and values in the region. The actions contained in alternative F would contribute a modest beneficial increment to this cumulative impact.</p>
Impacts on Cultural Resources				
Archeological Resources	<p>Under alternative A, impacts on archeological resources would be permanent, minor, and adverse.</p> <p>There would be a permanent, minor, adverse cumulative impact on archeological resources. The actions contained in alternative A would contribute a substantial increment to this cumulative impact.</p> <p><b>Section 106 Summary.</b> Implementation of alternative A would generally result in a no adverse effect on archeological resources.</p>	<p>Under alternative B, impacts on archeological resources would be permanent, moderate, and adverse.</p> <p>There would be a permanent, minor, adverse cumulative impact on archeological resources. The actions contained in alternative B would contribute a substantial increment to this cumulative impact.</p> <p><b>Section 106 Summary.</b> Implementation of alternative B would generally result in a potential adverse effect on archeological resources. NPS staff would work with the state historic preservation officer to prevent an adverse effect on archeological resources.</p>	<p>Under the preferred alternative, impacts on archeological resources would be permanent, adverse, and moderate.</p> <p>There would be a permanent, minor, adverse cumulative impact on archeological resources. The actions contained in the preferred alternative would contribute a substantial increment to this cumulative impact.</p> <p><b>Section 106 Summary</b> Implementation of the preferred alternative would generally result in a potential adverse effect on archeological resources. NPS staff would work with the state historic preservation officer to prevent an adverse effect on archeological resources.</p>	<p>Under alternative F, impacts on archeological resources would be permanent, adverse, and minor.</p> <p>There would be a permanent, minor, adverse cumulative impact on archeological resources. The actions contained in alternative F would contribute a substantial increment to this cumulative impact.</p> <p><b>Section 106 Summary.</b> Implementation of alternative F would generally result in a no adverse effect on archeological resources.</p>
Ethnographic Resources	<p>Under alternative A, there would be no impacts on ethnographic resources. Therefore there would be no cumulative impacts. This would not result in impairment of ethnographic resources in the Addition.</p> <p>Section 106 Summary. Implementation of alternative A would generally result in a no adverse effect on ethnographic resources.</p>	<p>Under alternative B, there would be negligible, long-term, impacts on ethnographic resources.</p> <p>Combined with the impacts of past actions, including road construction and agricultural development, there would be a cumulative impact, but the intensity and duration is not known. The actions proposed in this alternative would contribute a very small increment to any cumulative impacts.</p> <p>Section 106 Summary. Implementation of alternative B would generally result in a no adverse effect on ethnographic resources.</p>	<p>Under preferred alternative, there could be long-term negligible, adverse impacts on ethnographic resources.</p> <p>Combined with the impacts of past actions, including road construction and agricultural development, there would be a cumulative impact, but the intensity and duration is not known. The actions proposed in this alternative would contribute a very small increment to any cumulative impacts.</p> <p>Section 106 Summary. Implementation of the preferred alternative would generally result in a no adverse effect on ethnographic resources.</p>	<p>Under alternative F, there would be no impacts on ethnographic resources. Therefore there would be no cumulative impacts.</p> <p>Section 106 Summary. Implementation of alternative F would generally result in a no adverse effect on ethnographic resources.</p>

Table 11: Summary of Key Impacts of Implementing the Alternatives

Alternative A – No Action		Alternative B	Preferred Alternative	Alternative F
Impacts on Visitor Use and Experience				
Recreational Opportunities	Under the no-action alternative, recreational ORV use would be nonexistent, whereas informal nonmotorized opportunities would continue and walk-in hunting would be allowed. Collectively, the resulting impacts on visitor use and experience would be long term, moderate, and adverse.	Under alternative B, designated access points and abundant trail opportunities would be provided for ORV use, hunting, and nonmotorized uses. Collectively, the resulting impacts on visitor use and experience would be long term, moderate, and beneficial.	Same as alternative B.	Under alternative F recreational ORV riding and ORV hunting opportunities would be unavailable, whereas designated, nonmotorized access and opportunities would increase. Collectively, the resulting impacts on visitor use and experience would be long term, minor, and beneficial.
Motorized Use (ORVs)				
Nonmotorized Use (including hiking, horseback riding, and bicycling)	The cumulative impact on visitor use and experience in the Addition would be long term, moderate, and adverse. The actions contained in the no-action alternative would contribute an appreciable increment to this cumulative impact.	The cumulative impact on visitor use and experience in the Addition would be long term, moderate, and beneficial. The actions contained in the alternative B would contribute an appreciable increment to this cumulative impact.		The cumulative impact on visitor use and experience in the Addition would be long term, minor, and beneficial. The actions contained in alternative F would contribute an appreciable increment to this cumulative impact.
Hunting (including fishing and frogging)				
Impacts on the Socioeconomic Environment				
Local Economy	Because there would be no changes to visitor spending or construction activity within Collier County under alternative A, long-term and short-term impacts on the socioeconomic environment would be localized, negligible, and neutral. As a result, county employment, housing, and sales, as well as economic activity for the Miccosukee and Seminole tribes, would remain constant.  In terms of cumulative impacts, long-term and short-term impacts would be localized, moderate, and beneficial. Alternative A would contribute a very small increment to this total cumulative effect.	Because of increased visitor spending under alternative B, long-term and short-term impacts on the socioeconomic environment would be localized, negligible and beneficial. As a result, county employment, housing, and sales, as well as economic activity associated with the Miccosukee and Seminole tribes would realize positive gains, although such increases would be minimal when compared to the county as a whole.  In terms of total cumulative effects, long-term and short-term impacts would be localized, moderate, and beneficial. Alternative B would contribute a very small increment to the total cumulative impact.	Because of changes in visitor spending under the preferred alternative, long-term and short-term impacts on the socioeconomic environment would be localized, negligible, and beneficial. As a result, county employment, housing, and sales, as well as economic activity associated with the Miccosukee and Seminole tribes, would realize some positive gains, although such increases would be minimal when compared to the county as a whole.  Long-term and short-term cumulative impacts would be localized, moderate to major, and beneficial. The preferred alternative would contribute a very small increment to this total cumulative impact.	Same as preferred alternative.
Impacts on NPS Operations and Management				
	Operational and visitor facilities located in the original Preserve would result in continuing minor to moderate, long-term, adverse impacts on NPS operations.  The cumulative impacts of the no-action alternative and other actions would be minor to moderate, long term, and adverse. The actions proposed for implementation in alternative A would contribute a modest increment to these cumulative effects.	Operational efficiencies achieved through development of new facilities in the Addition, along with the increased staffing burdens associated with managing those lands and constructing and maintaining new facilities, would have overall moderate, long-term, adverse and beneficial impacts on NPS operations.  The cumulative impacts of alternative B and other actions would be moderate, long term, and beneficial. Alternative B's proposed actions would contribute a modest increment to these cumulative impacts.	Same as alternative B.	Same as alternative B.

