Florida Department of
Environmental Protection

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Tallahassee, Florida 32399-3000

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Governor

Jennifer Carroll
Lt. Governor

Herschel T. Vinyard Jr.
Secretary

March 1, 2012

Ms. Sine Murray
Office of Park Planning
Division of Recreation and Parks, Mail Station #525
Tallahassee, FL 32399-3000

RE: Indian Key Historic State Park – Lease # 2536

Dear Ms. Murray:

The Division of State Lands, Office of Environmental Services, acting as agent for the Board of Trustees of the Internal Improvement Trust Fund, hereby approves the Indian Key Historic State Park management plan. The next management plan update is due March 1, 2022.

Approval of this land management plan does not waive the authority or jurisdiction of any governmental entity that may have an interest in this project. Implementation of any upland activities proposed by this management plan may require a permit or other authorization from federal and state agencies having regulatory jurisdiction over those particular activities. Pursuant to the conditions of your lease, please forward copies of all permits to this office upon issuance.

Sincerely,

M. S. Gengenbach

Marianne S. Gengenbach
Office of Environmental Services
Division of State Lands

MSG/ci

Indian Key
Historic State Park

APPROVED
Unit Management Plan

STATE OF FLORIDA
Department of Environmental Protection

Division of Recreation and Parks
March 1, 2012

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INTRODUCTION

Indian Key Historic State Park is located in Monroe County (see Vicinity Map). Access to Indian Key is by boat since the island is not connected to U.S. Highway 1 (see Reference Map). The Atwood Addition is a separate parcel of land located on Upper Matecumbe Key, included in the management responsibility of Indian Key Historic State Park. This parcel is located at mile marker 81.6 and is bisected by Old Dixie Highway. It is accessible by Old Dixie Highway or U.S. Highway 1. The Atwood Addition is not contiguous with Indian Key or the submerged land area surrounding the island that is included in the boundary of the state park.

Indian Key Historic State Park contains 111 acres. Significant land and water resources located near the park are identified on the Vicinity Map.

On December 28, 1970, the State of Florida Board of Trustees of the Internal Improvement Trust Fund (Trustees) acquired title to the property that later became Indian Key Historic State Park. The purchase was funded under Land Acquisition Trust Fund (LATF) program. On June 8, 1971, the Trustees transferred management authority of Indian Key Historic State Park to the Florida Department of Environmental Protection (DEP), Division of Recreation and Parks (DRP) under lease agreement No. 2536 (see Addendum 1).

At Indian Key Historic State Park, public outdoor recreation and conservation is the designated single use of the property. There are no legislative or executive directives that constrain the use of this property.

PURPOSE AND SIGNIFICANCE OF THE PARK

The island of Indian Key was purchased through the LATF in December 1970. The purpose of the acquisition was to preserve, for all time, a representative example of the natural and cultural history of the State of Florida, to protect, develop, operate and maintain the property for public outdoor recreation, conservation, historic and related purposes and to support the tourism industry of Florida. Indian Key is best known for the period from 1820 to 1840 when it was first a mercantile outpost in the middle Florida Keys where settlers could acquire supplies, and then the base of operations for a ship salvaging business owned by Jacob Housman. Indian Key became famous in history as the site of a massacre of the white inhabitants by a Seminole war party led by Chief Chekika, on August 7, 1840.

Significant elements of Indian Key Historic State Park include:

- The ruins of the town on Indian Key are listed on the National Register of Historic Places, testifying to the fact that the cultural resources of the island have significance to the history of the local community, the state of Florida

and the nation.

- The island is one of the few remaining undeveloped and uninhabited islands of its size in the Florida Keys.
- The submerged land surrounding Indian Key provides seagrass and hard bottom habitat for imperiled animal species, including the West Indian manatee, sea turtles and three species of imperiled coral.
- Valuable interpretive, educational and outdoor recreational opportunities are provided to Florida's residents and visitors through public access facilities and programs of the historic state park.

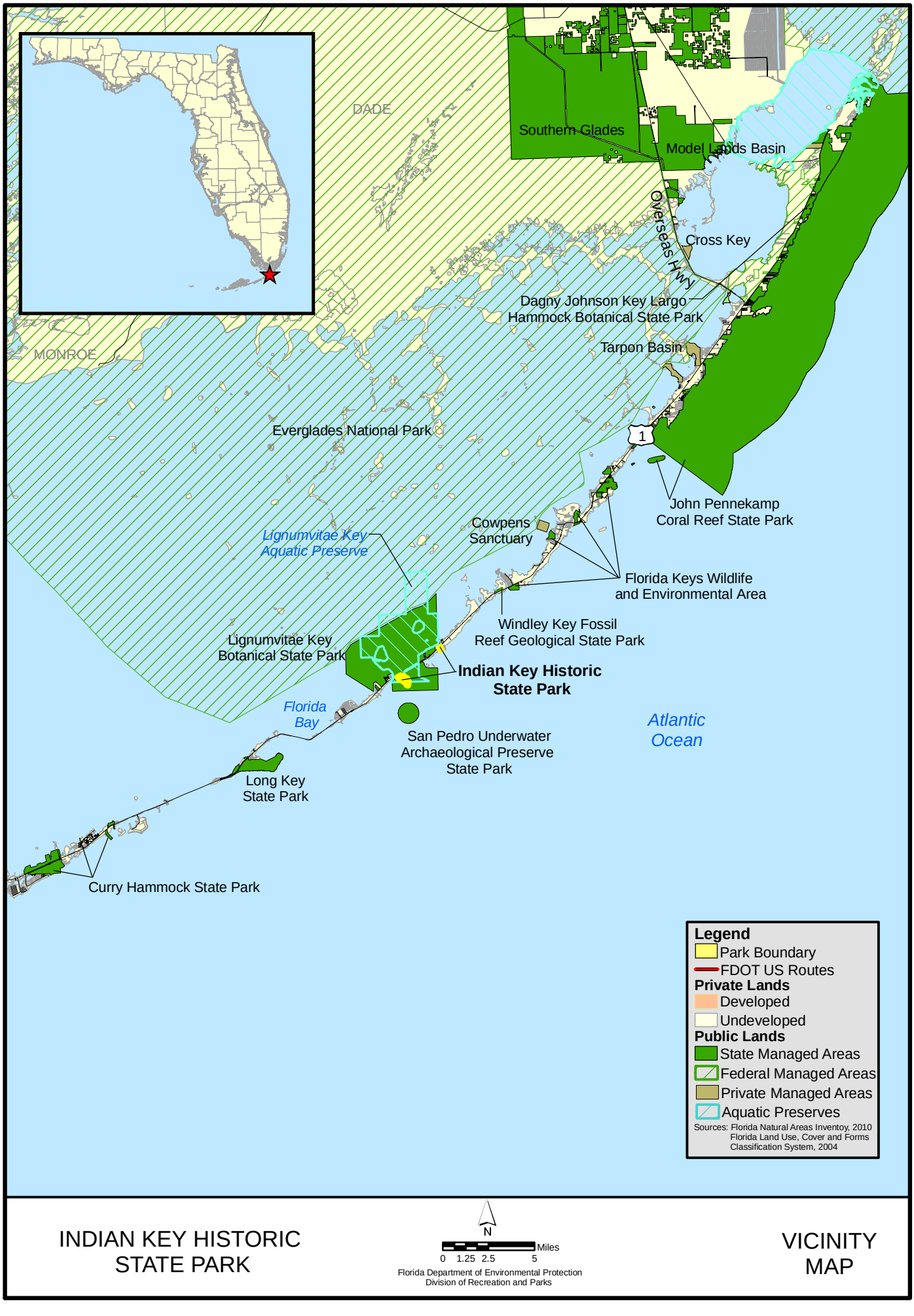
Indian Key Historic State Park is classified as a special feature site in DRP's unit classification system. A "special feature" is a discrete and well-defined object or condition that attracts public interest and provides recreational enjoyment through visitation, observation and study. A state special feature site is an area which contains such a feature, and which is set aside for controlled public enjoyment. Special feature sites for the most part are either historical or archaeological by type, but they may also have a geological, botanical, zoological or other basis. State special feature sites must be of unusual or exceptional character, or have statewide or broad regional significance.

In the management of a special feature site, primary emphasis is placed on protection and maintenance of the special feature for long-term public enjoyment. Permitted uses are almost exclusively passive in nature and program emphasis is on interpretation of the special feature. Development at special feature sites is focused on protection and maintenance of the site, public access, safety and the convenience of the user.

PURPOSE AND SCOPE OF THE PLAN

This plan serves as the basic statement of policy and direction for the management of Indian Key Historic State Park as a unit of Florida's state park system. It identifies the goals, objectives, actions and criteria or standards that guide each aspect of park administration, and sets forth the specific measures that will be implemented to meet management objectives. The plan is intended to meet the requirements of Sections 253.034 and 259.032, Florida Statutes, Chapter 18-2, Florida Administrative Code, and is intended to be consistent with the State Lands Management Plan. Upon approval, this management plan will replace the 2000 approved plan.

The plan consists of three interrelated components: the Resource Management Component, the Land Use Component and the Implementation Component. The Resource Management Component provides a detailed inventory and assessment of the natural and cultural resources of the park. Resource management needs and issues are identified, and measurable management objectives are established for each of the park's management goals and resource types. This component provides guidance on the application of such measures as prescribed burning, exotic species removal, imperiled species management, cultural resource management and restoration of natural



INDIAN KEY HISTORIC STATE PARK

VICINITY MAP

FLORIDA BAY

LIGNUMVITAE KEY BOTANICAL STATE PARK
SUBMERGED LAND BOUNDARY

SHELL KEY PRESERVE

SHELL KEY

RACE CHANNEL

SHARK

YELLOW

UPPER MATECUMBE KEY

ATWOOD ADDITION

MATHESON HOUSE AND GROUNDS

LIGNUMVITAE KEY BOTANICAL STATE PARK

LIGNUMVITAE KEY BANK

TEA TABLE KEY

BOAT LAUNCH

US-1

LIGNUMVITAE CHANNEL

ROBBIES

INDIAN KEY FILL

TEATABLE KEY CHANNEL

INDIAN KEY CHANNEL

PARK SUPPORT FACILITIES

INDIAN KEY HISTORIC STATE PARK

HISTORIC TOWN RUINS

KLOPP TRACT

HAWK CHANNEL

LIGNUMVITAE KEY BOTANICAL STATE PARK
SUBMERGED LAND BOUNDARY

ATLANTIC OCEAN

LOWER MATECUMBE KEY

SAN PEDRO UNDERWATER ARCHAEOLOGICAL PRESERVE STATE PARK

LEGEND

- SAN PEDRO UNDWATER ARCHAEOLOGICAL PRESERVE STATE PARK
- INDIAN KEY HISTORIC STATE PARK
- LIGNUMVITAE KEY BOTANICAL STATE PARK
- TRAILS

ROADS

- US Highway
- County Road
- Park Road Paved
- Park Road Unpaved

INDIAN KEY HISTORIC STATE PARK

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0 1,250 2,500 5,000 Feet

Florida Department of Environmental Protection
Division of Recreation and Parks
Date of aerial: 2004

REFERENCE MAP

conditions.

The Land Use Component is the recreational resource allocation plan for the park. Based on considerations such as access, population, adjacent land uses, the natural and cultural resources of the park, current public uses and existing development, measurable objectives are set to achieve the desired allocation of the physical space of the park. These objectives locate use areas and propose the types of facilities and programs and the volume of public use to be provided.

The Implementation Component consolidates the measurable objectives and actions for each of the park's management goals. An implementation schedule and cost estimates are included for each objective and action. Included in this table are (1) measures that will be used to evaluate DRP's implementation progress, (2) timeframes for completing actions and objectives and (3) estimated costs to complete each action and objective.

All development and resource alteration proposed in this plan is subject to the granting of appropriate permits, easements, licenses, and other required legal instruments. Approval of the management plan does not constitute an exemption from complying with the appropriate local, state or federal agencies. This plan is also intended to meet the requirements for beach and shore preservation, as defined in Chapter 161, Florida Statutes, and Chapters 62B-33, 62B-36 and 62R-49, Florida Administrative Code.

In the development of this plan, the potential of the park to accommodate secondary management purposes was analyzed. These secondary purposes were considered within the context of DRP's statutory responsibilities and the resource needs and values of the park. This analysis considered the park natural and cultural resources, management needs, aesthetic values, visitation and visitor experiences. For this park, it was determined that no secondary purposes could be accommodated in a manner that would not interfere with the primary purpose of resource-based outdoor recreation and conservation. Uses such as water resource development projects, water supply projects, stormwater management projects, linear facilities and sustainable agriculture and forestry (other than those forest management activities specifically identified in this plan) are not consistent with this plan or the management purposes of the park.

The potential for generating revenue to enhance management was also analyzed. Visitor fees and charges are the principal source of revenue generated by the park. It was determined that multiple-use management activities would not be appropriate as a means of generating revenues for land management. Instead, techniques such as entrance fees, concessions and similar measures will be employed on a case-by-case basis as a means of supplementing park management funding.

MANAGEMENT PROGRAM OVERVIEW

Management Authority and Responsibility

In accordance with Chapter 258, Florida Statutes and Chapter 62D-2, Florida Administrative Code, DRP is charged with the responsibility of developing and operating Florida's recreation and parks system. These are administered in accordance with the following policy:

> It shall be the policy of the Division of Recreation and Parks to promote the state park system for the use, enjoyment, and benefit of the people of Florida and visitors; to acquire typical portions of the original domain of the state which will be accessible to all of the people, and of such character as to emblemize the state's natural values; conserve these natural values for all time; administer the development, use and maintenance of these lands and render such public service in so doing, in such a manner as to enable the people of Florida and visitors to enjoy these values without depleting them; to contribute materially to the development of a strong mental, moral, and physical fiber in the people; to provide for perpetual preservation of historic sites and memorials of statewide significance and interpretation of their history to the people; to contribute to the tourist appeal of Florida.

The Board of Trustees of the Internal Improvement Trust Fund (Trustees) has also granted management authority of certain sovereign submerged lands to DRP under Management Agreement MA 68-086 (as amended January 19, 1988). The management area includes a 400-foot zone from the edge of mean high water where a park boundary borders sovereign submerged lands fronting beaches, bays, estuarine areas, rivers or streams. Where emergent wetland vegetation exists, the zone extends waterward 400 feet beyond the vegetation. The agreement is intended to provide additional protection to resources of the park and nearshore areas and to provide authority to manage activities that could adversely impact public recreational uses.

The submerged land surrounding Indian Key extends beyond the 400-foot zone of sovereign submerged land. Although part of the management of Indian Key Historic State Park, this submerged land falls within the 10,000 acres of submerged land of Lignumvitae Key Botanical State Park and Lignumvitae Key Aquatic Preserve. It is all managed as a whole as the Lignumvitae Key Submerged Land Managed Area.

The Atwood Addition on Upper Matecumbe Key does have management of the 400-foot zone extending from the coastal berm habitat seaward. This area is composed of marine grass bed, marine composite and marine consolidated communities.

Many operating procedures are standardized system-wide and are set by internal direction. These procedures are outlined in DRP's Operations Manual (OM) that covers such areas as personnel management, uniforms and personal appearance, training, signs, communications, fiscal procedures, interpretation, concessions, public use regulations, resource management, law enforcement, protection, safety and maintenance.

Park Management Goals

The following park goals express DRP's long-term intent in managing the state park.

1. Provide administrative support for all park functions.
2. Protect water quality and quantity in the park, restore hydrology to the extent feasible and maintain the restored condition.
3. Restore and maintain the natural communities/habitats of the park.
4. Maintain, improve or restore imperiled species populations and habitats in the park.
5. Remove exotic and invasive plants and animals from the park and conduct needed maintenance-control.
6. Protect, preserve and maintain the cultural resources of the park.
7. Provide public access and recreational opportunities in the park.
8. Develop and maintain the capital facilities and infrastructure necessary to meet the goals and objectives of this management plan.

Management Coordination

The park is managed in accordance with all applicable laws and administrative rules. Agencies having a major or direct role in the management of the park are discussed in this plan.

The Florida Fish and Wildlife Conservation Commission (FFWCC), assists staff in the enforcement of state laws pertaining to wildlife, freshwater fish and other aquatic life existing within the park. In addition, the FFWCC aids DRP with wildlife management programs, including imperiled species management and Watchable Wildlife programs. The Florida Department of State (FDOS), Division of Historical Resources (DHR) assists staff to ensure protection of archaeological and historical sites. The DEP's Office of Coastal and Aquatic Managed Areas (CAMA) aids staff in aquatic preserves management programs. The DEP's Bureau of Beaches and Coastal Systems aids staff in planning and construction activities seaward of the Coastal Construction Line. In addition, the Bureau of Beaches and Coastal Systems aid the staff in the development of erosion control projects.

Public Participation

The DRP provided an opportunity for public input by conducting a public workshop and an Advisory Group Meeting to present the draft management plan to the public. These meetings were held on Wednesday, October 26, 2011 and Thursday, October 27, 2011, respectively. Meeting notices were published in the Florida Administrative Weekly, October 14, 2011 Volume 37, Issue 41, included on the Department Internet Calendar, posted in clear view at the park, and promoted locally. The purpose of the Advisory Group meeting is to provide the Advisory Group members an opportunity to discuss the draft management plan (see Addendum 2).

Other Designations

Indian Key Historic State Park is within an Area of Critical State Concern as defined in Section 380.05, Florida Statutes. The Atwood Addition on Upper Matecumbe Key is a component of the Florida Greenways and Trails System.

All waters within the park have been designated as Outstanding Florida Waters, pursuant to Chapter 62-302, Florida Administrative Code. Surface waters in this park are also classified as Class III waters by the DEP. This park is within Lignumvitae Key Aquatic Preserve as designated under the Florida Aquatic Preserve Act of 1975 (Section 258.35, Florida Statutes), and is within the Florida Keys National Marine Sanctuary.

RESOURCE MANAGEMENT COMPONENT

INTRODUCTION

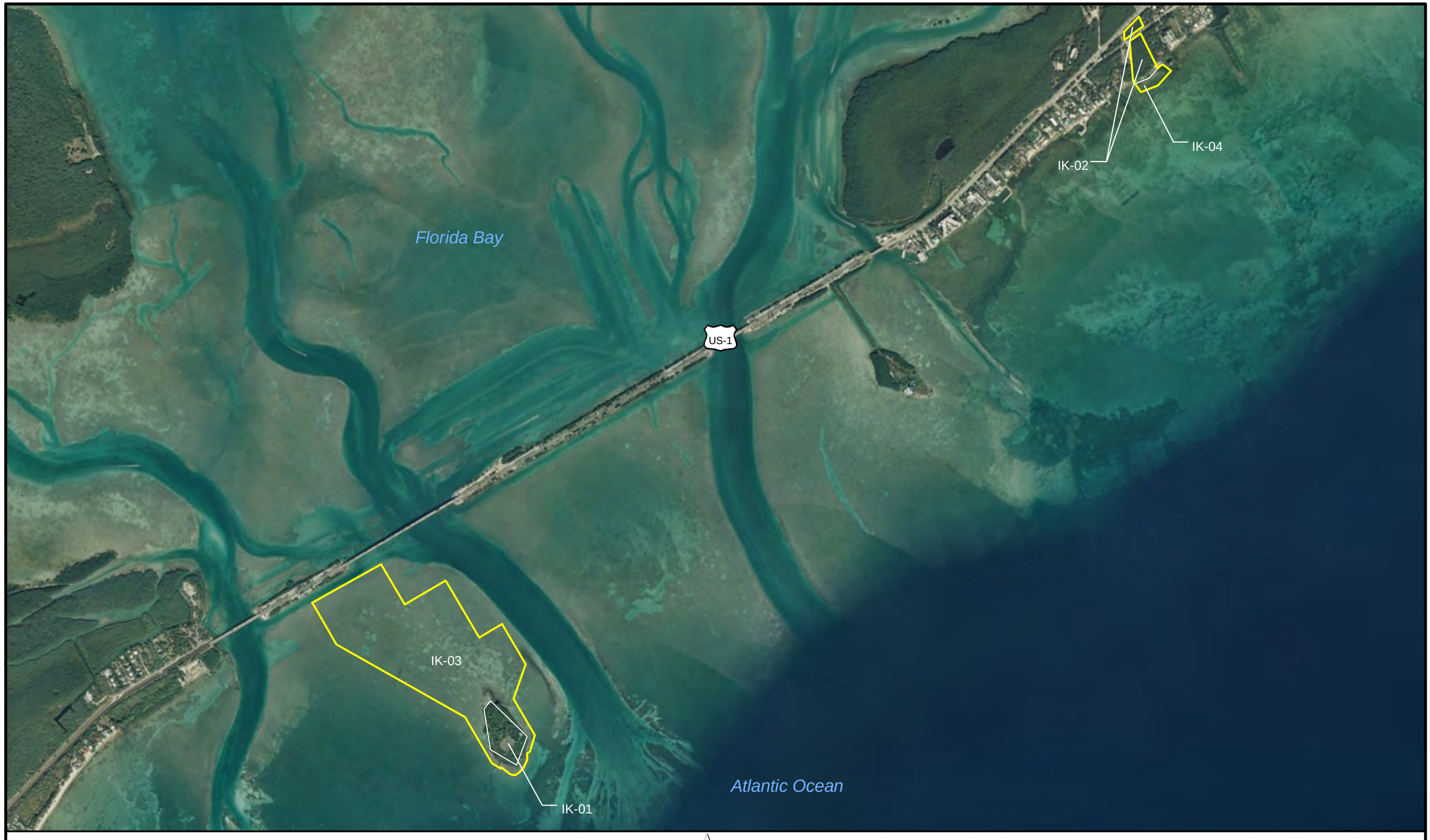
The Florida Department of Environmental Protection (DEP), Division of Recreation and Parks (DRP) in accordance with Chapter 258, Florida Statutes, has implemented resource management programs for preserving for all time the representative examples of natural and cultural resources of statewide significance under its administration. This component of the unit plan describes the natural and cultural resources of the park and identifies the methods that will be used to manage them. The management measures expressed in this plan are consistent with the DEP's overall mission in ecosystem management. Cited references are contained in Addendum 3.

The DRP's philosophy of resource management is natural systems management. Primary emphasis is placed on restoring and maintaining, to the degree possible, the natural processes that shaped the structure, function and species composition of Florida's diverse natural communities as they occurred in the original domain. Single species management for imperiled species is appropriate in state parks when the maintenance, recovery or restoration of a species or population is complicated due to constraints associated with long-term restoration efforts, unnaturally high mortality or insufficient habitat. Single species management should be compatible with the maintenance and restoration of natural processes, and should not imperil other native species or seriously compromise park values.

The DRP's management goal for cultural resources is to preserve sites and objects that represent Florida's cultural periods, significant historic events or persons. This goal often entails active measures to stabilize, reconstruct or restore resources, or to rehabilitate them for appropriate public use.

Because park units are often components of larger ecosystems, their proper management can be affected by conditions and events that occur beyond park boundaries. Ecosystem management is implemented through a resource management evaluation program that assesses resource conditions, evaluates management activities and refines management actions, and reviews local comprehensive plans and development permit applications for park/ecosystem impacts.

The entire park is divided into management zones that delineate areas on the ground that are used to reference management activities (see Management Zones Map). The shape and size of each zone may be based on natural community type, burn zone, and the location of existing roads and natural fire breaks. It is important to note that all burn zones are management zones; however, not all management zones include fire-dependent natural communities. Table 1 reflects the management zones with the acres of each zone.



INDIAN KEY HISTORIC STATE PARK

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Florida Department of Environmental Protection
Division of Recreation and Parks
Date of aerial: 2011

MANAGEMENT ZONES MAP

Table 1: Management Zones		
Management Zone	**Acres**	**Managed with Prescribed Fire**
IK-04	1.98	N/A
IK-02	5.37	N/A
IK-01	7.74	N/A
IK-03	95.84	N/A

RESOURCE DESCRIPTION AND ASSESSMENT

Natural Resources

Topography

Indian Key is part of the physiographic region of high coral keys and is situated less than one mile southeast of the chain of the Florida Keys. Maximum elevation on Indian Key is 8 to 10 feet. Water depths in the submerged shallow seagrass flats range from a few inches to 4 feet, but are deeper in the navigational channels where depths range from six to 14 feet. Most of the total acreage of this site is submerged land and is managed as part of the Lignumvitae Key Submerged Land Management Area (LKSLMA).

The six-acre parcel known as the Atwood Addition is located on Upper Matecumbe Key (Management Zones 2 and 4) and has elevation ranges from 5 to 10 feet grading down from the coastal berm into the submerged land. At least two solutions holes greater than five feet in depth are found on this site along with smaller solution holes found throughout the rockland hammock. Solution holes are created by the dissolution of the limestone by rainfall and are a common component of the rockland hammocks in the Florida Keys and south Florida.

Geology

The geologic formation of the upper Florida Keys from Soldier Key to Bahia Honda Key is Key Largo limestone. Built by the coral polyps of ancient coral reef formations, these remains are similar to the present living coral reefs offshore. As sea level has fluctuated over time, the landmass of south Florida has alternately been submerged and exposed above the level of the water. Approximately 120,000 years ago, sea level dropped close to its present level exposing the coral and allowing for the formation of the islands of the Florida Keys. When the area of the Keys is submerged, the limestone from the ancient coral reefs provides the necessary substrate for new growth of coral formations and coral reefs. Subsequently, Key Largo limestone is quite thick, as much as 145 feet in some areas of the upper Keys (Hoffmeister, 1974).

Soils

Information published in the U.S. Department of Agriculture's Soil Survey of Monroe

County, Keys Area, Florida identifies one soil type for Indian Key State Historic Site including the Atwood Addition (see Soils Map). This soil type is Pennekamp gravelly muck, and is found in upland hammock areas typically at the highest elevations. It is characterized by a thin layer of organic debris and leaf layer over the limestone rock. Soil in this unit is well drained. A detailed description of the soil type is included in Addendum 3.

Management activities will comply with those practices that will best prevent erosion in order to conserve the soil resources of this site and the water resources of Lignumvitae Key Aquatic Preserve, Lignumvitae Key Submerged Land Managed Area and the Florida Keys National Marine Sanctuary. Soil erosion became a factor on Indian Key due to damage from hurricane events in 2004 and 2005 that caused erosion along the edge of the island. However, appropriate fill material was brought in and graded to restore the areas damaged by the storms. Erosion is also a concern from foot traffic along the edge of the island where there is an elevation difference. These areas are monitored and filled in when necessary.

The submerged communities are subjected to erosion from propeller scarring and boat grounding events that cut the seagrass rhizomes, and in some cases, significantly alters the topography of the seagrass flat. In addition to the physical damage to the seagrass, these injuries also cause suspended sediment in the water column that then affects the water quality of the nearshore and offshore waters. Restoration within the waters of Indian Key as well as all of the submerged land of Lignumvitae Key Submerged Land Managed Area has been ongoing since 2005. Sites have been prioritized with those sites requiring topographic restoration ranking the highest. "No Motor Zone" signs mark areas of shallow seagrass flats to aid vessel operators in navigating these waters. Funding for restoration has come from multiple sources and staff and management consider this a high priority for management of the seagrass beds within the park's submerged resources.

Minerals

Key Largo limestone is the major mineral source at Indian Key Historic State Park. Minor minerals found in this park include calcite and halite.

Hydrology

The primary natural source of freshwater in the Florida Keys is rain. Historically, early settlers collected rainwater in cisterns or used water from wells and solution holes that tapped the small, shallow, freshwater lenses. These lenses form in the limestone above sea level during the rainy season. Until recently, nearshore freshwater upwelling, an extension of the Biscayne Aquifer, occurred in at least one location on north Key Largo. Drainage of the Everglades and the subsequent canalization of southeast Florida (including canals in the Florida Keys) resulted in salt-water intrusion into the Biscayne Aquifer and changed the regional hydrology. Due to the porosity of the Key Largo

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SOILS MAP

limestone, retention of rainwater on Indian Key and the Atwood Addition is brief.

Natural Communities

This section of the management plan describes and assesses each of the natural communities found in the state park. It also describes of the desired future condition of each natural community and identifies the actions that will be required to bring the community to its desired future condition (DFC). Specific management objectives and actions for natural community management, exotic species management, imperiled species management and restoration are discussed in the Resource Management Program section of this component.

The system of classifying natural communities employed in this plan was developed by the Florida Natural Areas Inventory (FNAI). The premise of this system is that physical factors such as climate, geology, soil, hydrology and fire frequency generally determine the species composition of an area, and that areas that are similar with respect to those factors will tend to have natural communities with similar species compositions. Obvious differences in species composition can occur, however, despite similar physical conditions. In other instances, physical factors are substantially different, yet the species compositions are quite similar. For example, coastal strand and scrub, two communities with similar species compositions, generally have quite different climatic environments that necessitate different management programs. Some physical influences, such as fire frequency may vary from FNAI's descriptions for certain natural communities in this plan.

At the point in time when the park's natural communities have reached their desired future condition, they are considered to be in a maintenance status and share certain basic characteristics and management requirements. These include the maintenance of the optimal fire return intervals for fire dependant communities, the maintenance control of non-native plant and animal species, the maintenance of natural hydrological functions (including historic water flows and water quality), the maintenance of proper vegetative structure that represents the natural diversity of the community, the maintenance of healthy populations of plant and wildlife species (including those that are imperiled or endemic), and the maintenance of intact ecotones between natural communities across the landscape.

The park contains eight distinct natural communities as well as ruderal and developed areas (see Natural Communities Map). A list of known plants and animals occurring in the park is contained in Addendum 5.

COASTAL BERM

Desired future conditions: Coastal berm habitat is found on the seaward edge or landward edge of the mangroves or further inland depending on the height of the storm surge that formed them. These berms range in height from 1 to 10 feet. Structure

and composition of the vegetation is variable depending on height and time since the last storm event. Coastal berm consists of a mixture of tropical herbs, shrubs and trees and is defined by its substrate of coarse, calcareous, storm-deposited sediment forming long narrow ridges that parallel the shore. The most stable berms may share some tree species with rockland hammocks, but generally have a greater proportion of shrubs and herbs. Tree species may include blolly (*Guapira discolor*), gumbo limbo (*Bursera simaruba*), and poisonwood (*Metopium toxiferium*). Characteristic tall shrub and short tree species include Spanish stopper (*Eugenia foetida*), hog plum (*Ximenia americana*), white indigo berry (*Randia aculeata*), seven year apple (*Genipa clusiifolia*), blackbead (*Pithecellobium keyense*), and saffron plum (*Sideroxylon salicifolium*). Short shrubs and herbs include spider lily limber caper (*Capparis flexuosa*), lantana (*Lantana involucrata*), and rouge berry (*Rivina humilis*). More seaward berms or those more recently affected by storm deposition may support a suite of plants similar to beaches, including sea purslane (*Sesuvium portulacastrum*), saltgrass (*Distichlis spicata*.), and seashore dropseed (*Sporobolus* spp.), or dense shrub thickets with buttonwood (*Conocarpus erectus*), black mangrove (*Avicennia germinans*), red mangrove (*Rhizophora mangle*), and white mangrove (*Laguncularia racemosa*), joewood (*Jacquinia keyensis*), and sea ox-eye daisy (*Borrichia arborescens*).

Description and assessment: A narrow coastal berm is located on the eastern edge of the Atwood Addition on Upper Matecumbe Key (Management Zone 2). This community is adjacent to rockland hammock and grades down to the shoreline and the submerged land. The coastal berm had been infested with Australian pine (*Casuarina equisetifoila*), beach naupaka (*Scaevola sericea)*, Portia (*Thespesia populnea*), and Agave (*Agave sisalana*) but these were removed during several invasive exotic removal projects. However, Guinea grass (*Panicum maximum*) became established so staff regularly conducts follow-up treatment.

Red and black mangrove trees are scattered at the water's edge mixed with herbaceous vegetation. This shoreline is subjected to an accumulation of debris that is washed in from offshore.

Native species found in this plant community include wild lime (*Zanthoxylum fagara*), blackbead, sea purslane, seaside heliotrope (*Heliotropium curassavicum*), seablite (*Suaeda linearis*), and limber caper. On the north border of the coastal berm is a small section that has been impacted by the adjacent property owner. Illegally dumped vegetation and boat parts were an issue; however, discussions with the caretaker by park management and the installation of a "No Dumping" sign should prevent future problems at this site.

General management measures: The coastal berm habitat will require minimal management effort in order to get it to the desired future condition. Exotic plant removal, shoreline debris removal and prevention of property encroachment are the

INDIAN KEY HISTORIC STATE PARK

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0 500 1,000 2,000 Feet

Florida Department of Environmental Protection
Division of Recreation and Parks
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NATURAL COMMUNITIES MAP

main tasks in order to achieve the desired future condition of the coastal berm at the Atwood Addition.

KEYS TIDAL ROCK BARREN

Desired future condition: Keys tidal rock barren is a flat rockland in the supratidal zone with much exposed and eroded limestone and a sparse cover of stunted halophytic herbs and shrubs. It is inundated by salt water during the extreme spring high tides. Aside from bare rock substrate, discontinuous patches of thin marl soils may be present. Patches of low, salt-tolerant herbaceous species include sea ox-eye daisy, perennial glasswort (*Salicornia perrenis*), saltwort (*Batis maritima*) Keys grass (*Monanthochloe littoralis*), saltgrass and seashore dropseed. Buttonwood is the dominant woody plant. It varies from stunted, sprawling, multi-stemmed shrubs to tree size. Other typical woody species are red mangrove, black mangrove, white mangrove and Christmas berry (*Lycium carolinianum*). At the transition to upland vegetation, buttonwood may be joined by a variety of shrubs and stunted trees of inland woody species, including saffron plum, wild cotton (*Gossypium hirsutum*), blackbead, wild dilly (*Manilkara jaimiqui* ssp. *emarginata*) , poisonwood and joewood. Keys tidal rock barren occurs above the daily tidal range, but areas closer to the shoreline can be inundated by daily tidal events. Salt spray from coastal winds, as well as shallow soils, may limit height growth of woody plants.

Description and assessment: Keys tidal rock barren is a rare community that occurs in scattered patches along a few shorelines in the Florida Keys. On Indian Key, this rock barren occurs on the south shoreline and is in excellent condition despite recent hurricane events. The substrate is exposed cap rock pitted with small solution holes and becomes a rocky shore of jagged Key Largo limestone in the splash zone above the mean high water line.

Plants in the Keys tidal rock barren are adapted to salt spray and salt-water inundation. Typical species found in this community on Indian Key include buttonwood, bay cedar (*Suriana maritima*), sea grape (*Coccoloba uvifera*), sea purslane and sea ox-eye daisy.

It is not uncommon for some areas of the Keys tidal rock barren at Indian Key to contain small marine organisms in the solution holes during low tide. The species that become trapped here are often able to survive until the next high tide releases them from the solution hole.

General management measures: The Keys tidal rock barren habitat on Indian Key is in excellent condition. In order to maintain the desired future condition, regular surveys will be conducted for exotic species recruitment so that actions can be taken to remove these species and preventing them from becoming established.

In the unit management plan that was approved on June 20, 2000, this habitat was

described as coastal rock barren. The 2009 Florida Natural Areas Inventory has updated habitat descriptions and has further defined coastal rock barren as either Keys tidal rock barren that is tidally influenced, or as Keys Cactus barren, which is an upland plant community that may only be influenced during extreme high tides or storm events.

ROCKLAND HAMMOCK

Desired future condition: Rockland hammock is a rare tropical hardwood forest on upland sites and occurs on a thin layer of highly organic soil covering limestone. This habitat does not regularly flood, but it is dependent upon a high water table to maintain reservoirs in solution holes in the limestone to keep humidity levels high.

Rockland hammocks typically have larger more mature trees in the interior, while the margins are dense with growth of smaller shrubs, trees and vines. There are differences in species composition between rockland hammocks found on the mainland and in the Florida Keys. Even within the Florida Keys, there is variation and some species are found only in the upper Keys, while others are found only in the lower Keys. This is due to elevation, geologic and rainfall differences between the two regions. Typical canopy and understory species include, gumbo limbo, wild tamarind (*Lysiloma latisiliquum*), pigeon plum (*Coccoloba diversifolia*), mastic (*Sideroxylon foetidissimum*), strangler fig (*Ficus aurea*), poisonwood, several species of stoppers (*Eugenia* spp.), thatch palms (*Thrinax* spp.), torchwood (*Amyris elemifera*), marlberry (*Ardisia escallonioides*), satinleaf (*Chrysophullum oliviforme*), and blackbead. Vines and herbaceous vegetation are less common and include greenbrier (*Smilax havanensis*), and bamboo (*Lasiacis divaricata*). Epiphytes, including orchids, ferns, and bromeliads can be found on larger trees.

Description and assessment: The rockland hammock is found on the Atwood Addition on Upper Matecumbe Key (Management Zone 2) and is divided into two parcels by Old Dixie Highway. The north parcel is bordered by U.S. Highway 1, private land, Old Dixie Highway and the Florida Keys Electric Coop (FKEC) right-of-way. Although this hammock has a mature canopy, it has a thick growth of understory species including Spanish stopper (*Eugenia foetida*), white stopper (*Eugenia axillaries*), torchwood and red stopper (*Eugenia rhombea*). Red stopper is an imperiled species with limited distribution in the Florida Keys. Gumbo limbo, Jamaica dogwood (*Piscidia piscipula*), poisonwood and inkwood (*Exothea paniculata*) are common canopy species found in this hammock. Exotic species that have been found here include sapodilla (*Manilkara zapota*), lead tree (*Leucaena leucocephala*) and bowstring hemp (*Sansevieria hyacinthoides)*. This area has been treated and park staff now conducts follow-up treatment.

The parcel on the south side of Old Dixie Highway is a more mature hammock with a more open understory. It is bordered by Old Dixie Highway, a private homeowner, the coastal berm and the FKEC substation. Trespassing, dumping and a homeless

encampment had all been issues on this site, but now this parcel is fenced on three sides with limited access. This hammock contains large solution holes that had been infested by Brazilian pepper (*Schinus terebinthifolius*), and Portia, but which have been treated. Plant species found here include pigeon plum, poisonwood, gumbo limbo, inkwood, barbed-wire cactus (*Acanthocereus tetragonus*), and white indigo berry. Exotic removal projects have also been conducted on this parcel with follow-up treatment conducted by park staff as needed.

General management conditions: The rockland hammock on the Atwood Addition is in good condition due to exotic removal efforts by park staff and contractor projects. However, in order achieve the desired future condition continual follow-up to remove exotic species and preventing illegal trespass and/or dumping will be necessary. For example, lead tree sporadically appears along the edge where the park boundary meets the Florida Keys Overseas Heritage Trail, but is treated by park staff.

MARINE COMPOSITE SUBSTRATE

Desired future conditions: Marine composite substrate consists of a combination of natural communities including seagrass beds, consolidated substrate and unconsolidated substrate. Because composite substrate is a combination of community types, floral and faunal components from any of these communities may be found here so species diversity is often times greater than in the surrounding habitats.

Description and assessment: All marine communities within the boundaries of Indian Key Historic State Park are managed as part of the larger Lignumvitae Key Submerged Land Managed Area. The marine composite substrate includes the submerged community that extends northward from Indian Key. The marine composite substrate is a community that forms a mosaic of habitat types making it difficult to distinguish one over the other. The substrate composition and depth determines the floral and faunal organisms found in this habitat. Typical species found here include finger coral (*Porites* spp.), lobed star coral (*Solenastrea hyades*), rose coral (*Manicina areolata*), tube dwelling worms, shaving brush algae (*Penicillus* spp.), and oatmeal algae (*Halimeda* spp.).

Marine composite substrate can also be found within the DRP's 400-foott submerged land management area offshore from the Atwood Addition. This habitat is in good condition and is not subjected to physical damage due to its location and inaccessibility from land.

General management measures: The marine composite substrate off the Atwood Addition has achieved its desired future condition. The marine composite substrate north of Indian Key is in good condition; however, like all the submerged communities in the park, it is subjected to boat grounding events. In the waters surrounding Indian Key, any area that is four-feet in depth or less at Mean High Tide are marked by "No Motor Zone" signs to help protect the resources. Park staff has been conducting

seagrass restoration in LKSLMA since 2005. Although seagrass is a minimal component of the marine composite substrate habitat, priority sites have been established depending upon the extent of damage.

MARINE CONSOLIDATED SUBSTRATE

Desired future conditions: Marine consolidated substrate is characterized by Key Largo limestone substrate with minimal sediment accumulation. This habitat is also known as hardbottom and is an important community because it provides a foundation for the development of other marine communities. Seagrasses do not thrive here because of the minimal sediment accumulation. Instead, this habitat is dominated by species including macroalgae, octocoral and stony coral species.

Description and assessment: The marine consolidated substrate at Indian Key can be found off the west, south and east sides of the island, and in the submerged land of the Atwood Addition. It is in excellent condition. Macroalgal species including Shaving brush algae, oatmeal algae and fern algae (*Caulerpa* spp.) are dominant here. *Sargassum* spp., sea whips and sea rods are also found here mixed with stony corals including finger coral, starlet coral (*Siderastrea radians*), brain coral (*Diplora* spp.), ivory tube coral (*Oculina* spp.), and rose coral.

General management measures: The marine consolidated substrate at Indian Key is in excellent condition. To sustain the desired future condition of this habitat, it is necessary to prevent impacts from boat groundings and impacts to stony coral species from human contact. This habitat is located in areas of the park that receive minimal use by park visitors. However, all areas within the submerged land of Indian Key that are four feet in depth or less are posted with "No Motor Zone" signs to protect the shallow resources of the park. In addition, there is no diving or snorkeling allowed within 100 feet of the dock at Indian Key. The marine consolidated substrate at the Atwood Addition is not accessible from land, further protecting it from impact.

SEAGRASS BED

Desired future condition: Seagrass beds are characterized as expansive stands of vascular plants and are one of the most productive communities in the world. Seagrass beds occur in clear, coastal waters where wave energy is moderate. The three most common species of seagrasses in Florida are turtle grass (*Thalassia testudinum*), manatee grass (*Syringodium filiforme*), and shoal grass (*Halodule wrightii*). Johnson's grass (*Halophila* spp.) may be intermingled with the other seagrasses, but species of this genus are considerably less common.

Seagrass beds require unconsolidated substrate in order to establish their underground biomass root structure. They are typically found in waters ranging from 20° to 30°C (68° to 86°F), and require clear water for photosynthesis. Seagrass beds do not thrive where nutrient levels are high because of increased turbidity and competition with

undesirable species of algae.

Seagrass beds provide important habitat for a host of commercially and recreationally important species. Most species spend part or all of their life cycle in the seagrass, which provides food, oxygen and shelter. Seagrass blades trap suspended sediment in the water allowing clear water to be transported to the offshore coral reefs during tidal movement.

Description and assessment: The majority of the submerged land around Indian Key consists of seagrass beds. Seagrass bed habitat is also found on the north and south boundaries of the submerged land at the Atwood Addition. Unlike algae, seagrass are plants with roots, flowers and seeds. However, the main method of propagation is often by rhizomes that are the horizontal root structures that extend laterally from the plants sending up new shoots of grass. Turtle grass, shoal grass, and manatee grass are the three species found in the park, although manatee grass is far less abundant than the other two species. Other organisms found in this community include macroalgae species such as *Penicillus* spp., *Caulerpa* spp., and *Halimeda* spp., and small coral colonies such as finger coral, star coral, ivory tube coral, rose coral, and golfball coral (*Favia fragram*).

Seagrass beds play an important ecological and economical role to both the nearshore and offshore habitats. Seagrasses trap suspended sediment from the water column that is critical as the water moves offshore to the coral reef. They also stabilize sediment, prevent erosion, cycle nutrients and are an important habitat for species that rely on this community for part or all of their life cycle.

The seagrass beds within the LKSLMA are subject to impacts from boat grounding events resulting in propeller scarring, blowholes, and berms. All of these can severely alter the seagrass community and the organisms that rely on this habitat for food or shelter.

The seagrass beds at the Atwood Addition are in good condition because they are in an area that is not accessible by land, and has minimal use by water.

General management measures: In order to protect the shallow, submerged seagrass beds and achieve the desired future condition, all sea grass beds within LKSLMA are closed to motorized engines and are marked by "No Motor Zone" signs. In addition, park staff has been conducting seagrass restoration in LKSLMA since 2005 to restore habitat impacted by boat grounding events. Restoration includes topographic restoration where necessary and bird stake installation (perches over the restored areas that attract roosting birds) to promote the growth of the pioneer species that responds well to short-term increase in nutrients. Only on rare occasions will shoal grass planting units be installed as part of the restoration effort. Sites requiring topographic restoration

are of highest priority since seagrass rhizomes are unable to grow vertically, and will not recruit into areas that are greater than seven inches in depth. If the topography is not restored to the grade of the adjacent seagrass flat, erosion from tidal movement and currents will cause an increase in size of the original injury both vertically and horizontally. Over time, this can lead to bank top erosion and the total loss of the seagrass component.

Education plays a role in the protection of this habitat, and staff is involved with the Seagrass Outreach Partnership, a consortium of government, non-government, private and local citizens that aim at educating the public on the importance of protecting the seagrass.

MANGROVE SWAMP

Desired future conditions: Mangrove swamp consists of dense, low forests occurring along relatively flat, intertidal and supratidal shorelines of low wave-energy along Florida's coasts, generally south of the normal freeze-line. The dominant plants include red mangroves (occupying the deeper zones), black mangroves (occupying the middle zones), and white mangroves and buttonwood (occupying the uppermost zones). The tree canopy is typically dense with little to no understory. Where present, the understory can include sea ox-eye daisy, coinvine (*Dalbergia ecastophyllum*), saltwort, perennial glasswort and giant leather fern (*Acrostichum danaefolium*). Soils are saturated to inundated and vary considerably from deep mucks to fine sands but always contain high salt content limiting plant diversity.

Mangrove habitats play an important role in providing a nursery for many species of fish and invertebrates, acting as a buffer for upland habitats, their root systems act as important filtration systems, and they provide roosting and loafing areas for birds.

Description and assessment: A narrow fringe of mangroves lines portions of the shoreline on Indian Key and a few mangroves can be found along the shoreline on the Atwood Addition. This community is subject to debris that is washed ashore by storms and tides, but it is in good condition. The main species found here are red and black mangroves closer to the shoreline, with the white mangroves and buttonwood trees found at slightly higher elevation on Indian Key. Herbaceous vegetation including saltwort and coastal ragweed (*Ambrosia artemisiifolia*) can be found mixed in with the mangrove trees on the island. The park's mangrove swamp provides an important habitat for wading birds

General management measures: The marine tidal swamp habitats on Indian Key and at the Atwood Addition are in good condition. They are, however, subjected to flotsam and jetsam as tides bring in debris from offshore. Exotic species recruitment is minimal in this habitat, but must be monitored. In order to achieve the desired future condition, periodic shoreline clean-ups and regular monitoring for exotic species recruitment will

be necessary.

MARINE UNCONOLIDATED SUBSTRATE

Desired future conditions: Marine unconsolidated substrates are characterized as expansive, relatively open areas of subtidal, intertidal, and supratidal zones that lack dense populations of sessile plant species. Unconsolidated substrates are unsolidified material and include coral, algae, marl, mud, mud/sand, sand or shell. This community may support a large population of infaunal organisms as well as a variety of transient planktonic and pelagic organisms. While these areas may seem relatively barren, the densities of infaunal organisms in subtidal zones can be quite numerous, making this habitat an important feeding ground for many bottom feeding fish. Unconsolidated substrates are important because they form the foundation for the development of other marine and communities.

Description and assessment: The marine unconsolidated substrate consists mainly of unvegetated loose sand and marl depositions covering portions of the submerged land around Indian Key. It occurs along the shallow edge of navigational channels, in the navigational channels, and is interspersed with seagrass beds. Although this habitat appears barren, it supports a diverse array of infaunal organisms including worms, mollusks, shrimp and crabs. Large numbers of fish can also be found here.

General management measures: Several navigational channels within the park have expanded beyond the original size as they were delineated by the channel markers. This is a result of cumulative impacts from vessels and their boat wakes coming through the channels, and in some cases, operating just along the edge of the channel. Over many years, this has resulted in erosion and the widening of the channel. This has increased the acreage of the marine unconsolidated substrate. In other areas of the submerged land where the marine unconsolidated substrate is interspersed with marine grass bed, it is subject to boat grounding events. However, this habitat within the park is in good condition and the best way to achieve the desired future conditions is to maintain the "No Motor Zone" signs to protect the shallow submerged resources. Restoration of the marine unconsolidated substrate is not a viable resource management tool.

RUDERAL

Desired future conditions: The ruderal areas within the park will be managed to remove priority invasive plant species (FLEPPC Category I and II species). Other management measures include limited restoration efforts designed to minimize the effect of the ruderal areas on adjacent natural areas. Cost-effectiveness, return on investment and consideration of other higher priority restoration projects within the park will determine the extent of restoration measures in ruderal areas.

Description and assessment: This classification includes most of Indian Key that had been cleared during its historic occupation. The ruins that remain from the occupation

of the island during the Houseman era and later occupation are described below under the Cultural Resources heading.

When the state purchased the island, staff cleared vegetation to create the historic streets and town square according to historic records of their location. The only other things that have been added since state ownership is the dock, a small storage shed and the observation tower. Streets are delineated by landscape timbers that are replaced when needed. Vegetation consists mostly of exotic species brought in by Dr. Henry Perrine and are maintained as part of the historical and cultural significance of the park. These include agave, tamarind (*Tamarindus indicus*), coconut palm (*Cocos nucifera*) and oleander (*Nerium oleander*). Native species found in the ruderal area include limber caper, Jamaica dogwood, poisonwood and blue-mist flower (*Ageratum littorale*).

Indian Key was impacted by storm events during both 2004 and 2005 hurricane seasons. Three storms hit the island in 2005 with each one removing more sections of the dock, the only boat access to the island. These storms also caused erosion issues particularly on the east side of the island where the streets are closest to the edge of the water. Since this time, the dock has been replaced and fill material has been brought in to re-grade and level the streets. Once the streets were completed, new interpretive signs were installed at most of the ruin features.

Vegetation also suffered from the storms and a large short leaf fig perished. The tamarind grove had three large trees become partially uprooted, adding onto damage to this grove from previous storm events. Other vegetation suffered significant salt and windburn leaving the island in poor condition after the 2005 season. Much of the vegetation has recovered although some die-off can still be observed.

General management measures: In order to maintain the desired future conditions at Indian Key, the majority of the island will be maintained to interpret the historical and cultural significance of the park. This includes removing vegetation from streets, from around the ruins, and maintaining the town square as an open field.

Imperiled Species

Imperiled species are those that are (1) tracked by FNAI as critically imperiled (G1, S1) or imperiled (G2, S2); or (2) listed by the U.S. Fish and Wildlife Service (USFWS), Florida Fish and Wildlife Conservation Commission (FWC) or the Florida Department of Agriculture and Consumer Services (FDACS) as endangered, threatened or of special concern.

Table 2 contains a list of all known imperiled species within the park and identifies their status as defined by various entities. It also identifies the types of management actions that are currently being taken by DRP staff or others, and identifies the current level of monitoring effort. The codes used under the column headings for management actions

and monitoring level are defined following the table. Explanations for federal and state status as well as FNAI global and state rank are provided in Addendum 6**.**

There are five imperiled plant species found at Indian Key Historic State Park, the most significant one being red stopper. This population on the Atwood Addition consists of two individuals and is one of only a few populations that are found in the Keys. Blue mist flower is prevalent on the island particularly in open areas and near several of the ruins. Princewood (*Exostema caribaeum*) and Florida boxwood (*Schaefferia frutescens*) are also found on the Atwood Addition.

Indian Key and the Atwood Addition provide habitat for imperiled animal species particularly the marine species including West Indian manatee (*Trichechus manatus*), loggerhead turtle (*Caretta caretta*), hawksbill turtle (*Eretmochelys imbricata*), green turtle (*Chelona mydas*) and several species of coral that are found in the shallow waters surrounding the island. Both the Atwood Addition and Indian Key provide important habitat for the white-crowned pigeon (*Patagioenas leucocephala*).

Table 2: Imperiled Species Inventory

Common & *Scientific* Name	**Imperiled Species Status**				**Management Actions**	**Monitoring Level**
	FFWCC	**USFWS**	**FDACS**	**FNAI**		
PLANTS						
Blue mist flower *Ageratum littorale*			LE	G2,G3,S2	2,10	Tier 3
Red stopper *Eugenia rhombea*			LE	G5,S1	2,10	Tier 3
Princewood *Exostema caribaeum*			LE	G5,S2	2,10	Tier 3
Sky blue morning glory *Jacquemontia pentanthos*			LE	G4G5, S2	2	Tier 3
Florida boxwood *Schaefferia frutescens*			LE	G5,S2	2	Tier 3
Key thatch palm *Thrinax morrisii*			LE	G4,G5	2	Tier 3
INVERTEBRATES						
Knobby brain coral *Diplora clivosa*				G4G5,S2	10	Tier 1

Table 2: Imperiled Species Inventory						
Common & *Scientific* Name	**Imperiled Species Status**				**Management Actions**	**Monitoring Level**
	FFWCC	**USFWS**	**FDACS**	**FNAI**		
Symmetrical brain coral *Diplora strigosa*				G4,S2	10	Tier 1
Common star coral *Siderastrea siderea*				G4,S2	10	Tier 1
REPTILES						
Atlantic loggerhead turtle *Caretta caretta*	LT	LT		G3,S3	10,13	Tier 1
Green turtle *Chelonia mydas*	LE	LE		G3,S2	10,13	Tier 1
Hawksbill turtle *Eretmochelys imbricate*	LE	LE		G3,S1	10,13	Tier 1
BIRDS						
White-crowned pigeon *Patagioenas leucocephalus*	LT	LT		G3,S3	10,13	Tier 1
MAMMALS						
West Indian Manatee *Trichechus manatus*	LE	LE		G2,S2	10,13	Tier 3

Management Actions:

1. ..... Prescribed Fire
2. ..... Exotic Plant Removal
3. ..... Population Translocation/Augmentation/Restocking
4. ..... Hydrological Maintenance/Restoration
5. ..... Nest Boxes/Artificial Cavities
6. ..... Hardwood Removal
7. ..... Mechanical Treatment
8. ..... Predator Control
9. ..... Erosion Control
10..... Protection from visitor impacts (establish buffers)/law enforcement
11..... Decoys (shorebirds)
12..... Vegetation planting
13..... Outreach and Education
14..... Other

Monitoring Level:

Tier 1. .....Non-Targeted Observation/Documentation: includes documentation of species presence through casual/passive observation during routine park activities (i.e. not conducting species-specific searches). Documentation may be in the form of *Wildlife Observation Forms*, or other district specific methods used to communicate observations.

Tier 2. ..... Targeted Presence/Absence: includes monitoring methods/activities that are specifically intended to document presence/absence of a particular species or suite of species.

Tier 3. .....Population Estimate/Index: an approximation of the true population size or population index based on a widely accepted method of sampling.

Tier 4. .....Population Census: A complete count of an entire population with demographic analysis, including mortality, reproduction, emigration, and immigration.

Tier 5. .....Other: may include habitat assessments for a particular species or suite of species or any other specific methods used as indicators to gather information about a particular species.

Detailed management goals, objectives and actions for imperiled species in this park are discussed in the Resource Management Program section of this component and the Implementation Component of this plan.

Exotic Species

Exotic species are plants or animals not native to Florida. Invasive exotic species are able to out-compete, displace or destroy native species and their habitats, often because they have been released from the natural controls of their native range, such as diseases, predatory insects, etc. If left unchecked, invasive exotic plants and animals alter the character, productivity and conservation values of the natural areas they invade.

Table 3 contains a list of the Florida Exotic Pest Plant Council (FLEPPC) Category I and II invasive, exotic plant species found within the park (FLEPPC, 2009). The table also identifies relative distribution for each species and the management zones in which they are known to occur. An explanation of the codes is provided following the table. For an inventory of all exotic species found within the park, see Addendum 5.

The exotic plant species found on Indian Key have historical significance and are maintained and interpreted for that purpose. However, Indian Key is subjected to the threat of invasive exotic vegetation not historic to the island including Australian pine, Brazilian pepper and beach naupaka. These species are removed as soon as they are observed.

The threat of invasive exotic species on the Atwood Addition is ongoing, but has been

addressed by multiple exotic removal projects including contract projects funded by the Bureau of Invasive Plant Management and in-house treatment by District and park staff.

Table 3: Exotic Plant Species Inventory

Common and *Scientific Name*	**FLEPPC Category**	**Distribution**	**Management Zone**
PLANTS			
Durban crowfootgrass *Dactyloctenium aegyptium*	II	2	1, 2, 4
Lead tree *Leucaena leucocephala*	II	2	2
Sapodilla *Manilkara zapota*	I	0	2
Chinaberry *Melia azedarach*	II	1	1
Natal grass *Melinis repens*	I	2	2, 4
Guinea grass *Panicum maximum*	I	2	4
Bowstring hemp *Sansevieria hyacinthoides*	II	0	2
Brazilian pepper *Schinus terebinthifolius*	I	0	2
Portia *Thespesia populnea*	I	0	2
Oyster plant *Tradescantia spathacea*	II	0	2
Puncture weed *Tribulus cistoides*	II	2	2

Distribution Categories:

0 .....No current infestation: All known sites have been treated and no plants are currently evident.

1 .....Single plant or clump: One individual plant or one small clump of a single species.

2 .....Scattered plants or clumps: Multiple individual plants or small clumps of a single species scattered within the gross area infested.

3 .....Scattered dense patches: Dense patches of a single species scattered within the gross area infested.

4 .....Dominant cover: Multiple plants or clumps of a single species that occupy a majority of the gross area infested.

5 .....Dense monoculture: Generally, a dense stand of a single dominant species that not only occupies more than a majority of the gross area infested, but also covers/excludes other plants.

6.....Linearly scattered: Plants or clumps of a single species generally scattered along a linear feature, such as a road, trail, property line, ditch, ridge, slough, etc. within the gross area infested.

Exotic animal species include non-native wildlife species, free ranging domesticated pets or livestock, and feral animals. Because of the negative impacts to natural systems attributed to exotic animals, the DRP actively removes exotic animals from state parks, with priority being given to those species causing the ecological damage.

In some cases, native wildlife may also pose management problems or nuisances within state parks. A nuisance animal is an individual native animal whose presence or activities create special management problems. Examples of animal species from which nuisance cases may arise include raccoons, venomous snakes and alligators that are in public areas. Nuisance animals are dealt with on a case-by-case basis.

The population of green iguanas (*Iguana iguana*) is increasing throughout the Florida Keys. To date none have been observed on Indian Key or on the Atwood Addition, however they are abundant on Upper Matecumbe Key. Black rats (*Rattus rattus*) are occasionally observed on Indian Key and feral and free roaming cats (*Felix domesticus*) are a problem throughout the Florida Keys. Staff will follow removal protocols as established in the Operations Manual when these species are observed in the park. Management will also pursue the feasibility of contracting the USDA to conduct trapping particularly for green iguanas.

Detailed management goals, objectives and actions for management of invasive exotic plants and exotic and nuisance animals are discussed in the Resource Management Program section of this component.

Special Natural Features

The shallow marine environment is the special natural feature at Indian Key Historic State Park.

Cultural Resources

This section addresses the cultural resources present in Indian Key Historic State Park that may include archaeological sites, historic buildings and structures, cultural landscapes and collections. The Florida Department of State (FDOS) maintains the master inventory of such resources through the Florida Master Site File (FMSF). State law requires that all state agencies locate, inventory and evaluate cultural resources that appear to be eligible for listing in the National Register of Historic Places. Addendum 7 contains the FDOS, Division of Historical Resources (DHR) management procedures for archaeological and historical sites and properties on state-owned or controlled

properties; the criteria used for evaluating eligibility for listing in the National Register of Historic Places, and the Secretary of Interior's definitions for the various preservation treatments (restoration, rehabilitation, stabilization and preservation). For the purposes of this plan, significant archaeological site, significant structure and significant landscape means those cultural resources listed or eligible for listing in the National Register of Historic Places. The terms archaeological site, historic structure or historic landscape refer to all resources that will become 50 years old during the term of this plan.

Condition Assessment

Evaluating the condition of historic structures and landscapes is accomplished using a three-part evaluation scale, expressed as good, fair and poor. These terms describe the present condition, rather than comparing what exists to the ideal condition. Good describes a condition of structural stability and physical wholeness, where no obvious deterioration other than normal occurs. Fair describes a condition in which there is a discernible decline in condition between inspections, and the wholeness or physical integrity is and continues to be threatened by factors other than normal wear. A fair assessment is usually cause for concern. Poor describes an unstable condition where there is palpable, accelerating decline, and physical integrity is being compromised quickly. A resource in poor condition suffers obvious declines in physical integrity from year to year. A poor condition suggests immediate action is needed to reestablish physical stability.

Level of Significance

Applying the criteria for listing in the National Register of Historic Places involves the use of contexts as well as an evaluation of integrity of the site. Every cultural resource's significance derives from historical, architectural or archaeological contexts. Evaluation will result in a designation of NRL (National Register or National Landmark Listed or located in an NR district), NR (National Register eligible), NE (not evaluated) or NS (not significant) as indicated in the table at the end of this section.

For collections, there are no criteria for use in determining the significance of collections or archival material. Usually, significance of a collection is based on what or whom it may represent. For instance, a collection of furniture from a single family and a particular era in connection with a significant historic site would be considered highly significant. In the same way, a high quality collection of artifacts from a significant archaeological site would be of important significance. A large herbarium collected from a specific park over many decades could be valuable to resource management efforts. Archival records are most significant as a research source. Any records depicting critical events in the park's history, including construction and resource management efforts, would all be significant.

The following is a summary of the FMSF inventory. In addition, this inventory contains

the evaluation of significance.

Pre-Historic and Historic Archaeological Sites

Desired future condition: All significant archaeological sites within the park that represent Florida's cultural periods or significant historic events or persons are preserved in good condition in perpetuity, protected from physical threats and interpreted to the public.

Description: The FMSF lists pre-Columbian remains on Indian Key that are composed of a midden and a scattering of artifacts throughout the island. These have been recorded by archaeologists, but information that is more detailed was not quantified. Similar deposits occur on Teatable Key, southern Upper Matecumbe, northern Lower Matecumbe and Lignumvitae Key. The fact that the remains on Lignumvitae Key indicate little or no habitation and only human burials, and that the remains on the other islands represent chiefly occupational remains with little or no human remains, suggests that these deposits were created by one coherent group.

The Florida Master Site File lists the island of Indian Key (MO00015) as an historic archaeological site. Records indicate pre-Columbian use of the island from the 16th through the 19th centuries. This includes use of the island by a Spaniard by the name of Gomez who had established a trading post on Indian Key, known then as Mantanzas (which means massacre in Spanish).

Indian Key was settled in 1824 by Silas Fletcher who opened a store to sell supplies to local mariners. Fletcher sold the island to Thomas Gibbon in 1828, who then sold it to Jacob Houseman in 1831. At this time, the island included a hotel with a bowling alley and billiard table, a store and other buildings.

Concurrently with Housman's development of the island and its use for his wrecking business (salvaging of vessels stranded on sunken reefs), the Legislative Council established Dade County with Indian Key as the temporary county seat.

Notable residents of the island included Dr. Henry Perrine and Henry Goodyear. Along with Charles Howe, they established the "Tropical Plant Company," which was sanctioned by the Federal government to encourage the cultivation of useful plants. Since a domestic source of cordage was needed for the Navy, Perrine introduced agave plants to Indian Key. Dr. Perrine also maintained experimental plant nurseries on Lower Matecumbe Key and several surrounding Keys.

The Housman era ended with the well-known Indian raid of August 7, 1840. After this time, the U.S. Navy maintained a hospital on the island, but little is known of this period.

A boatyard was located on the island in the 1870s. Indian Key was used as a staging area for the construction of both the Carysfort light and Alligator light. The island was intermittently occupied well into the 20th century. It is reported that several men living on Indian Key lost their lives in the Labor Day hurricane of 1935.

The period from 1820 to 1840, (Housman era) represents the most intensive period of historical occupation. The bulk of the remains seem to date to this period and include the ruins of: two warehouse features, Senator English's kitchen, three cisterns, artifact/rubble area, two foundations thought to be house/kitchen complexes from the Sturdy-Smith and Mott cottages, post office foundation and rubble, Howe area, which includes his house, cistern, kitchen, shop, and several slave dwellings, Perrine home artifact concentration, and kitchen artifact concentration. In addition, there is a dense scattering of artifacts over the surface of the island. Most of this scatter can probably be attributed to the Seminole attack and destruction of the settlement as well as site disturbance over the years following the attack. It is speculated that the large, round cisterns may date back to the period of the Naval Hospital. There is also a foundation and Navy hospital artifact concentration. Little remains of the boat building activity that occurred on the island during the 1870s.

An initial inventory of features was conducted in 1973 by FDOS, DHR and compiled by Henry Baker, Project Archaeologist for the Archaeological Investigations at Indian Key. More recent research includes "A Preliminary Report on Excavations at Indian Key Warehouse, Summer 1998" by Lisa N. Lamb, "Condition Survey and Recommendations for the Conservation and Management of Indian Key State Historic Site" by Frank G. Matero and Kecia L. Fong from the University of Pennsylvania, "Indian Key Historic Research Report" by Research Atlantica, Inc., "Historical Archaeology of Indian Key (8MO15) Monroe County, Florida" by Brent R. Weisman et al, 2001, and Indian Key State Historic Structures Cyclical Maintenance Plan prepared by the DEP, DRP, Bureau of Natural and Cultural Resources (BNCR) and Staff at Indian Key Historic Site.

Condition Assessment: The ruins on Indian Key are in fair to good condition. Most will require stabilization in order to prevent deterioration due to the marine elements, vegetative growth, time and past disturbance of the island. Artifacts are scattered throughout the island but become more concentrated in the areas of the former residences and structures. Although vegetation is removed around the ruins to protect them from damage, some sites on Indian Key are overgrown with agave plants. These will be left until it is feasible to conduct stabilization on those structures. The presence of the agave plants prevents unauthorized access and/or disturbance to these features.

Level of Significance: The Indian Key site is listed on the National Register of Historic Places. The site's significance is in the areas of agriculture, commerce and historic aboriginal archaeology for the period from 1820-1840. This period represents the development of Indian Key as a commercial wrecking empire by Jacob Housman and as

an agricultural testing area for Dr. Henry Perrine's botanical research on useful tropical and semi-tropical plants. The end of the sites 's period of significance coincides with the destruction of the dwellings, warehouses and other structures by the Seminoles in 1840 which ended residential and commercial activities sited on the island.

General management measures: A Cyclical Maintenance Plan has been developed for the cultural resources on Indian Key. As a result, in 2004, the Florida Park Service entered into a cooperative agreement with the Department of the Interior, National Park Service, Historic Preservation Training Center to stabilize and conserve those features that were in greatest need. Stabilization of Features A and C (warehouse complex) and Features F and G (kitchen complex) were undertaken in 2005 and 2006. A summary of the work completed can be found in the report submitted to DEP titled "Stabilization and conservation tasks associated with the masonry features located on the Indian Key State Historic Site, Islamorada, Florida."

Collections

Desired future condition: All historic, natural history and archaeological objects within the park that represent Florida's cultural periods, significant historic events or persons, or natural history specimens are preserved in good condition in perpetuity, protected from physical threats and interpreted to the public.

Description: Some of the artifacts from Indian Key are on loan from the collection of the DHR, Bureau of Archaeological Research (BAR). Over 160 objects have been inventoried and are displayed in cases in a non-climate controlled environment at the Matheson House on Lignumvitae Key.

Condition Assessment: Most of the collections are in good condition. Some of the pieces are broken or are just partial pieces of artifacts that were found on the island. Although these artifacts are in display cases in the Matheson House, only one room of the Matheson House is climate controlled. Therefore, the artifacts are subject to humidity and environmental impacts typical of a non-air conditioned home in the Florida Keys.

Level of Significance: The artifacts on display in the Matheson House on Lignumvitae Key provide insight as to the lifestyle of the former occupants of Indian Key during its period of historic occupancy from 1820-1840. This collection of the remains of household and personal items is important as a representation of that period and for its value for research needs.

General management measures: There currently are no plans to provide air-conditioning to the remaining rooms of the Matheson House. However, because most of the collections housed here are not subject to environmental degradation, it is not necessary for the area of the display cabinets to be in a climate-controlled environment.

Those items that may suffer damage from humidity will be monitored by park staff.

Detailed management goals, objectives and actions for the management of cultural resources in this park are discussed in the Cultural Resource Management Program section of this component. Table 4 contains the name, reference number, culture or period, and brief description of all the cultural sites within the park that are listed in the Florida Master Site File. The table also summarizes each site's level of significance, existing condition and recommended management treatment. An explanation of the codes is provided following the table.

Table 4: Cultural Sites Listed In The Florida Master Site File

Site Name and FMSF #	Culture/Period	Description	Significance	Condition	Treatment
Indian Key MO00015	American Acquisition/ Territorial Development 1821-1845	Archaeological Site	NR L	F– to G	ST

Significance

NRL.....National Register listed
NR.....National Register eligible
NE.....Not evaluated
NS.....Not significant

Condition

G ..... Good
F .....Fair
P .....Poor

Recommended Treatment

RS.....Restoration
RH.....Rehabilitation
ST .....Stabilization
P .....Preservation
R.....Removal

RESOURCE MANAGEMENT PROGRAM

Management Goals, Objectives and Actions

Measurable objectives and actions have been identified for each of the DRP's management goals for Indian Key Historic State Park. Please refer to the Implementation Schedule and Cost Estimates in the Implementation Component of this plan for a consolidated spreadsheet of the recommended actions, measures of progress, target year for completion and estimated costs to fulfill the management goals and objectives of this park.

While, the DRP utilizes the ten-year management plan to serve as the basic statement of policy and future direction for each park, a number of annual work plans provide more specific guidance for DRP staff to accomplish many of the resource management goals and objectives of the park. Where such detailed planning is appropriate to the character and scale of the park's natural resources, annual work plans are developed for prescribed fire management, exotic plant management and imperiled species management. Annual or longer- term work plans are developed for natural community restoration and hydrological restoration. The work plans provide the DRP with crucial flexibility in its efforts to generate and implement adaptive resource management practices in the state park system.

The work plans are reviewed and updated annually. Through this process, the DRP's resource management strategies are systematically evaluated to determine their effectiveness. The process and the information collected is used to refine techniques, methodologies and strategies, and ensures that each park's prescribed management actions are monitored and reported as required by Chapters 253.034 and 259.037, Florida Statutes.

The goals, objectives and actions identified in this management plan will serve as the basis for developing annual work plans for the park. The ten-year management plan is based on conditions that exist at the time the plan is developed, and the annual work plans provide the flexibility needed to adapt to future conditions as they change during the ten-year management planning cycle. As the park's annual work plans are implemented through the ten-year cycle, it may become necessary to adjust the management plan's priority schedules and cost estimates to reflect these changing conditions.

Natural Resource Management

Hydrological Management

Goal: Protect water quality and quantity in the park, restore hydrology to the extent feasible and maintain the restored condition.

The natural hydrology of Indian Key Historic State Park has not been altered, and

hydrological restoration is not an issue at this site. Since access to the island is limited to arrivals by boat, there are minimal threats of manmade pollution of the park's surface or groundwater resources. Therefore, no objectives for the management of the park's hydrology are needed.

Natural Communities Management

Goal: Restore and maintain the natural communities/habitats of the park.
As discussed above, the DRP practices natural systems management. In most cases, this entails returning fire to its natural role in fire-dependent natural communities. Other methods to implement this goal include large-scale restoration projects as well as smaller scale natural communities' improvements. Following are the natural community management objectives and actions recommended for the state park.

Natural Communities Restoration: In some cases, the reintroduction and maintenance of natural processes is not enough to reach the natural community desired future conditions in the park, and active restoration programs are required. Restoration of altered natural communities to healthy, fully functioning natural landscapes often requires substantial efforts that include mechanical treatment of vegetation or soils and reintroduction or augmentation of native plants and animals. For the purposes of this management plan, restoration is defined as the process of assisting the recovery and natural functioning of degraded natural communities to desired future condition, including the re-establishment of biodiversity, ecological processes, vegetation structure and physical characters.

Examples that would qualify as natural communities' restoration, requiring annual restoration plans, include large mitigation projects, large-scale hardwood removal and timbering activities, roller-chopping and other large-scale vegetative modifications. The key concept is that restoration projects will go beyond management activities routinely done as standard operating procedures such as routine mowing, the reintroduction of fire as a natural process, spot treatments of exotic plants, small-scale vegetation management and so forth.

Following are the natural community/habitat restoration and maintenance actions recommended to create the desired future conditions in the marine grass bed community at Indian Key Historic State Park.

> ***Objective: Conduct habitat/natural community restoration activities on 503 acres of marine grass bed community in Lignumvitae Key Submerged Land Managed Area.***

Of the 8,400 acres of seagrass within Lignumvitae Key Submerged Land Managed Area, approximately 503 have been damaged by grounding events in the form of propeller scars, blowholes and berms. Seagrass rhizomes are unable to grow if the vertical depth is greater than 20cm so it is necessary to restore the topography to the grade of the surrounding seagrass flat as the first step in restoration. If topographic restoration is not

conducted, the injury feature will be subjected to both vertical and horizontal erosion causing the footprint of the injury to increase in size and depth. Therefore, the DRP has developed and is implementing a restoration plan for this natural community within the boundaries of both Indian Key Historic State Park and Lignumvitae Key Botanical State park.

Natural Communities Improvement: Improvements are similar to restoration but on a smaller, less intense scale. This typically includes small-scale vegetative management activities or minor habitat manipulation. Following are the natural community/habitat improvement actions recommended at the park.

Natural community improvement at Indian Key Historic State Park will be achieved through the continuation of the exotic plant species removal program.

Imperiled Species Management

Goal: Maintain, improve or restore imperiled species populations and habitats in the park.

The DRP strives to maintain healthy populations of imperiled plant and animal species primarily by implementing effective management of natural systems. Single species management is appropriate in state parks when the maintenance, recovery or restoration of a species or population is complicated due to constraints associated with long-term restoration efforts, unnaturally high mortality or insufficient habitat. Single species management should be compatible with the maintenance and restoration of natural processes, and should not imperil other native species or seriously compromise park values.

In the preparation of this management plan, DRP staff consulted with staff of the FFWCC's Imperiled Species Management or that agency's Regional Biologist and other appropriate federal, state and local agencies for assistance in developing imperiled animal species management objectives and actions. Likewise, for imperiled plant species, DRP staff consulted with FDACS. Data collected by the FFWCC, USFWS, FDACS and FNAI as part of their ongoing research and monitoring programs will be reviewed by park staff periodically to inform management of decisions that may have an impact on imperiled species at the park.

Ongoing inventory and monitoring of imperiled species in the state park system is necessary to meet the DRP's mission. Long-term monitoring is also essential to ensure the effectiveness of resource management programs. Monitoring efforts must be prioritized so that the data collected provides information that can be used to improve or confirm the effectiveness of management actions on conservation priorities. Monitoring intensity must at least be at a level that provides the minimum data needed to make informed decisions to meet conservation goals. Not all imperiled species require intensive monitoring efforts on a regular interval. Priority must be given to

those species that can provide valuable data to guide adaptive management practices. Those species selected for specific management action and those that will provide management guidance through regular monitoring are addressed in the objectives below.

Objective: Update baseline imperiled species occurrence inventory lists for plants.

All naturally occurring imperiled plant species have been mapped using a Trimble GPS unit. These were recorded either as individual occurrences, or as polygons occurring within a natural community. This data will need to be updated when significant events occur such as a tropical storm or hurricane that would potentially alter population distribution and density.

Objective: Monitor and document three selected imperiled animal species in the park.

1. Three imperiled coral species – *Diplora strigosa, Diplora clivosa,* and *Siderastrea siderea*, will be monitored annually for presence/absence, overall condition, disease, physical impacts, and bleaching.
2. Park staff conducts coral monitoring in John Pennekamp Coral Reef State Park as part of the park's coral reef survey project and as part of the Nature Conservancy's Florida Reef Resilience Project. Established survey protocols for these projects will be modified to survey this site for coral.
3. Monitoring will be conducted by park staff knowledgeable in the identification of Caribbean coral species and their diseases.

Exotic Species Management

Goal: Remove exotic and invasive plants and animals from the park and conduct needed maintenance control.

The DRP actively removes invasive exotic species from state parks, with priority being given to those causing the ecological damage. Removal techniques may include mechanical treatment, herbicides or biocontrol agents.

Objective: Annually treat .25 acres of rockland hammock and coastal berm communities.

Continue to conduct follow-up exotic removal projects at the Atwood Addition to prevent the spread of exotics into the rockland hammock and coastal berm. Species of greatest concern include Brazilian pepper, lead tree, Portia, sapodilla, Guinea grass and bowstring hemp. Treatment will include hand pulling and the use of approved non-restricted herbicides.

Objective: Implement control measures on three nuisance and exotic animal species in the park.

Staff will monitor for the presence of feral cats, black rats and green iguanas on Indian Key and at the Atwood Addition. If any of these species are observed at the site, then

they will be trapped and removed following procedures outlined in the Operations Manual.

Special Management Considerations

Timber Management Analysis

Timber management is not applicable at Indian Key Historic State Park since the island is a historic site, the majority of the park is submerged land and timber management is not appropriate for the six-acre Atwood Addition parcel on Upper Matecumbe Key.

Arthropod Control Plan

All Division lands are designated as "environmentally sensitive and biologically highly productive" in accordance with Ch. 388 and Ch. 388.4111. If a local mosquito control district proposes a treatment plan, the Division responds within the allotted time and reaches consensus with the mosquito control district. By policy of the Department since 1987, no aerial adulticiding is allowed, but larviciding and ground adulticiding (truck spraying in public use areas) is typically allowed. The Division does, not authorize new physical alterations of marshes through ditching, or water control structures. Mosquito control plans temporarily may be set aside under declared threats to public or animal health, or during a Governor's Emergency Proclamation.

Additional Considerations

Although there is no beach at the Atwood Addition, the park does manage the 400-foot submerged land management area offshore from that parcel. However, there are currently no management issues typical of other nearshore waters because boat traffic along the shoreline is minimal and there is no access to the submerged resources from within the park.

Cultural Resource Management

Cultural Resource Management

Cultural resources are individually unique, and collectively, very challenging for the public land manager whose goal is to preserve and protect them in perpetuity. The DRP is implementing the following goals, objectives and actions, as funding becomes available, to preserve the cultural resources found in Indian Key Historic State Park.

Goal: Protect, preserve and maintain the cultural resources of the park.

The management of cultural resources is often complicated because these resources are irreplaceable and extremely vulnerable to disturbances. The advice of historical and archaeological experts is required in this effort. All activities related to land clearing, ground disturbing activities, major repairs or additions to historic structures listed or eligible for listing in the National Register of Historic Places and collections care must be submitted to the DHR for review and comment prior to undertaking the proposed project. Recommendations may include, but are not limited to concurrence with the project as submitted, pre-testing of the project site by a certified archaeological monitor,

cultural resource assessment survey by a qualified professional archaeologist, modifications to the proposed project to avoid or mitigate potential adverse effect. In addition, any demolition or substantial alteration to any historic structure or resource must be submitted to DHR for consultation and the DRP must demonstrate that there is no feasible alternative to removal and must provide a strategy for documentation or salvage of the resource. Florida law further requires that the DRP consider the reuse of historic buildings in the park in lieu of new construction and must undertake a cost comparison of new development versus rehabilitation of a building before electing to construct a new or replacement building. This comparison must be accomplished with the assistance of DHR.

Objective: Assess and evaluate the only recorded cultural resource in the park.

The historic ruins on Indian Key will be assessed and evaluated for their structural integrity, presence of vegetative growth, evidence of looting or tampering, disturbance by tropical storm or hurricane events, and for impacts from the marine environment. A Cyclical Maintenance Plan has been developed; however, the ability to continue with stabilization will depend upon funding.

Objective: Compile reliable documentation for all recorded historic and archaeological resources.

There are four areas of interest that have been identified by the 2001 Weisman report. Two are at the northern end of the island by 5th Street and two are south of 4th Street near Features F and G which have been identified as the Sturdy-Smith and Mott Cottages. These require further archaeological evaluation. However since the entire island is considered the cultural resource, there are no known additions to the Florida Master Site File.

Due to the significance of Indian Key Historic State Park, there has been widespread interest in investigating and understanding the use of the island during its historical occupation. Both local interest and research interest at the University level have provided valuable information on the history of this site.

Objective: Bring the recorded cultural site into good condition.

A Cyclical Maintenance Plan has been developed for the features on Indian Key that directs the priorities and schedule for stabilization of the ruins. Four features have recently undergone stabilization; however, most of the remaining ruins will require stabilization in order to prevent deterioration due to the marine elements, vegetative growth, time and past disturbance on the island. Although vegetation is removed around the ruins to protect them from damage, some sites on Indian Key are overgrown with agave plants. These will be left until it is feasible to conduct stabilization on those structures. The presence of the agave plants prevents unauthorized access and/or disturbance to these features. The ability to complete this scheduled maintenance will depend upon funding.

Resource Management Schedule

A priority schedule for conducting all management activities that is based on the purposes for which these lands were acquired, and to enhance the resource values, is located in the Implementation Component of this management plan.

Land Management Review

A Land Management Review was not conducted for Indian Key Historic State Park.

LAND USE COMPONENT

INTRODUCTION

Land use planning and park development decisions for the state park system are based on the dual responsibilities of the Florida Department of Environmental Protection (DEP), Division of Recreation and Parks (DRP). These responsibilities are to preserve representative examples of original natural Florida and its cultural resources, and to provide outdoor recreation opportunities for Florida's citizens and visitors.

The general planning and design process begins with an analysis of the natural and cultural resources of the unit, and then proceeds through the creation of a conceptual land use plan that culminates in the actual design and construction of park facilities. Input to the plan is received from experts in environmental sciences, cultural resources and park operation and management Additional input is received through public workshops and through consultation with state and local environmental and recreational user groups. With this approach, the DRP's objective is to provide quality development for resource-based recreation throughout the state with a high level of sensitivity to the natural and cultural resources at each park.

This component of the unit plan includes a brief inventory of the external conditions and the recreational potential of the unit. Existing uses, facilities, special conditions on use, and specific areas within the park that will be given special protection, are identified. The land use component then summarizes the current conceptual land use plan for the park, identifying the existing or proposed activities suited to the resource base of the park. Any new facilities needed to support the proposed activities are described and located in general terms.

EXTERNAL CONDITIONS

An assessment of the conditions that exist beyond the boundaries of the unit can identify any special development problems or opportunities that exist because of the unit's unique setting or environment. This also provides an opportunity to deal systematically with various planning issues such as location, regional demographics, adjacent land uses and park interaction with other facilities.

Indian Key Historic State Park is located within Monroe County, about one mile east of Matecumbe Key. Access to the island is only by boat. The filled causeway (Indian Key Fill) carrying U.S. Highway 1 is the nearest upland, with land restricted to transportation and roadside recreational uses. Across the U.S. Highway 1 causeway are Lignumvitae Key State Botanical Site and Shell Key State Preserve.

A portion of the Indian Key fill site along the U.S. Highway 1 causeway is leased by the Florida Department of Transportation (FDOT) to the DRP, and is a part of the adjacent Lignumvitae Key Botanical State Park. An interpretive kiosk at this site provides information on the parks in the Lignumvitae Island Complex, and refers visitors to a nearby private marina that offers boat trips to Lignumvitae Key and Indian Key.

Existing Use of Adjacent Lands

Upper Matecumbe Key is heavily developed with mixed commercial and residential uses. Lower Matecumbe Key is less developed, with a greater proportion of land in residential use. Intensive recreational boating and fishing activities occur in the waters surrounding Indian Key.

Planned Use of Adjacent Lands

Continued development should be anticipated, especially on the undeveloped portions of Lower Matecumbe Key. Effects of future population growth in the Middle Keys on this unit of the state park system will include increased visitor pressure, increased boating activity near the island and increased traffic congestion on U.S. Highway 1.

PROPERTY ANALYSIS

Effective planning requires a thorough understanding of the unit's natural and cultural resources. This section describes the resource characteristics and existing uses of the property. The unit's recreation resource elements are examined to identify the opportunities and constraints they present for recreational development. Past and present uses are assessed for their effects on the property, compatibility with the site, and relation to the unit's classification.

Recreation Resource Elements

This section assesses the unit’s recreation resource elements those physical qualities that, either singly or in certain combinations, supports the various resource-based recreation activities. Breaking down the property into such elements provides a means for measuring the property's capability to support individual recreation activities. This process also analyzes the existing spatial factors that either favor or limit the provision of each activity.

Land Area

Uplands on Indian Key are limited. Approximately seven acres of the island are the remains of the historic town and less than two acres are included in the coastal rock barren community located along the southern shore of the island. The state historic site presents a harsh experience for visitors, often being extremely hot and dry.

The Atwood tract is located on upper Matecumbe Key. The parcel has no recreational potential and does not appear useable for park support functions at this time. This plan recommends no development or other public uses of the property.

Water Area

The shallow water surrounding most of the island is a popular attraction for boaters. Snorkeling and fishing are the primary activities of these visitors. Canoeing and kayaking activities are now the fastest-growing offshore recreational activity in the Keys, a trend that is being observed in the area of this park staff. Beaching of boats on the shoreline and anchor damage to the bottom communities are management problems associated with these activities

Shoreline

Two-thirds of the Indian Key Shoreline is mangrove community with little or no public access. The southern third is the coastal rock barren community. A footpath through this community has been blocked for resource protection purposes. Visitor use of the shoreline should not be encouraged because or the sensitivity of these natural communities.

Natural Scenery

The mixture of native and exotic plant species, historic ruins and occasional views through the vegetation to the open water create striking scenery at Indian Key. As elsewhere in the Keys, the panoramic views of sea and sky from the offshore areas of the park are scenic resources much valued by local residents and visitors.

Significant Wildlife Habitat

As discussed in the resource management component the offshore waters and submerged communities surrounding the island provide habitat for a number of imperiled corals, manatees and sea turtles. Opportunities to see these species, and to fish, make this area attractive to fishermen, snorkel and SCUBA divers and paddlers.

Archaeological and Historical Features

The ruins of the historic settlement on Indian Key are the outstanding features of this park. These ruins generate great interest in the visiting public, given the dramatic story of the destruction of the town by a Seminole Indian raid in 1840. The interpretive signs provided within the historic site have been improved during the past few years.

Assessment of Use

All legal boundaries, significant natural features, structures, facilities, roads and trails existing in the unit are delineated on the base map (see Base Map). Specific uses made of the unit are briefly described in the following sections.

Past Uses

The most significant past use of the island was the settlement and development as a salvage center and the designation of the island as the original Dade County seat from 1836 to 1843. Recreational uses and artifact collecting over the years have had considerable impact on the cultural resources of the park in the past. These impacts have been reduced through ongoing educational and law enforcement efforts by DEP staff. The shallow waters surrounding the island have traditionally been heavily used for fishing and snorkeling recreation.

Future Land Use and Zoning

The DRP works with local governments to establish designations that provide both consistency between comprehensive plans and zoning codes and permit typical state park uses and facilities necessary for the provision of resource-based recreation opportunities. The Future Land Use as listed in the 2010 Monroe County comprehensive plan is conservation. This designation does not create any conflict with the planned use of Indian Key Historic State Park.

Current Recreational Use and Visitor Programs

Walking through and observing the ruins of the old town are the primary public uses of the historic site. Boating, sport fishing, snorkeling and diving are popular recreational activities that occur within the submerged land surrounding the island. Day-to-day access to Indian Key is by way of private boats or charter boats from nearby marinas. Currently, the DRP contracts ferry service with a nearby private marina through a nonexclusive special use permit.

Indian Key Historic State Park recorded 36,763 visitors in FY 2010/2011. By DRP estimates, the FY 2010/2011visitors contributed $1,572,427 in direct economic impact and the equivalent of 31.4 jobs to the local economy (Florida Department of Environmental Protection, 2011).

Other Uses

Submerged land within the boundary of the state historic site has historically been used for a variety of commercial activities, including lobstering, stone crabbing, commercial sport fishing, tropical fish collecting, commercial bait fishing and sponging.

INDIAN KEY HISTORIC STATE PARK

N

0 500 1,000 2,000 Feet

Florida Department of Environmental Protection
Division of Recreation and Parks
Date of aerial: 2011

BASE MAP

Protected Zones

A protected zone is an area of high sensitivity or outstanding character from which most types of development are excluded as a protective measure. Generally, facilities requiring extensive land alteration or resulting in intensive resource use, such as parking lots, camping areas, shops or maintenance areas, are not permitted in protected zones. Facilities with minimal resource impacts, such as trails, interpretive signs and boardwalks are generally allowed. All decisions involving the use of protected zones are made on a case-by-case basis after careful site planning and analysis.

At Indian Key Historic State Park the entire site has been designated as a protected zone as delineated on the

Existing Facilities

Recreation Facilities

A boat dock, shelter, storage shed and an observation tower are the only developed facilities of this unit. Cleared trails approximately on the original locations of the historic town streets and town square provide visitor access to the historic site. Park staff has worked to maintain the trails on Indian Key in universally accessible conditions. The observation tower is not accessible at this time.

Support Facilities

The park is managed jointly with the Lignumvitae Key Botanical State Park. Support facilities have been constructed at the upper end of Lower Matecumbe Key, consisting of docking facilities, fuel storage and a combined maintenance shop and office building.

CONCEPTUAL LAND USE PLAN

The following narrative represents the current conceptual land use proposal for this park. As new information is provided regarding the environment of the park, cultural resources, recreational use, and as new land is acquired, the conceptual land use plan may be amended to address the new conditions (see Conceptual Land Use Plan). A detailed development plan for the park and a site plan for specific facilities will be developed based on this conceptual land use plan, as funding becomes available.

The conceptual land use plan described here is the long-term, optimal development plan for the park, based on current conditions and knowledge of the park's

resources, landscape and social setting. The development plan will be reassessed during the next update of the park management plan, and modified to address new conditions, as needed.

During the development of the management plan, the DRP assessed potential impacts of proposed uses or development on the park resources and applied that analysis to decisions on the future physical plan of the park as well as the scale and character of proposed development. Potential impacts are more thoroughly identified and assessed as part of the site planning process once funding is available for facility development. At that stage, design elements (such as existing topography and vegetation, sewage disposal and stormwater management) and design constraints (such as imperiled species or cultural site locations) are thoroughly investigated. Municipal sewer connections, advanced wastewater treatment or best available technology systems are applied for on-site sewage disposal. Stormwater management systems are designed to minimize impervious surfaces to the greatest extent feasible, and all facilities are designed and constructed using best management practices to avoid impacts and to mitigate those that cannot be avoided. Federal, state and local permit and regulatory requirements are met by the final design of the projects. This includes the design of all new park facilities consistent with the universal access requirements of the Americans with Disabilities Act (ADA). After new facilities are constructed, the park staff monitors conditions to ensure that impacts remain within acceptable levels.

Potential Uses

Public Access and Recreational Opportunities

Goal: Provide public access and recreational opportunities in the park.

Existing recreational activities and programs of the park are appropriate to the natural and cultural resources contained within the park. These activities should be continued. New and improved activities and programs are also recommended and discussed below.

Objective: Maintain the park's current recreational carrying capacity of 55 users per day.

The park will continue to provide opportunities for visitor access to the historic site on the island.

Objective: Continue to provide the current repertoire of one interpretive and educational program on a regular basis.

Self-guided tours are currently available on Indian Key. Ranger-led tours are available on a case-by-case basis depending on current staffing and time frame of request. There are no plans for expanding the repertoire of interpretive or educational programs due to staff cuts.

INDIAN KEY HISTORIC STATE PARK

N

0 500 1,000 2,000 Feet

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF RECREATION AND PARKS
OFFICE OF PARK PLANNING

CONCEPTUAL LAND USE PLAN

Objective: Update and implement the park's interpretive plan.

The update and implementation of the park's interpretive plan will provide guidance for future programming and improvements to the park's interpretive displays.

Interpretive text has been unobtrusively installed along the historic street system and trail connectors to better explain the site to the self-guided visitor. All interpretive exhibits on the island should clearly inform visitors that damage to the ruins or removal of any artifacts from the island are violations of state and federal laws and will be prosecuted. The existing observation tower should also be the location of interpretive displays.

Proposed Facilities

Capital Facilities and Infrastructure

Goal: Develop and maintain the capital facilities and infrastructure necessary to implement the recommendations of the management plan.

Additions to the main support facilities for the combined state park operations on Lower Matecumbe Key (park residences) are discussed in the management plan for Lignumvitae Key Botanical State Park.

Existing facilities of the park are appropriate to the natural and cultural resources contained in the park. These facilities should be maintained. New construction, as discussed further below, is recommended to improve the quality and safety of the recreational opportunities that visitors enjoy while in the park, to improve the protection of park resources, and to streamline the efficiency of park operations. The following is a summary of new and improved facilities needed to implement the conceptual land use plan for Indian Key Historic State Park:

Objective: Maintain all public and support facilities in the park.

All capital facilities, trails and roads within the park will be kept in proper condition through the daily or regular work of park staff and/or contracted help.

Objective: Improve/repair existing facilities, as needed.

Major repair projects for park facilities may be accomplished within the 10-year term of this management plan, if funding is made available. These include the modification of existing park facilities to bring them into compliance with the Americans with Disabilities Act (a top priority for all facilities maintained by the DRP), and replacement or repair of the dock following storms.

Facilities Development

Preliminary cost estimates for these recommended facilities, improvements are provided in the Ten-Year Implementation Schedule and Cost Estimates located in the Implementation Component of this plan. These cost estimates are based on the most cost-effective construction standards available at this time. The preliminary estimates are provided to assist the DRP in budgeting future park improvements, and may be revised as more information is collected through the planning and design processes.

Existing Use and Recreational Carrying Capacity

Carrying capacity is an estimate of the number of users a recreation resource or facility can accommodate and still provide a high quality recreational experience and preserve the natural values of the site. The carrying capacity of a unit is determined by identifying the land and water requirements for each recreation activity at the unit, and then applying these requirements to the unit's land and water base. Next, guidelines are applied which estimate the physical capacity of the unit's natural communities to withstand recreational uses without significant degradation. This analysis identifies a range within which the carrying capacity most appropriate to the specific activity, the activity site and the unit's classification is selected (see Table 5).

The recreational carrying capacity for this park is a preliminary estimate of the number of users the unit could accommodate after the current conceptual development program has been implemented. When developed, the proposed new facilities would approximately increase the unit's carrying capacity as shown in Table 5.

Table 5--Existing Use and Recreational Carrying Capacity

	Existing Capacity		Proposed Additional Capacity		Estimated Recreational Capacity	
Activity/Facility	One Time	Daily	One Time	Daily	One Time	Daily
Site Visitation	50	100	0	0	50	100
TOTAL	**50**	**100**	**0**	**0**	**50**	**100**

Optimum Boundary

The optimum boundary map reflects lands that have been identified as desirable for direct management by DRP as part of the state park. These parcels may include public as well as privately owned lands that improve the continuity of existing parklands, provide the most efficient boundary configuration, improve access to the park, provide additional natural and cultural resource protection or allow for future expansion of recreational activities. The map also identifies lands that are potentially surplus to the management needs of DRP. As additional needs are identified through park use, development, or research, and changes to land use on adjacent private property occurs, modification of the park's optimum boundary may be necessary.

At this time, no lands are considered surplus to the needs of the park, and no additional acquisitions are identified as needed for the state historic site.

IMPLEMENTATION COMPONENT

The resource management and land use components of this management plan provide a thorough inventory of the park's natural, cultural and recreational resources. They outline the park's management needs and problems, and recommend both short and long-term objectives and actions to meet those needs. The implementation component addresses the administrative goal for the park and reports on the Florida Department of Environmental Protection (DEP), Division of Recreation and Parks (DRP) progress toward achieving resource management, operational and capital improvement goals and objectives since approval of the previous management plan for this park. This component also compiles the management goals, objectives and actions expressed in the separate parts of this management plan for easy review. Estimated costs for the ten-year period of this plan are provided for each action and objective, and the costs are summarized under standard categories of land management activities.

MANAGEMENT PROGRESS

Since the approval of the last management plan for Indian Key Historic State Park in 2000, significant work has been accomplished and progress made towards meeting DRP's management objectives for the park. These accomplishments fall within three of the five general categories that encompass the mission of the park and DRP.

Resource Management

Natural Resources

- Removed 22.75 Acres of invasive exotic plants
- Conducted seagrass restoration in approximately .25 acres within the park
- Removed debris from Atwood Addition that was impacting rockland hammock habitat.

Cultural Resources

- Completed stabilization on four historic structures in partnership with the National Park Service

Recreation and Visitor Services

- Completed installation of interpretive signage along historic street system
- Upgraded historic street system damaged by hurricane activity
- Upgraded observation tower
- Installed new dock at Indian Key

MANAGEMENT PLAN IMPLEMENTATION

This management plan is written for a timeframe of ten years, as required by Section 253.034 Florida Statutes. The Ten-Year Implementation Schedule and Cost Estimates (Table 6) summarize the management goals, objectives and actions that are recommended for implementation over this period, and beyond. Measures are identified for assessing progress toward completing each objective and action. A period

for completing each objective and action is provided. Preliminary cost estimates for each action are provided and the estimated total costs to complete each objective are computed. Finally, all costs are consolidated under the following five standard land management categories: Resource Management, Administration and Support, Capital Improvements, Recreation Visitor Services and Law Enforcement.

Many of the actions identified in the plan can be implemented using existing staff and funding. However, a number of continuing activities and new activities with measurable quantity targets and projected completion dates are identified that cannot be completed during the life of this plan unless additional resources for these purposes are provided. The plan's recommended actions, time frames and cost estimates will guide DRP's planning and budgeting activities over the period of this plan. It must be noted that these recommendations are based on the information that exists at the time the plan was prepared. A high degree of adaptability and flexibility must be built into this process to ensure that DRP can adjust to changes in the availability of funds, improved understanding of the park's natural and cultural resources, and changes in statewide land management issues, priorities and policies.

Statewide priorities for all aspects of land management are evaluated each year as part of the process for developing DRP's annual legislative budget requests. When preparing these annual requests, DRP considers the needs and priorities of the entire state park system and the projected availability of funding from all sources during the upcoming fiscal year. In addition to annual legislative appropriations, DRP pursues supplemental sources of funds and staff resources wherever possible, including grants, volunteers and partnerships with other entities. The DRP's ability to accomplish the specific actions identified in the plan will be determined largely by the availability of funds and staff for these purposes, which may vary from year to year. Consequently, the target schedules and estimated costs identified in Table 6 may need to be adjusted during the ten-year management planning cycle.

Table 6
Indian Key Historic State Park Ten-Year Implementation Schedule and Cost Estimates
Sheet 1 of 3

NOTE: THE DIVISION'S ABILITY TO COMPLETE THE OBJECTIVES OUTLINED BY THE MANAGEMENT PLAN IS CONTINGENT ON THE AVAILABILITY OF FUNDING AND OTHER RESOURCES FOR THESE PURPOSES.

Goal I: Provide administrative support for all park functions.		**Measure**	**Planning Period**	**Estimated Manpower and Expense Cost* (10-years)**
Objective A	**Continue day-to-day administrative support at current levels.**	Administrative support ongoing	C	**$49,550**
Goal II: Protect water quality and quantity in the park, restore hydrology to the extent feasible, and maintain the restored condition.		**Measure**	**Planning Period**	**Estimated Manpower and Expense Cost* (10-years)**
	Indian Key Historical State Park does not have any hydrological issues to be managed.			
Goal III: Restore and maintain the natural communities/habitats of the park.		**Measure**	**Planning Period**	**Estimated Manpower and Expense Cost* (10-years)**
Objective A	**Monitor upland acres of island for invasive exotic species and other disturbances.**	# Acres monitored	C	**$4,120**
Objective B	**Maintain 95 acres of submerged communities.**	# Acres maintained	C	**$5,135**
Objective C	**Develop/update response plan to address natural community disturbance by tropical storm or hurricane events.**	Plan Updated	ST	**$8,394**
Goal IV: Maintain, improve or restore imperiled species populations and habitats in the park.		**Measure**	**Planning Period**	**Estimated Manpower and Expense Cost* (10-years)**
Objective A	**Update baseline imperiled species occurrence inventory lists for plants and animals, as needed.**	List updated	C	**$1,776**
Objective B	**Monitor and document 3 selected imperiled animal species in the park.**	# Species monitored	C	**$2,028**
Action 1	Implement monitoring protocols for the selected imperiled coral species including brain coral, symmetrical brain coral and massive starlet coral annually.	# Species monitored	C	$2,028
Objective C	**Monitor and document 6 selected imperiled plant species in the park.**	# Species monitored	C	**$2,426**
Action 1	Update data for imperiled plant species in the park when significant events occur such as a tropical storm or hurricane, to document impact to population, dstribution and density.	# Protocols developed	C	$2,426

* 2011 Dollars
ST = actions within 2 years
LT = actions within 10 years
C = long term or short term actions that are continuous or cyclical
UFN = currently unfunded need

Table 6
Indian Key Historic State Park Ten-Year Implementation Schedule and Cost Estimates
Sheet 2 of 3

NOTE: THE DIVISION'S ABILITY TO COMPLETE THE OBJECTIVES OUTLINED BY THE MANAGEMENT PLAN IS CONTINGENT ON THE AVAILABILITY OF FUNDING AND OTHER RESOURCES FOR THESE PURPOSES.

Goal V: Remove exotic and invasive plants and animals from the park and conduct needed maintaince-control.		**Measure**	**Planning Period**	**Estimated Manpower and Expense Cost* (10-years)**
Objective A	**Annually treat .25 acres of exotic plant species in the park.**	# Acres treated	C	**$4,200**
Action 1	Update exotic plant management annual work plan.	Plan Updated	C	$1,000
Action 2	Implement annual work plan by treating .25 acres in park, annually, and continuing maintenance and follow-up treatments, as needed.	# Acres treated	C	$3,200
Objective B	**Implement control measures on 3 exotic and nuisance animal species in the park.**	# Species for which control measures implemented	C	**$5,100**
Action 1	Monitor black rats, green iguanas and free-roaming or feral cats within the park boundary, and remove them according to procedures outlined in the operations manual when encountered.		C	$5,100
Goal VI: Protect, preserve and maintain the cultural resources of the park.		**Measure**	**Planning Period**	**Estimated Manpower and Expense Cost* (10-years)**
Objective A	**Assess and evaluate all of the recorded cultural resources in the park.**	Documentation complete	LT	**$16,305**
Action 1	Assess and evaluate 4 historic ruins.	Assessments complete	LT	$4,530
Action 2	Update and implement cyclical maintenance plan.	Cyclical Plan Developed/Implemented	C	$11,725
Objective B	**Compile reliable documentation for all recorded historic and archaeological sites.**	Documentation complete	C	**$4,229**
Action 1	Develop and adopt a scope of collections statement.	Statement Developed	ST	$2,229
Action 2	Monitor the island and update the Florida Master Site File as needed.		C	$2,000
Objective C	**Maintain all 4 historic features in good condition.**	# Sites in good condition	UFN	**$165,000**
Action 1	Design and implement a regular monitoring plan for the island.		UFN	$165,000
Goal VII: Provide public access and recreational opportunities in the park.		**Measure**	**Planning Period**	**Estimated Manpower and Expense Cost* (10-years)**
Objective A	**Maintain the park's current recreational carrying capacity of 55 users per day.**	# Recreation/visitor opportunities per day	C	**$413,800**
Objective B	**Update and implement the park's interpretive plan.**	Statement Updated/Implemented	ST	**$500**
Objective C	**Continue to provide guided tours by special arrangement.**	# Tours Provided	C	**$2,048**
Goal VIII: Develop and maintain the capital facilities and infrastructure necessary to meet the goals and objectives of this management plan.		**Measure**	**Planning Period**	**Estimated Manpower and Expense Cost* (10-years)**
Objective A	**Maintain all public and support facilities in the park.**	Facilities maintained	C	**$69,940**
Objective B	**Continue to implement the park's transition plan to ensure facilities are accessible in accordance with the American with Disabilities Act of 1990.**	Plan implemented	LT	**$33,300**

* 2011 Dollars
ST = actions within 2 years
LT = actions within 10 years
C = long term or short term actions that are continuous or cyclical
UFN = currently unfunded need

Table 6
Indian Key Historic State Park Ten-Year Implementation Schedule and Cost Estimates

NOTE: THE DIVISION'S ABILITY TO COMPLETE THE OBJECTIVES OUTLINED BY THE MANAGEMENT PLAN IS CONTINGENT ON THE AVAILABILITY OF FUNDING AND OTHER RESOURCES FOR THESE PURPOSES.

Summary of Estimated Costs

Management Categories		Total Estimated Manpower and Expense Cost* (10-years)
Resource Management		**$218,712**
Administration and Support		**$49,550**
Capital Improvements		**$103,240**
Recreation Visitor Services		**$416,348**
Law Enforcement Activities[1]		**$0**
	[1]Law enforcement activities in Florida State Parks are conducted by the DEP Division of Law Enforcement and by local law enforcement agencies.	

* 2011 Dollars
ST = actions within 2 years
LT = actions within 10 years
C = long term or short term actions that are continuous or cyclical
UFN = currently unfunded need

Addendum 1—Acquisition History

Sequence Of Acquisition

On December 28, 1970, the State of Florida Board of Trustees of the Internal Improvement Trust Fund (Trustees) acquired title to the property that became Indian Key Historic State Park. The purchase was funded under Land Acquisition Trust Fund program. Indian Key Historic State Park is comprised of 111 acres (13 upland acres and 98 submerged acres).

Lease Agreement Number 2536

On June 8, 1971, the Trustees transferred management authority of Indian Key Historic State Park to the Florida Department of Environmental Protection (DEP), Division of Recreation and Parks (DRP) under lease agreement No. 2536. The period of the lease is for a period of ninety-nine (99) years and will expire on June 8, 2070.

Lease agreement 2536 stipulates that the property will be managed for public outdoor recreation and other park related uses. The DRP manages Indian Key Historic State Park for public outdoor recreation.

Title of Interest

The Trustees hold fee simple title to Indian Key Historic State Park.

Outstanding Reservations

Indian Key Historic State Park is designated single-use to provide public outdoor recreation and other park related uses. Uses such as water resource development projects, water supply projects, storm-water management projects, and linear facilities and sustainable agriculture and forestry (other than those forest management activities specifically identified in this plan) are not consistent with this management plan.

Following is a listing of outstanding rights, reservations and encumbrances that apply to Indian Key Historic State Park.

Instrument:.....Easement

Instrument Holder:.....Trustees

Beginning Date:.....August 27, 1975

Ending Date: .....No ending date given

Outstanding Rights, Uses, Etc.: .....The Trustees granted this easement, Easement No. 25583, to Florida Keys Electric Cooperative Association, Inc. for the purposes of constructing, operating and maintaining an electric distribution line under the subject land. The easement is subject to automatic termination when, in the opinion of the Trustees, the subject land is not utilized for the purpose outline in the instrument.

Addendum 2—Advisory Group Members and Report

Elected Officials

Honorable Michael Reckwerdt, Mayor
Islamorada Village Council
86800 Overseas Highway
Islamorada, FL 33036

Represented by:
Honorable Ted Blackburn
Islamorada Village Council
86800 Overseas Highway
Islamorada, FL 33036

Honorable Heather Carruthers, Mayor
Monroe County Board of
County Commissioners
530 Whitehead Street
Key West, FL 33040

Agency Representatives

Melba Nezbed, Park Manager
77200 Overseas Highway
Islamorada, Florida 33036

Sean Morton, Superintendent
Florida Keys National Marine Sanctuary
Upper Keys Region Office
95230 Overseas Highway
Key Largo, Fl. 33037

Represented by:
John Halas
Florida Keys National Marine
Sanctuary
Upper Keys Region Office
95230 Overseas Highway
Key Largo, Fl. 33037

Mark Torok
Department of Agriculture and
Consumer Services
Florida Forest Service
3315 S.W. College Ave
Davie, FL 33314

Randal T. Grau
Florida Fish and Wildlife
Conservation Commission
P.O. Box 430541
Big Pine Key, FL 33043

Represented by:
Ricardo Zambrano
Florida Fish and Wildlife
Conservation Commission
8535 Northlake Boulevard
West Palm Beach, FL 33412

Mike Wisenbaker
Florida Division of Historical Resources
500 South Bronough Street,
Mail Station 8
Tallahassee, Florida 32399-0250

S. Cooper McMillan, Chair
South Dade Soil And Water
Conservation District
1450 N. Krome Avenue,
Suite 104
Florida City, FL 33034

Represented by:
L.T. "Sonny" Clayton
South Dade Soil And Water
Conservation District
1450 N. Krome Avenue,
Suite 104
Florida City, FL 33034

Environmental Representatives

Peter Frezza
Audubon of Florida
115 Indian Mound Trail
Tavernier, FL 33070

Volunteers
Karen Sunderland Strobel
Friends of Islamorada Parks
168 Plantation Drive
Plantation Key, Fl 33070

User Group Representatives
Frank Woll
104050 Overseas Highway
Key Largo, Florida 33037

Historical Preservation Society Representative
Jerry Wilkenson
38 East Beach Road
Tavernier, Florida 33070

Adjacent Landowners
Nick Tagliareni
32 Park Road
Islamorada, FL 33035

Sue Miller
151 Columbus Drive
Islamorada, Fl 33036

Indian Key Historic State Park Advisory Group Report

The Advisory Group meeting to review the proposed land management plan for the Islamorada Area State Parks was held at the Allison Fahrer Environmental Education Center at Windley Key Fossil Reef Geological State Park on October 27, 2011 at 9:00 AM.

The Honorable Michael Reckwerdt of the Village Council of the Islamorada Village of Islands was represented by The Honorable Ted Blackburn. Mr. Sean Morton of the Florida Keys National Marine Sanctuary was represented by Mr. John Halas. Mr. S. Cooper McMillan of the South Dade South and Water Conservation District was represented by Mr. L.T. "Sonny" Clayton. The Honorable Heather Carruthers (Monroe County Board of County Commissioners), Mr. Randal Grau (Florida Fish and Wildlife Conservation Commission), Mr. Mike Wisenbaker (Florida Division of Historical Resources), Mr. Frank Woll, and Mr. Jerry Wilkinson (Historical Preservation Society of the Upper Keys) were not in attendance. Attending staff were Mr. Paul Rice, Mr. Lew Scruggs, Mr. Ernest Cowan, Ms. Melba Nezbed, Ms. Janice Duquesnel, and Mr. Joe Blazina. All other Advisory Group members were in attendance.

Mr. Blazina began the meeting by explaining the purpose of the Advisory Group and reviewing the meeting agenda. He provided a brief overview of the Division's planning process and summarized public comments received during the previous evening's public workshop. He then asked each member of the advisory group to express his or her comments on the plans.

Summary of Advisory Group Comments

Mr. Frezza addressed the unimproved boat ramp on Indian Key Fill. He recommended that the ramp needs to be addressed, and was glad to see it in the management plan. Mr. Frezza stated that he did not know the ramp was managed by the Division of Recreation and Parks, adding that as a local user, he has seen the operational issues that it presents, and recommended that the Division assess a fee if the ramp is improved. He said that if the ramp cannot be improved, it should be closed to motorized boats and used for paddling access due to its location and access to Lignumvitae Key. He discussed Horseshoe Key, recommending that the nearshore area around it be closed to fishers due to heavy use by nesting shorebirds and frigate birds. Mr. Frezza concluded by commending the Park Staff on their work to protect the parks' shallow water habitats and seagrass beds, adding that their signage and outreach programs are a model for other submerged land managers.

Mr. Halas began his comments adding to Mr. Frezza's concerns regarding the boat launching facilities on Indian Key Fill. He agreed that the ramp should definitely be renovated and managed with better rule enforcement, adding that with a better boat ramp will come even more traffic; as a result the parking should be reconfigured and improved as well. Mr. Halas concluded his comments commending the plans for being very well written and comprehensive.

Mr. Tagliareni addressed the entrance to Windley Key Fossil Reef Geological State Park. He suggested that the Division should work with DOT in the future to establish a right turn lane into the park, since a lot of people do not realize where the entrance to the park is until they drive past it. Mr. Tagliareni asked about paddling access to Indian Key, as the current dock is difficult to access from a kayak. Melba Nezbed responded that both Indian Key and Lignumvitae Key now have kayak landings.

Mr. Blackburn said that he was thrilled with all four of the parks, and what the park staff do to to manage them. He added to the Indian Key Fill boat ramp comments, discussing the traffic issues along US 1 with trucks and boat trailers stopping traffic to enter and exit the boat launching area. Mr. Blackburn added to Mr. Tagliareni's comments, letting Division Staff know that DOT had recently conducted public hearings regarding widening the shoulder of US 1 on Upper Matecumbe Key, suggesting the Division work with DOT to get a right turn lane into Windley Key Fossil Reef Geological State Park included in that project. Mr. Blackburn discussed the Village of Islamorada's progress in establishing wastewater treatment in the area.

Mr Blackburn also asked about the status of the proposed dinosaur theme park development at Windley Key Fossil Reef Geological State Park. Mr. Scruggs responded that division staff met with the interested parties to discuss the idea, and requested a detailed business plan and specific site plans to further explain the proposal. He explained that no formal proposal has been received by the Division to date. He explained if any such proposal is received in the future, and if the Division were interested in exploring the idea, then a public workshop would be held in the local area to ensure the involvement of local residents and stakeholders, and that an amendment to the park's management plan would be required.

Ms. Miller agreed that there should be a fee to use the boat ramp on Indian Key Fill, adding that the traffic congestion in the area is a safety hazard. She commented that there needs to be more signs in Robbie's Marina, pointing visitors to where they are supposed to go to buy tickets to gain access to Indian Key and Lignumvitae Key. Ms. Miller commended the park staff on their terrific job with educational outreach and interpretation of the parks, and encouraged them to expand their efforts further so that future generations understand the significance of the state parks in their area. She suggested establishing a kayak trail in the canal system near the land base, noting that

the mangrove-lined canals are fantastic, and people should be able to enjoy them. Ms. Miller noted that allowing visitors to kayak in the waters surrounding the islands would not have a negative impact on the sensitive resources on the islands themselves. Ms. Miller concluded her comments discussing the Choate Tract and the DOT picnic area adjacent to it. She suggested the Division work with DOT to establish a restroom, or fence the park boundary to manage access to the property.

Ms. Sunderland Strobel began her discussion asking if Robbie's Marina had a formal concession contract with the Division, adding that Robbie's should be required to provide better signage so that visitors know where to go to purchase tickets to gain access to the islands. She continued her comments discussing the option to rent kayaks, adding that the rentals provide income to the Parks. Ms. Sunderland Strobel agreed with Ms. Miller that there should be a restroom located at the Choate Tract if people are going to be allowed to picnic adjacent to it. She also said that the boat ramp area on Indian Key Fill should have a restroom, especially with the potential for sewer to come in the future. Ms. Sunderland Strobel concluded her comments stating that the plans are excellent and very well written.

Mr. Clayton began his comments stating that he grew up in the Islamorada area, and that the State Parks are very important to him. He added that the South Dade Soil and Water Conservation District provides education outreach to local schools, agreeing that education of young people is very important. Mr. Clayton concluded his comments stating that the plans are very well done, and he will continue to review them and submit further comments following the Advisory Group Meeting.

Mr. Torok commented that the plans are well written, adding that he is familiar with the parks through the Champion Tree Program. He asked park staff if the Champion Trees located on Lignumvitae Key are signed or interpreted to visitors. Janice Duquesnel responded that the Champion Trees are deep within the hammock of the island, and not accessible from the main trail that goes around the island, so signing the trees is not necessary.

Summary of Written Comments

Mr. Wisenbaker was not able to attend the advisory group meeting, but did submit written comments regarding the plans. His comments included typographical and editorial changes to the plans, as well as discussion. Mr. Wisenbaker commended the Division of Recreation and Parks in its efforts to preserve and protect Florida's irreplaceable historical resources. He recommended the Division to continue its efforts to nominate Windley Key Fossil Reef Geological State Park to the National Register of Historic Places. He also added that staff at the Division of Historical Resources who may be able to assist with the nomination process, as well as treating and restoring the historic quarrying machinery. He asked if a cyclical maintenance plan has been

developed for the historical machinery found on Lignumvitae Key, and what the schedule was. Mr. Wisenbaker commended the Division for their continued work to preserve, protect, and interpret Indian Key Historic State Park, and the work to develop a cyclic maintenance plan for the ruins there. He concluded by suggesting the mention of San Pedro Underwater Archaeological Preserve State Park as 1 of 11 archaeological preserves in the State of Florida, and commended the plan for being well researched and written.

Mr. Wilkinson was not able to attend the advisory group meeting, but did submit written comments regarding the plans. Mr. Wilkinson's comments included discussion regarding the origin of the names of the quarries and the names discussed in the management plan. Mr. Wilkinson recommended that whichever names are used in the management plan and interpretation at the park should be labeled on a map so that anyone reading the plan can understand their locations, uses and significance.

Staff Recommendations

Suggestions received from the Advisory Group meeting resulted in revisions to the draft management plan. The Resource Management Component has been updated to include the most recent natural and cultural resource management. Division staff will continue to monitor impacts of nearshore fishing activities around Horseshoe Key, and consider Mr. Frezza's comments. In the Land Use Component, additional language was included regarding the coordination of the appropriate managing agencies to determine what level of parking and road improvements are feasible in the boat launch area on Indian Key Fill. Division staff also considered the feasibility of restroom facilities on the Choate Tract and Indian Key Fill, but determined it would be unable to properly manage them. The Division will continue to work to protect the boundaries of all park lands to manage access. Minor cartographic, typographical and grammatical changes and corrections were also completed as a result of the public workshop and Advisory Group review.

With these changes, DRP staff recommends approval of the proposed management plans for the following State Parks:
Indian Key Historic State Park
Lignumvitae Key Botanical State park
San Pedro Underwater Archaeological Preserve State park
Windley Key Fossil Reef Geological State Park

Notes on Composition of the Advisory Group

Florida Statutes Chapter 259.032 Paragraph 10(b) establishes a requirement that all state land management plans for properties greater than 160 acres will be reviewed by an advisory group:

"Individual management plans required by s. 253.034(5), for parcels over 160 acres, shall be developed with input from an advisory group. Members of this advisory group shall include, at a minimum, representatives of the lead land managing agency, co-managing entities, local private property owners, the appropriate soil and water conservation district, a local conservation organization, and a local elected official."

State park management plans are reviewed by advisory groups that are composed in compliance with these requirements. Additional members may be appointed to the groups, such as a representative of the park's Citizen Support Organization (if one exists), representatives of the recreational activities that exist in or are planned for the park, or representatives of any agency with an ownership interest in the property. Additional members may be appointed if special issues or conditions exist that require a broader representation for adequate review of the management plan. The Division's intent in making these appointments is to create a group that represents a balanced cross-section of the park's stakeholders. Decisions on appointments are made on a case-by-case basis by Division of Recreation and Parks staff.

November 2, 2011

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Addendum 4—Soil Descriptions

(**3) Pennekamp gravelly muck, 0 to 2 percent slopes, extremely stony –** The Pennekamp series consists of well drained soils that are shallow to rippable coral limestone bedrock. The depth to bedrock is 4 to 16 inches. These soils formed in material weathered from the coral limestone bedrock. They generally have a thin overburden of sapric material. They are on uplands. Slopes range from 0 to 2 percent. The taxonomic class is loamy-skeletal, carbonatic, isohyperthermic Lithic Rendolls.

This soil is on tropical hammocks in the upland of the upper keys. About 10 percent of the surface of this soil is covered with stones that are dominantly 10 to 20 inches in diameter. Individual areas are subject to rare flooding from hurricanes and other tropical storms. Elevations are dominantly 5 to 15 feet above sea level, according to National Geodoetic Vertical Datum of 1929. the mean annual temperature is about 78 degrees F, and the mean annual presipitation is about 50 inches.

The Pennekamp soil is dominant in this map unit. Soils in area on the keys between Upper Matecumbe Key and Big Pine Key are more sandy than the Pennekamp soil; however, uses and interpretations are the same as those of the Pennekamp soil. Areas that have different uses and interpretations are rare and generally are adjacent to the boundaries of the map unit.

Soils that are associated with the Pennekamp soil are the moderately well drained, organic Matecumbe soils in the slightly lower position on the landscape and the poorly drained, marly Cudjoe, Lignumvitae, and Keywest soils and very portly drained, organic Islamorada, Keylargo, and Tavernier soils in the significantly lower positions on the landscape.

The Pennekamp soil is well drained. It has a seasonal high water table at a depth of 3.5 to 5.0 feet during the wet periods of most years. Permeability is moderately rapid.

Most areas of this soil support native vegetation and are used as habitat for tropical hammock species. Some areas have been developed for residential, urban or recreation use. Characteristic vegetation for the soils in the survey area include; poisonwood, wild tamarind, gumbo limbo, strangler fig and wild coffee.

Depth to bedrock and the flooding are severe limitations affecting most uses of this soil, including most kinds of building site and recreational development and salinity facilities.

Addendum 5—Plant And Animal List

Common Name	*Scientific Name*	Primary Habitat Codes (for designated species)

ANGIOSPERMS

MONOCOTS

False sisal	*Agave decipiens*	
Sisal hemp	*Agave sisalana* *	
Umbrella sedge	*Cyperus planifolius*	
Egyptian grass	*Dactyloctenium aegyptium* *	
Coral dropseed grass	*Sporobolus domingensis*	
Spanish bayonet	*Yucca aloifolia*	

DICOTS

Indian mallow	*Abutilon permolle*	
Sweet acacia	*Acacia farnesiana*	
Blue-mist flower	*Ageratum littorale*	81
Coastal ragweed	*Ambrosia hispida*	
Black mangrove	*Avicennia germinans*	
Saltwort	*Batis maritima*	
Sea ox-eye daisy	*Borrichia arborescens*	
Sea oxeye	*Borrichia frutescens*	
Gray nicker-bean	*Caesalpinia bonduc*	
Limber caper	*Capparis flexuosa*	
Goatweed	*Capraria biflora*	
Blodgett's spurge	*Chamaesyce blodgettii*	
Seaside spurge	*Chamaesyce mesembryanthemifolia*	
Snowberry	*Chiococca alba*	
Seagrape	*Coccoloba uvifera*	
Coconut palm	*Cocos nucifera* *	
Buttonwood	*Conocarpus erecta*	
Geiger tree	*Cordia sebestena* *	
False-mint	*Dicliptera sexangularis*	
Strangler fig	*Ficus aurea*	
Blolly	*Guapira discolor*	
Scorpion tail	*Heliotropium angiospermun*	
Spider lily	*Hymenocallis latifolia*	
Sky blue morning glory	*Jacquemontia pentanthos*	81
White mangrove	*Languncularia racemosa*	

* **Non-native Species**

Common Name	*Scientific Name*	Primary Habitat Codes (for designated species)
Wild lantana	*Lantana involucrata*	
Peppergrass	*Lepidium virginicum*	
False mallow	*Malvastrum corchorifolium*	
Chinaberry	*Melia azedarach* *	
Poisonwood	*Metopium toxiferum*	
Cheeseweed	*Morinda royoc*	
Oleander	*Nerium oleander* *	
Prickly-pear cactus	*Opuntia stricta*	
Date palm	*Phoenix dactylifera* *	
Gale of wind	*Phyllanthus amarus* *	
Jamaica dogwood	*Piscidia piscipula*	
Cat's claw	*Pithecellobium unguis-cati*	
Wild poinsettia	*Poinsettia cyathophora*	
Purslane	*Portulaca oleracea*	
Pink purslane	*Portulaca pilosa*	
Purslane	*Portulaca rubricaulis*	
White indigo-berry	*Randia aculeata*	
Red mangrove	*Rhizophora mangle*	
Rougeberry	*Rivina humilis*	
Soapberry	*Sapindus saponaria*	
Sea purslane	*Sesuvium portulacastrum*	
Spreading fan petals	*Sida abutifolia*	
Broomweed	*Sida acuta*	
Potato tree	*Solanum erianthum*	
Blue porterweed	*Stachytarpheta jamaicensis*	
Bay cedar	*Suriana maritima*	
Tamarind	*Tamarindus indicus* *	

ATWOOD ADDITION

MONOCOTS

Sisal hemp	*Agave sisalana* *	
False saw grass	*Cyperus ligularis*	
Egyptian grass	*Dactyloctenium aegyptium* *	
Guinea grass	*Panicum maximum* *	
Natal grass	*Rhynchelytrum repens* *	
Bowstring hemp	*Sansevieria hyacinthoides* *	
Foxtail grass	*Setaria macrosperma*	

*** Non-native Species**

Common Name	*Scientific Name*	Primary Habitat Codes (for designated species)
Foxtail grass	*Setaria parviflora*	
Greenbrier	*Smilax havanensis*	13
Prickly cordgrass	*Spartina spartinae*	
West Indian dropseed	*Sporobolus indicus var.pyramidalis* *	
St. Augustine grass	*Stenotaphrum secundatum* *	
Dominican panicum	*Urochloa adspersa*	
Turf grass	*Zoysia matrella* *	

DICOTS

Barb-wire cactus	*Acanthocereus tetragonus*	13
Chaff flower	*Alternanthera flavescens*	
Torchwood	*Amyris elemifera*	
Sand atriplex	*Atriplex pentandra*	
Black mangrove	*Avicennia germinans*	
Saltwort	*Batis maritima*	
Spanish needle	*Bidens alba var. radiata*	
Sea ox-eye daisy	*Borrichia arborescens*	
Sea oxeye	*Borrichia frutescens*	
Gumbo limbo	*Bursera simaruba*	
Gray nicker-bean	*Caesalpinia bonduc*	
Bay-bean	*Canavalia rosea*	
Jamaica caper	*Capparis cynophallophora*	
Limber caper	*Capparis flexuosa*	
Goatweed	*Capraria biflora*	
Papaya	*Carica papaya* *	
Southern sandbur	*Cenchrus echinatus*	
Seaside spurge	*Chamaesyce mesembryanthemifolia*	
Snowberry	*Chiococca alba*	
Satinleaf	*Chrysophyllum oliviforme*	13
Sorrel vine	*Cissus trifoliata*	
Pigeon plum	*Coccoloba diversifolia*	
Seagrape	*Coccoloba uvifera*	
Buttonwood	*Conocarpus erecta*	
Dwarf horseweed	*Conyza canadensis var. pusilla*	
Geiger tree	*Cordia sebestena* *	
Virgate mimosa	*Desmanthus virgatus*	
Beggarweed	*Desmodium incanum*	
False-mint	*Dicliptera sexangularis*	

*** Non-native Species**

Common Name	*Scientific Name*	Primary Habitat Codes (for designated species)
White stopper	*Eugenia axillaris*	
Spanish stopper	*Eugenia foetida*	
Red stopper	*Eugenia rhombea*	13
Princewood	*Exostema caribaeum*	
Inkwood	*Exothea paniculata*	
Milk pea	*Galactia striata*	
Seven-year apple	*Genipa clusiifolia*	
Blolly	*Guapira discolor*	
Everglades velvetseed	*Guettarda elliptica*	
Rough velvetseed	*Guettarda scabra*	
Crabwood	*Gymnanthes lucida*	
Scorpion tail	*Heliotropium angiospermun*	
Seaside heliotrope	*Heliotropium curassavicum*	
Bladder mallow	*Herissantia crispa*	
Morning glory	*Ipomoea indica var. acuminata*	
Railroad vine	*Ipomoea pes-caprae ssp. brasiliensis*	
Devil's backbone	*Kalanchoe daigremontiana* *	
Black ironwood	*Krugiodendron ferreum*	
White mangrove	*Languncularia racemosa*	
Wild lantana	*Lantana involucrata*	
Lead tree	*Leucaena leucocephala* *	
False mallow	*Malvastrum corchorifolium*	
Sapodilla	*Manilkara zapota* *	
Marsh elder	*Melanthera nivea*	
Poisonwood	*Metopium toxiferum*	
Cheeseweed	*Morinda royoc*	
Ground orchid	*Oeceoclades maculata* *	
Prickly-pear cactus	*Opuntia stricta*	
Corky-stemmed passionflower	*Passiflora suberosa*	
Wild allamanda	*Pentalinon luteum*	
Creeping charlie	*Phyla nodiflora*	
Jamaica dogwood	*Piscidia piscipula*	
Blackbead	*Pithecellobium keyense*	13
Cat's claw	*Pithecellobium unguis-cati*	
Wild poinsettia	*Poinsettia cyathophora*	
Wild coffee	*Psychotria nervosa*	
White indigo-berry	*Randia aculeata*	
Darling plum	*Reynosia septentrionalis*	13
Red mangrove	*Rhizophora mangle*	

*** Non-native Species**

Common Name	*Scientific Name*	Primary Habitat Codes (for designated species)
Least snoutbean	*Rhynchosia minima*	
Rougeberry	*Rivina humilis*	
Florida boxwood	*Schaefferia frutescens*	
Brazilian pepper	*Schinus terebinthifolius* *	
Sea purslane	*Sesuvium portulacastrum*	
Saffron plum	*Sideroxylon celastrinum*	
Mastic	*Sideroxylon foetidissimum*	
Bahama nightshade	*Solanum bahamense*	
Buttonweed	*Spermacoce verticillata* *	
Blue porterweed	*Stachytarpheta jamaicensis*	
Pencil flower	*Stylosanthes hamata*	
Sea blite	*Suaeda linearis*	
Bay cedar	*Suriana maritima*	
Portia	*Thespesia populnea* *	
Soldier bush	*Tournefortia volubilis*	
Oyster plant	*Tradescantia spathacea* *	
Puncture weed	*Tribulus cistoides* *	
Mexican daisy	*Tridax procumbens* *	
Waltheria	*Waltheria indica*	
Hog-plum	*Ximenia americana*	
Wild lime	*Zanthoxylum fagara*	

MARINE SPECIES

Mermaid's wine glass	*Acetabularia calyculus*	
Red calcareous algae	*Amphiroa* spp.	
Velvet fan algae	*Avrainvillea nigricans*	
	Batophora oerstedii	
Fern algae	*Caulerpa sertularioides*	
Fern algae	*Caulerpa paspaloides*	
	Dasycladus vermicularis	
Oatmeal algae	*Halimeda incrassate*	
Oatmeal algae	*Halimeda monile*	
Oatmeal algae	*Halimeda opuntia*	
Shoal grass	*Halodule wrightii*	
Red algae	*Laurencia* spp.	
Shaving brush algae	*Penicillus capitatus*	
Shaving brush algae	*Penicillus dumetosus*	
Sargassum weed	*Sargassum* spp.	

*** Non-native Species**

Common Name	*Scientific Name*	Primary Habitat (for designated species)
Manatee grass	*Syringodium filiforme*	
Turtle grass	*Thalassia testudinum*	
Stiff fan algae	*Udotea flabellum*	

*** Non-native Species**

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
MOLLUSKS		
Stiff pen shell	*Atrina rigida*	68,71
Black horn shell	*Batillaria minima*	68,69,71
Chiton	*Acanthopleura granulat*	4
Tulip snail	*Fasciolaria tulipa*	68,69,71
Bleeding tooth nerite	*Nerita peloronta*	4
Cherckered nerite	*Nerita tessellata*	4
Queen conch	*Strombus gigas*	68,71
FISH		
Sargeant major	*Abudefduf saxatilis*	68,69,70,71
Eagle ray	*Aetobatus narinari*	68,69,71,77
Bonefish	*Albula vulpes*	68,69,71,77
Reef silverside	*Allanetta harringonenesis*	68,69,71,77
Porkfish	*Anisotremus virginicus*	68,69,71,77
Trumpetfish	*Aulostomus maculatus*	68,69,71
Blue runner	*Caranx crysos*	68,69,71,77
Bar jack	*Caranx ruber*	68,69,71,77
Reef shark	*Carcharhinus springeru*	68,69,71,77
Snook	*Centropomus undecimalis*	68,69,71,77
Atlantic spadefish	*Chaetodiperus faber*	68,69,71,77
Four-eyed butterflyfish	*Chaetondon capistratus*	68,69,71
Spotfin butterflyfish	*Chaetodon ocellatus*	68,69,71
Banded butterflyfish	*Chaetodon striatus*	68,69,71
South stingray	*Dasyatis americana*	68,69,71,77
Porcupinefish	*Diodon hystris*	68,69,71,77
Spotted drum	*Equetus punctatus*	68,69,71
Yellowfin mojarra	*Gerres cinereus*	68,69,71,77
Nurse shark	*Ginglymostoma cirratum*	68,69,71,77
White grunt	*Haemulon plumieri*	68,69,71,77
Bluestriped grunt	*Haemulon sciurus*	68,69,71,77
Blue angelfish	*Holacanthus bermudensis*	68,69,71
Queen angelfish	*Holacanthus ciliaris*	68,69,71,77
Bermuda chub	*Kyphosus sectartrix*	68,69,71,77
Hogfish	*Lachnolaimus maximus*	68,69,70,71
Spotted trunkfish	*Lactophrys bicaudalis*	68,69,71,77

*** Non-native Species**

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Honeycomb cowfish	*Lactophrys polygonia*	68,69,71,77
Mutton snapper	*Lutjanus analis*	68,69,71,77
Schoolmaster	*Lutjanus apodus*	68,69,71,77
Gray snapper	*Lutjanus griseus*	68,69,71,77
Dog snapper	*Lutjanus jocu*	68,69,71,77
Lane snapper	*Lutjanus synagris*	68,69,71,77
Tarpon	*Megalops atlanticus*	68,69,71,77
Lemon shark	*Negeprion brevirostris*	68,69,71,77
Yellowtail snapper	*Ocyrurs chrysurus*	68,69,70,71
Gray angelfish	*Pomacanthus arcuatus*	68,69,71,77
French angelfish	*Pomacanthus paru*	68,69,71,77
Dusky damselfish	*Pomacentrus fuscus*	68,69
Beaugregory	*Pomacentrus leucostictus*	68,69
Bicolor damselfish	*Pomacentrus partitus*	68,69
Cocoa damselfish	*Pomacentrus variabilis*	68,69
Stoplight parrotfish	*Sparisoma viride*	69,70
Great barracuda	*Sphyraena barracuda*	69,70,71
Bluehead	*Thalassoma bifasciatum*	70
Yellow stingray	*Urolophus jamaicensis*	69,71

CORALS

Elliptical star coral	*Dichocoenia stokesii*	69
Knobby brain coral	*Diplora clivosa*	69
Symmetrical brain coral	*Diplora strigosa*	69
	Gorgonian spp.	68,69
Rose coral	*Manicina areolata*	69,71
Boulder star coral	*Montastrea annularis*	69
Mustard hill coral	*Porites astreoides*	69
Finger coral	*Porites porites*	68,69,71
Lesser starlet coral	*Siderastrea radians*	69
Massive starlet coral	*Siderastrea siderea*	69
Smooth star coral	*Solenastrea bournoni*	69
Knobby star coral	*Solenastrea hyades*	69,71

INVERTEBRATES

Great southern white butterfly	*Ascia monuste phileta*	4
Giant noctuid	*Erebus odorata*	4,13

*** Non-native Species**

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
White encrusting zoanthid	*Palythoa caribaeorum*	69
Knobby zoanthid	*Palythoa mammillosa*	69
Mat zoanthid	*Zoanthus pulchellus*	69

ARTHROPODS

Silver argiope	*Argiope argentata*	4,13,81
Blue crab	*Callinectes sapidus*	MTC
Land hermit crab	*Coenobita clypeatus*	4,13,81
Junk spider	*Cyclosa* sp.	4,13,81
Spinybacked orbweaver	*Gasteracantha cancriformis*	4,13,81
Horseshoe crab	*Limulus polyphemus*	MTC
Golden orbweaver	*Nephila clavipes*	13,81
Spiny lobster	*Panulirus argus*	MTC
Fiddler crab	*Uca pugilator*	76

ECHINODERMS

Thorny starfish	*Echinaster sentus*	68,69,71
Rock-boring urchin	*Echinometra lucunter*	68,69,71
Florida sea cucumber	*Holothuria floridana*	68,69,71
West Indian sea biscuit	*Meoma ventricosa*	68,69,71

REPTILES

Turtles

Atlantic loggerhead	*Caretta caretta*	MTC
Atlantic green turtle	*Chelonia mydas*	MTC
Hawksbill	*Eretmochelys imbricata*	MTC

Lizards

Green anole	*Anolis carolinensis*	4,81
Southeastern five-lined skink	*Eumeces inexpectatus*	4,81

BIRDS

Loons

Common Loon	*Gavia immer*	Migrat.

* **Non-native Species**

Common Name	*Scientific Name*	Primary Habitat (for all species)
Cormorants		
Double-crested Cormorant	*Phalocrocorax auritus*	MTC
Ducks and Geese		
Red-breasted merganser	*Mergus serrator*	Migrat.
Pelicans		
Brown pelican	*Pelecanus occidentalis*	MTC
Gulls		
Herring gull	*Larus argentatus*	MTC
Laughing gull	*Larus atricilla*	MTC
Ring-billed gull	*Larus delawarensis*	MTC
Least tern	*Sterna antillarum*	MTC
Common tern	*Sterna hirundo*	MTC
Royal tern	*Sterna maxima*	MTC
Frigatebirds		
Magnificent frigatebird	*Fregata magnificens*	OF
Herons and Bitterns		
Great white heron	*Ardea herodias*	4,71,76
Great blue heron	*Ardea herodias*	4,71,76
Cattle egret	*Bubulcus ibis*	4,76
Green heron	*Butorides virescens*	4,76
Great egret	*Casmerodius albus*	4,71,76
Little blue heron	*Egretta caerulea*	4,71,76
Snowy egret	*Egretta thula*	71
Tricolored heron	*Egretta tricolor*	4,71,76
Yellow-crowned night heron	*Nycticorax violaceus*	4,76
Ibises and Spoonbills		
Roseate spoonbill	*Ajaia ajaja*	69,71
White Ibis	*Eudocimus albus*	76,81
Plovers		
Ruddy turnstone	*Arenaria interpres*	4
Black-bellied plover	*Pluvialis squatarola*	4
Snipes and Sandpipers		

*** Non-native Species**

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Sanderling	*Calidris alba*	4
Short-billed dowitcher	*Limnodromus griseus*	4
Lesser yellowlegs	*Tringa flavipes*	4
Greater yellowlegs	*Tringa melanoleuca*	4
Hawks, Eagles and Kites		
American Kestrel	*Falco sparverius*	Migrat.
Bald Eagle	*Haliaeetus leucocephalus*	OF
Osprey	*Pandion haliaetus*	OF
Pigeons and Doves		
Common Ground-Dove	*Columbina passerina*	4,81
White-crowned pigeon	*Patagioenas leucocephala*	13
Goatsuckers		
Common Nighthawk	*Chordeiles minor*	OF
Swifts		
Chimney Swift	*Chaetura pelagica*	OF
Kingfishers		
Belted Kingfisher	*Ceryle alcyon*	76
Thrashers		
Northern Mockingbird	*Mimus polyglottos*	13, 81, 82
Meadowlarks, Blackbirds and Orioles		
Red-winged Blackbird	*Agelaius phoeniceus*	76,81
Common Grackle	*Quiscalus quiscula*	13,81
Cardinals, Grosbeaks, and Buntings		
Northern Cardinal	*Cardinalis cardinalis*	13,81

MAMMALS

Black rat*	*Rattus rattus*	4,81
Marsh rabbit	*Sylvilagus palustris*	4,81
West Indian manatee	*Trichechus manatus*	MTC
Atlantic bottlenose dolphin	*Tursiops truncatus*	MTC

*** Non-native Species**

TERRESTRIAL

Beach Dune ---------- BD
Coastal Berm ---------- CB
Coastal Grassland ---------- CG
Coastal Strand ---------- CS
Dry Prairie ---------- DP
Keys Cactus Barren ---------- KCB
Limestone Outcrop ---------- LO
Maritime Hammock ---------- MAH
Mesic Flatwoods ---------- MF
Mesic Hammock ---------- MEH
Pine Rockland ---------- PR
Rockland Hammock ---------- RH
Sandhill ---------- SH
Scrub ---------- SC
Scrubby Flatwoods ---------- SCF
Shell Mound ---------- SHM
Sinkhole ---------- SK
Slope Forest ---------- SPF
Upland Glade ---------- UG
Upland Hardwood Forest ---------- UHF
Upland Mixed Woodland ---------- UMW
Upland Pine ---------- UP
Wet Flatwoods ---------- WF
Xeric Hammock ---------- XH

PALUSTRINE

Alluvial Forest ---------- AF
Basin Marsh ---------- BM
Basin Swamp ---------- BS
Baygall ---------- BG
Bottomland Forest ---------- BF
Coastal Interdunal Swale ---------- CIS
Depression Marsh ---------- DM
Dome Swamp ---------- DS
Floodplain Marsh ---------- FM
Floodplain Swamp ---------- FS
Glades Marsh ---------- GM
Hydric Hammock ---------- HH
Keys Tidal Rock Barren ---------- KTRB
Mangrove Swamp ---------- MS
Marl Prairie ---------- MP
Salt Marsh ---------- SAM

Seepage Slope ---------- SSL
Shrub Bog ---------- SHB
Slough ----------SLO
Slough Marsh---------- SLM
Strand Swamp---------- STS
Wet Prairie ----------WP

LACUSTRINE
Clastic Upland Lake ----------CULK
Coastal Dune Lake ----------CDLK
Coastal Rockland Lake---------- CRLK
Flatwoods/Prairie ----------FPLK
Marsh Lake ----------MLK
River Floodplain Lake ----------RFLK
Sandhill Upland Lake ---------- SULK
Sinkhole Lake ----------SKLK
Swamp Lake ----------SWLK

RIVERINE
Alluvial Stream ----------AST
Blackwater Stream ---------- BST
Seepage Stream ---------- SST
Spring-run Stream ---------- SRST

SUBTERRANEAN
Aquatic Cave ----------ACV
Terrestrial Cave ---------- TCV

ESTUARINE
Algal Bed ---------- EAB
Composite Substrate ---------- ECPS
Consolidated Substrate ---------- ECNS
Coral Reef ---------- ECR
Mollusk Reef----------EMR
Octocoral Bed ---------- EOB
Seagrass Bed ----------ESGB
Sponge Bed ---------- ESPB
Unconsolidated Substrate----------EUS
Worm Reef ----------EWR

MARINE

Algal Bed ---------- MAB
Composite Substrate ---------- MCPS
Consolidated Substrate ---------- MCNS
Coral Reef ---------- MCR
Mollusk Reef---------- MMR
Octocoral Bed ---------- MOB
Seagrass Bed---------- MSGB
Sponge Bed ---------- MSPB
Unconsolidated Substrate---------- MUS
Worm Reef ---------- MWR

ALTERED LANDCOVER TYPES

Abandoned field---------- ABF
Abandoned pasture---------- ABP
Agriculture---------- AG
Canal/ditch---------- CD
Clearcut pine plantation---------- CPP
Clearing---------- CL
Developed---------- DV
Impoundment/artificial pond ---------- IAP
Invasive exotic monoculture ---------- IEM
Pasture - improved ---------- PI
Pasture - semi-improved ---------- PSI
Pine plantation---------- PP
Road ---------- RD
Spoil area ---------- SA
Successional hardwood forest ---------- SHF
Utility corridor---------- UC

MISCELLANEOUS

Many Types of Communities ---------- MTC
Overflying---------- OF

Addendum 6—Imperiled Species Ranking Definitions

The Nature Conservancy and the Natural Heritage Program Network (of which FNAI is a part) define an element as any exemplary or rare component of the natural environment, such as a species, natural community, bird rookery, spring, sinkhole, cave or other ecological feature. An element occurrence (EO) is a single extant habitat that sustains or otherwise contributes to the survival of a population or a distinct, self-sustaining example of a particular element.

Using a ranking system developed by The Nature Conservancy and the Natural Heritage Program Network, the Florida Natural Areas Inventory assigns two ranks to each element. The global rank is based on an element's worldwide status; the state rank is based on the status of the element in Florida. Element ranks are based on many factors, the most important ones being estimated number of Element occurrences, estimated abundance (number of individuals for species; area for natural communities), range, estimated adequately protected EOs, relative threat of destruction, and ecological fragility.

Federal and State status information is from the U.S. Fish and Wildlife Service; and the Florida Game and Freshwater Fish Commission (animals), and the Florida Department of Agriculture and Consumer Services (plants), respectively.

FNAI GLOBAL RANK DEFINITIONS

G1 .....Critically imperiled globally because of extreme rarity (5 or fewer occurrences or less than 1000 individuals) or because of extreme vulnerability to extinction due to some natural or fabricated factor.

G2 .....Imperiled globally because of rarity (6 to 20 occurrences or less than 3000 individuals) or because of vulnerability to extinction due to some natural or man-made factor.

G3 .....Either very rare or local throughout its range (21-100 occurrences or less than 10,000 individuals) or found locally in a restricted range or vulnerable to extinction of other factors.

G4 .....apparently secure globally (may be rare in parts of range)

G5 .....demonstrably secure globally

GH .....of historical occurrence throughout its range may be rediscovered (e.g., ivory-billed woodpecker)

GX.....believed to be extinct throughout range

GXC.....extirpated from the wild but still known from captivity or cultivation

G#? .....Tentative rank (e.g.,G2?)

G#G#.....range of rank; insufficient data to assign specific global rank (e.g., G2G3)

G#T# .....rank of a taxonomic subgroup such as a subspecies or variety; the G portion of the rank refers to the entire species and the T portion refers to the specific subgroup; numbers have same definition as above (e.g., G3T1)

G#Q.....rank of questionable species - ranked as species but questionable whether it is species or subspecies; numbers have same definition as above (e.g., G2Q)
G#T#Q.....same as above, but validity as subspecies or variety is questioned.
GU .....due to lack of information, no rank or range can be assigned (e.g., GUT2).
G?.....Not yet ranked (temporary)
S1 .....Critically imperiled in Florida because of extreme rarity (5 or fewer occurrences or less than 1000 individuals) or because of extreme vulnerability to extinction due to some natural or man-made factor.
S2 .....Imperiled in Florida because of rarity (6 to 20 occurrences or less than 3000 individuals) or because of vulnerability to extinction due to some natural or man-made factor.
S3 .....Either very rare or local throughout its range (21-100 occurrences or less than 10,000 individuals) or found locally in a restricted range or vulnerable to extinction of other factors.
S4 .....apparently secure in Florida (may be rare in parts of range)
S5 .....demonstrably secure in Florida
SH.....of historical occurrence throughout its range, may be rediscovered (e.g., ivory-billed woodpecker)
SX.....believed to be extinct throughout range
SA .....accidental in Florida, i.e., not part of the established biota
SE.....an exotic species established in Florida may be native elsewhere in North America
SN.....regularly occurring but widely and unreliably distributed; sites for conservation hard to determine
SU .....due to lack of information, no rank or range can be assigned (e.g., SUT2).
S?.....Not yet ranked (temporary)
N .....Not currently listed, nor currently being considered for listing, by state or federal agencies.

LEGAL STATUS

FEDERAL

(Listed by the U. S. Fish and Wildlife Service - USFWS)

LE.....Listed as Endangered Species in the List of Endangered and Threatened Wildlife and Plants under the provisions of the Endangered Species Act. Defined as any species that is in danger of extinction throughout all or a significant portion of its range.
PE.....Proposed for addition to the List of Endangered and Threatened Wildlife and Plants as Endangered Species.LTListed as Threatened Species. Defined as any species that is likely to become an endangered species within the near future throughout all or a significant portion of its range.

PT.....Proposed for listing as Threatened Species.
C .....Candidate Species for addition to the list of Endangered and Threatened Wildlife and Plants. Defined as those species for which the USFWS currently has on file sufficient information on biological vulnerability and threats to support proposing to list the species as endangered or threatened.
E(S/A).....Endangered due to similarity of appearance.
T(S/A).....Threatened due to similarity of appearance.

STATE

ANIMALS ...(Listed by the Florida Fish and Wildlife Conservation Commission - FFWCC)
LE.....Listed as Endangered Species by the FFWCC. Defined as a species, subspecies, or isolated population which is so rare or depleted in number or so restricted in range of habitat due to any man-made or natural factors that it is in immediate danger of extinction or extirpation from the state, or which may attain such a status within the immediate future.
LT.....Listed as Threatened Species by the FFWCC. Defined as a species, subspecies, or isolated population, which is acutely vulnerable to environmental alteration, declining in number at a rapid rate, or whose range or habitat, is decreasing in area at a rapid rate and therefore is destined or very likely to become an endangered species within the near future.
LS.....Listed as Species of Special Concern by the FFWCC. Defined as a population which warrants special protection, recognition or consideration because it has an inherent significant vulnerability to habitat modification, environmental alteration, human disturbance or substantial human exploitation that, in the near future, may result in its becoming a threatened species?

PLANTS .....(Listed by the Florida Department of Agriculture and Consumer Services - FDACS)
LE.....Listed as Endangered Plants in the Preservation of Native Flora of Florida Act. Defined as species of plants native to the state that are in imminent danger of extinction within the state, the survival of which is unlikely if the causes of a decline in the number of plants continue, and includes all species determined to be endangered or threatened pursuant to the Federal Endangered Species Act of 1973,as amended.
LT.....Listed as Threatened Plants in the Preservation of Native Flora of Florida Act. Defined as species native to the state that are in rapid decline in the number of plants within the state, but which have not so decreased in such number as to cause them to be endangered.

Addendum 7—Cultural Information

These procedures apply to state agencies, local governments and non-profits that manage state-owned properties.

A. General Discussion

Historic resources are both archaeological sites and historic structures. Per Chapter 267, Florida Statutes, "Historic property" or "historic resource" means any prehistoric district, site, building, object, or other real or personal property of historical, architectural or archaeological value, and folklife resources. These properties or resources may include, but are not limited to, monuments, memorials, Indian habitations, ceremonial sites, abandoned settlements, sunken or abandoned ships, engineering works, treasure trove, artifacts, or other objects with intrinsic historical or archaeological value, or any part thereof, relating to the history, government, and culture of the state."

B. Agency Responsibilities

Per State Policy relative to historic properties, state agencies of the executive branch must allow the Division of Historical Resources (Division) the opportunity to comment on any undertakings, whether these undertakings directly involve the state agency, i.e., land management responsibilities, or the state agency has indirect jurisdiction, i.e. permitting authority, grants, etc. No state funds should be expended on the undertaking until the Division has the opportunity to review and comment on the project, permit, grant, etc.

State agencies shall preserve the historic resources that are owned or controlled by the agency.

Regarding proposed demolition or substantial alterations of historic properties, consultation with the Division must occur, and alternatives to demolition must be considered.

State agencies must consult with Division to establish a program to location, inventory and evaluate all historic properties under ownership or controlled by the agency.

C. Statutory Authority

Statutory Authority and more in depth information can be found in the following:

Chapter 253, F.S. – State Lands

Chapter 267, F.S. – Historical Resources

Chapter 872, F.S. – Offenses Concerning Dead Bodies and Graves

Other helpful citations and references:

Chapter 1A-32, F.A.C. – Archaeological Research

Other helpful citations and references:

Chapter 1A-44, F.A.C. – Procedures for Reporting and Determining Jurisdiction Over Unmarked Human Burials

Chapter 1A-46, F.A C. – Archaeological and Historical Report Standards and Guidelines

The Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings

D. Management Implementation

Even though the Division sits on the Acquisition and Restoration Council and approves land management plans, these plans are conceptual. Specific information regarding individual projects must be submitted to the Division for review and recommendations.

Managers of state lands must coordinate any land clearing or ground disturbing activities with the Division to allow for review and comment on the proposed project. Recommendations may include, but are not limited to: approval of the project as submitted, pre-testing of the project site by a certified archaeological monitor, cultural resource assessment survey by a qualified professional archaeologist, modifications to the proposed project to avoid or mitigate potential adverse effects.

Projects such as additions, exterior alteration or related new construction regarding historic structures must also be submitted to the Division of Historical Resources for review and comment by the Division's architects. Projects involving structures fifty years of age or older, must be submitted to this agency for a significance determination**.** In rare cases, structures under fifty years of age may be deemed historically significant. These must be evaluated on a case-by-case basis.

Adverse impacts to significant sites, either archaeological sites or historic buildings, must be avoided. Furthermore, managers of state property should prepare for locating and evaluating historic resources, both archaeological sites and historic structures.

E. Minimum Review Documentation Requirements

In order to have a proposed project reviewed by the Division, the following information, at a minimum, must be submitted for comments and recommendations.

Project Description – A detailed description of the proposed project including all related activities. For land clearing or ground disturbing activities, the depth and extent of the disturbance, use of heavy equipment, location of lay down yard, etc. For historic structures, specific details regarding rehabilitation, demolition, etc.

Project Location – The exact location of the project indicated on a USGS Quadrangle map, is preferable. A management base map may be acceptable. Aerial photos indicating the exact project area as supplemental information are helpful.

Photographs – Photographs of the project area are always useful. Photographs of structures are required.

Description of Project Area – Note the acreage of the project; describe the present condition of project area, and any past land uses or disturbances.

Description of Structures – Describe the condition and setting of each building within project area if approximately fifty years of age or older.

Recorded Archaeological Sites or Historic Structures – Provide Florida Master Site File numbers for all recorded historic resources within or adjacent to the project area. This information should be in the current management plan; however, it can be obtained by contacting the Florida Master Site File at (850) 245-6440 or Suncom 205-6440.

Questions relating to the treatment of archaeological and historic resources on state lands should be directed to:

Susan M. Harp
Historic Preservation Planner
Division of Historical Resources
Bureau of Historic Preservation
Compliance and Review Section
R. A. Gray Building
500 South Bronough Street
Tallahassee, FL 32399-0250

Phone: (850) 245-6333
Fax: (850) 245-6438

The criteria to be used for evaluating eligibility for listing in the National Register of Historic Places are as follows:

1) Districts, sites, buildings, structures, and objects may be considered to have significance in American history, architecture, archaeology, engineering, and/or culture if they possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

- **a)** are associated with events that have made a significant contribution to the broad patterns of our history; and/or
- **b)** are associated with the lives of persons significant in our past; and/or
- **c)** embody the distinctive characteristics of type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; and/or
- **d)** have yielded, or may be likely to yield, information important in prehistory or history.

2) Ordinarily cemeteries, birthplaces, or graves of historical figures; properties owned by religious institutions or used for religious purposes; structures that have been moved from their original locations; reconstructed historic buildings; properties primarily commemorative in nature; and properties that have achieved significance within the past 50 years shall not be considered eligible for the *National Register*. However, such properties will qualify if they are integral parts of districts that do meet the criteria or if they fall within the following categories:

- **a)** a religious property deriving its primary significance from architectural or artistic distinction or historical importance; or
- **b)** a building or structure removed from its original location but which is significant primarily for architectural value, or which is the surviving structure most importantly associated with a historic person or event; or
- **c)** a birthplace or grave of an historical figure of outstanding importance if there is no appropriate site or building directly associated with his productive life; or
- **d)** a cemetery which derives its primary significance from graves of persons of transcendent importance, from age, distinctive design features, or association with historic events; or

e) a reconstructed building, when it is accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and no other building or structure with the same association has survived; or a property primarily commemorative in intent, if design, age, tradition, or symbolic value has invested it with its own exceptional significance; or

f) a property achieving significance within the past 50 years, if it is of exceptional importance.

Restoration is defined as the act or process of accurately depicting the form, features, and character of a property as it appeared at a particular period of time by means of the removal of features from other periods in its history and reconstruction of missing features from the restoration period. The limited and sensitive upgrading of mechanical, electrical and plumbing systems and other code-required work to make properties functional is appropriate within a restoration project.

Rehabilitation is defined as the act or process of making possible a compatible use for a property through repair, alterations and additions while preserving those portions or features that convey its historical, cultural or architectural values.

Stabilization is defined as the act or process of applying measures designed to reestablish a weather resistant enclosure and the structural stability of an unsafe or deteriorated property while maintaining the essential form as it exists at present.

Preservation is defined as the act or process of applying measures necessary to sustain the existing form, integrity and materials of an historic property. Work, including preliminary measures to protect and stabilize the property, generally focuses upon the ongoing maintenance and repair of historic materials and features rather than extensive replacement and new construction. New exterior additions are not within the scope of this treatment; however, the limited and sensitive upgrading of mechanical, electrical and plumbing systems and other code-required work to make properties functional is appropriate within a preservation project.