Addendum 1—Acquisition History

LAND ACQUISITION HISTORY REPORT

Park Name	Bahia Honda State Park
Date Updated	10/5/2015
County	Monroe
Trustees Lease Number	3609 (formerly)
Current Park Size	491 acres
Purpose of Acquisition	Initially the State of Florida acquired this property for the purposes of pubic fishing, camping and for other park and recreational purposes.

Acquisition History

Parcel Name or Parcel DM-ID	Date Acquired	Initial Seller	Initial Purchaser	Size in acres	Instrument Type
DMID366054	9/21/1961	Monroe County	State of Florida for the use and benefit of the Florida Board of Parks and Historic Memorials	16	Deed

Management Lease

Parcel Name or Lease Number	Date Leased	Initial Lessor	Initial Lessee	Term	Expiration Date
Initial (Original) Lease No. 2324	1/23/1968	Trustees of the Internal Improvement Fund	FBPHM	99	1/22/2067

Outstanding Issue	Type of Instrument	Brief Description of the Outstanding Issue	Term of the Outstanding Issue
Reverter	Deed	*If the subject property is not used for the intended purpose, title and all interests in the property shall revert back to Monroe County.*	Perpetuity

Addendum 2—Advisory Group Members and Report

Elected Officials

Mayor Norman Anderson
City of Layton

Mayor Mark Senmartin
City of Marathon

Mayor Heather Carruthers
Monroe County Board of County Commissioners

Agency Representatives

Mark Duncan, Park Manager
Long Key State Park

Kenneth Troisi, Park Manager
Curry Hammock State Park

Eric Kiefer, Park Manager
Bahia Honda State Park

Cooper McMillan, Chairman
South Dade Soil and Water Conservation District

Mark Torok, County Forester
Florida Forest Service

Jeanette Parker, Regional Biologist
Florida Fish and Wildlife Commission

Capt. David Dipre
Florida Fish and Wildlife Commission

Rebecca Jetton, Administrator
Florida Keys Area of Critical State Concern

Sean Morton, Superintendent
Florida Keys National Marine Sanctuary

Citizen Support Organizations

Karen Sunderland, President
Friends of the Islamorada Area State Parks

Tourism/Economic Development Representative

Harold Wheeler, Director
Monroe County Tourism Development Council

Environmental Representatives

Dr. Jerry Lorenz, Director
Audubon of Florida Everglades Science Center

Chris Bergh, Director
Nature Conservancy Coastal and Marine Resilience

Rita Irwin, President
Dolphin Research Center

Recreational Representatives

Rafael Gálvez, Coordinator
Florida Keys Hawkwatch

Jay Elliot, Coordinator
Florida Keys Astronomy Club

Duane Baker, Commodore
Florida Keys Fishing Guides Association

Cultural Resource Representative

Barbara Edgar, President
Matecumbe Historical Trust

Local Private Property Owners

John Fusco, Local Property Owner
Long Key State Park

John Morris, Local Property Owner
Curry Hammock State Park

Doug Sposito, Local Property Owner
Bahia Honda State Park

Citizen Support Organizations

Diane Rullen, Director
Friends of Bahia Honda State Park

The Advisory Group meeting to review the proposed unit management plan (UMP) for Long Key, Curry Hammock, and Bahia Honda State Parks was held in the city of Marathon in the Marathon Government Center on Friday, June 10, 2016 at 9:00 AM.

Skip Haring represented the City of Layton. Chuck Kean represented John Morris, a local property owner. Vicki Weagley represented the Friends of Bahia Honda State Park. Katherine Becker represented Dr. Jerry Lorenz. Beth Dieveney represented the Florida Keys National Marine Sanctuary. Heather Carruthers, Cooper McMillan, Capt. David Dipre, Rita Irwin, Rafael Gálvez, Duane Baker, and Harold Wheeler were not in attendance. All other appointed Advisory Group members were present.

Attending Division of Recreation and Parks (DRP) staff members were Janice Duquesnel, Kenneth Troisi, Mark Duncan, Meredith Kruse, Eric Kiefer, Martha Robinson, and Eric Pate.

Mr. Pate began the meeting by explaining the purpose of the Advisory Group and reviewing the meeting agenda. He provided a brief review of comments received the previous evening and an overview of the DRP's planning process. Mr. Pate then asked each member of the Advisory Group to express his or her comments on the draft plan. After all comments were shared, Mr. Pate described the next steps for drafting the plan and the meeting was adjourned.

Summary of Advisory Group Comments

Beth Dieveney (Representing Sean Morton with the Florida Keys National Marine Sanctuary) expressed that the time given to Advisory Group members to review the draft Unit Management Plans limited the ability of Advisory Group members to adequately review and address the plans at the meeting. Ms. Dieveney explained the management philosophy shared by the Florida Keys National Marine Sanctuary (FKNMS) managers, the prioritization of natural resource management while allowing for human access through recreational opportunities, and acknowledged the difference in management philosophies with the DRP, seeking an appropriate balance between resource protection and the provision of recreational opportunities. She then stressed the need for additional consideration of the impacts of sea level rise to be incorporated into the planning process for state parks in the Florida Keys. Ms. Dieveney stated that the FKNMS enjoys a great working relationship with the DRP and hopes to continue this relationship into the future. She also asked about the potential for collaboration with the U.S. Fish and Wildlife Service with prescribed burning efforts at Curry Hammock State Park.

Caitlin Lustic (Representing Chris Bergh with The Nature Conservancy) highlighted the extensive working relationship between The Nature Conservancy (TNC) and the DRP. Ms. Lustic brought to the attention of the Advisory Group her concern with the level of attention given to high-profile invasive plants through current resource management efforts and the lack of attention given to lower-profile invasive plants. Ms. Lustic cautioned the DRP to not focus solely on high-profile invasive plants at the expense of expending sufficient resources to control the spread of low-profile invasive plants.

Jay Elliot (Florida Keys Astronomy Club) emphasized the importance of acting to minimize the effects of light pollution whenever possible. Mr. Elliot identified the relatively low amount of light-pollution compared to the mainland as an important characteristic of the Florida Keys. He then elaborated on the economic benefits of efforts to reduce light pollution derived from the associated sustainable revenue generated from ecotourism. Mr. Elliot stressed the importance of aesthetic decisions when installing lighting on support facilities in state parks, he noted that harsh, bright lights can significantly increase light pollution and can often be easily addressed.

Rebecca Jetton (Florida Department of Economic Opportunity Florida Keys Area of Critical State Concern) referenced her extensive experience with conservation lands management throughout Monroe County. Ms. Jetton emphasized the need to work collaboratively to effectively control the alarming increase in the iguana population in the Florida Keys. She then noted that the DRP would face the same land use and development regulations that private developers work under in Monroe County, in particular working within the Rate-of-Growth Ordinance (ROGO) process. She did mention that DRP would be able to apply for affordable housing allowances. Ms. Jetton then stressed the importance of evacuation procedures and then inquired about how the DRP addresses the evacuation of overnight visitors and staff in the case of tropical storm events. She then inquired into how each park dealt with sewage. Ms. Jetton emphasized the negative impact of invasive animal species, such as iguanas and the Gambian pouched rat, and encouraged DRP staff to adequately address the issue.

Chuck Kean (Representing Local Property Owner, John Morris) acknowledged his role on the Advisory Group and stated that he didn't have comments but meant to observe the Group's discussion.

Mayor Mark Senmartin (Mayor of Marathon, FL) concurred with the comments and concerns brought by Rebecca Jetton. He went on to explain that the City of Marathon shares many concerns with Monroe County and have worked to responsibly manage development pressures through similar land use regulations. Mayor Senmartin brought attention to land administration issues that could potentially involve the expansion of the optimum boundary for Curry Hammock State Park. Mayor Senmartin also took the opportunity to bring up the possibility of an organized iguana "round-up" similar to efforts meant to control the spread of lionfish. He went on to inquire as to how state parks in Monroe County control the iguana population and identified the need to work collaboratively across municipal and county boundaries, and conservation lands in order to adequately address the spread of invasive animal species. Ms. Duquesnel commented on the proposed iguana "round-up" by stating that efforts should incorporate public education programs to inform residents of proper methods of exterminating iguanas, in a manner that does not harm natural communities in the process.

Mark Torok (Florida Forest Service) offered assistance to the DRP to conduct prescribed burning at Curry Hammock State Park. Mr. Torok then inquired into the processes followed when working to control and eradicate invasive species by park

staff. Mr. Torok also mentioned the state champion tree program and inquired into whether or not the parks could be eligible to collaborate in order to showcase important specimens.

Doug Sposito (Local Property Owner near Bahia Honda State Park) stated he believed that current natural resource management efforts were not accommodating to the large number of visitors to the parks. He expressed confusion over why park staff would seek to remove plants that are considered exotic on certain keys when they are considered native on other keys, such as lignumvitae at Bahia Honda State Park. In addition, Mr. Sposito noted that many visitors to the Florida Keys expect certain types of trees, such as coconut palms, and believed that the DRP should not remove these trees in order to accommodate visitor preferences. Ms. Duquesnel stressed the importance of acknowledging the historic role of island biogeography throughout the Florida Keys and the need for its incorporation into the natural resource management philosophy of conservation lands managers. Ms. Duquesnel also mentioned that efforts to manage natural resources are developed with political realities in mind. As an example, she stated that DRP staff did not intend to remove coconut palms in a beach day use area unless they posed a hazard to park visitors.

John Fusco (Local Property Owner near Long Key State Park) acknowledged his role on the Advisory Group as a representative local property owner in the City of Layton and deferred comments to the City of Layton representative, Skip Haring.

Skip Haring (Representing Mayor Norman Anderson of the City of Layton) acknowledged that he has been working with DRP staff regarding the Unit Management Plan updates over the past several months and thanked DRP staff for their work on the plans. Mr. Haring went on to mention that the City of Layton and the DRP will remain in conversation about the potential for the City of Layton to annex Long Key State Park. Mr. Haring also brought up the importance of public education on negative human impacts to the environment, as an example he mentioned the role that Long Key State Park played in educating residents of Layton on responsible mosquito population management.

Katharine Becker (Representing Dr. Jerry Lorenz with Audubon of Florida Everglades Science Center) stated that she has been studying conditions of the Florida Bay ecosystem and was pleased to see that the Seagrass Bed natural community at Bahia Honda State Park was considered in good condition. Ms. Becker also brought up the issue of crowding on the deck of the Curry Hammock State Park campground restroom when utilized by the Florida Keys Hawkwatch.

Vicki Weagley (Representing Diane Rullan with Friends of Bahia Honda State Park) mentioned that she was thankful for the opportunity to be included in the Advisory Group for the updates to the unit management plans and expressed support for the proposed improvements included in the draft plans.

Barbara Edgar (Matecumbe Historical Trust) expressed that she agreed with comments made by Mr. Doug Sposito regarding opposition to the removal of certain

species of exotic plants that visitors to Monroe County expect to find in a tropical setting, specifically the coconut palm. Ms. Edgar also commented that she did not have enough time to review the draft unit management plans. In addition, Ms. Edgar asked if DRP staff considers the timing on prescribed burns with bird migration patterns.

Karen Sunderland (Friends of Islamorada Area State Parks) took the opportunity to state her support for the draft unit management plans and, in particular, maintaining a focus on the preservation of natural communities and current resource management efforts. Ms. Sunderland cautioned the Advisory Group members that efforts to remove iguanas may prove to be politically sensitive because some area residents view them favorably. She also inquired into the relationship between DRP staff and the FDOT as it relates to landscaping in the U.S. right-of-way and working to exclude the introduction of exotic plant species. In response to Ms. Sunderland's question regarding the working relationship between DRP and FDOT when landscaping in the U.S. 1 right-of-way, Ms. Duquesnel mentioned that she has consulted with FDOT staff in regards to avoiding the introduction of exotic plant species and hopes to continue the relationship.

Kenneth Troisi (Park Manager, Curry Hammock State Park) acknowledged the role that efforts to facilitate the evacuation of overnight visitors play in the provision of overnight camping facilities in Monroe County. In regard to iguana population control, Mr. Troisi mentioned that proper disposal of iguanas once caught is necessary; he went on to state that he has taken iguanas to the Wild Bird Center. He expressed support for efforts to reduce the impacts of light pollution and for acting to accommodate the Florida Keys Hawkwatch group that utilizes the park. In regards to the removal of certain exotic plants, in particular the coconut palms, Mr. Troisi stated that there are no plans to remove the trees from the beach/day use areas that are heavily visited, but does intend to act to remove exotic plants from the protected areas of the park that see less visitor use. When conducting prescribed burning, Mr. Troisi said they will consider all impacts the fire may have on the surrounding environment, including potential impacts to bird migration.

Mark Duncan (Park Manager, Long Key State Park) stressed that DRP staff and park visitors are required to evacuate during Phase 1 evacuations or when called to by District 5 administration, whichever comes first. Mr. Duncan emphasized that the DRP does what it can to not increase evacuation times along U.S. 1. Mr. Duncan also mentioned the importance of public outreach and education about natural resource management throughout Monroe County.

Eric Kiefer (Park Manager, Bahia Honda State Park) referenced successful efforts of DRP staff to control the spread of iguanas in state parks when adding on to Mayor Senmartin's suggestion of a possible iguana "round-up." Mr. Kiefer also explained that he considers acting to reduce the impacts of light pollution an important task. In addition, he elaborated on the discussion surrounding the removal of exotic species, in particular the coconut palm, stating that coconut palms will remain in the beach areas and other day use area unless they pose a threat to visitor safety.

Staff Recommendations

Suggestions received from the Advisory Group meeting resulted in the following modifications to the draft management plan:

- DRP staff will act to reduce the impacts of light pollution on park facilities.
- In order to appropriately manage the park's natural communities, efforts to remove exotic plants, including the coconut palm, will continue in the protected areas of the parks away from heavy visitor use. Coconut palm trees in heavy use areas such as beaches or picnic areas may be kept unless the tree poses a risk to visitor safety or is diseased.
- Language will be incorporated to highlight the issue of Island Biogeography and its role in natural resource management in state parks.

Additional revisions were made throughout the document to address editorial corrections, consistency of spelling and notations, and other minor corrections.

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."

Advisory Groups that are composed in compliance with these requirements complete the review of State park management plans. 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. Special issues or conditions that require a broader representation for adequate review of the management plan may require the appointment of additional members. 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.

Addendum 3—References Cited

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Addendum 4—Soil Descriptions

(3) Matecumbe muck, occasionally flooded - The Matecumbe series consists of moderately well drained soils that are very shallow to rippable coral or oolitic limestone bedrock. The depth to limestone or coral limestone bedrock is 2 to 9 inches. These soils formed in organic material in varying stages of decomposition. Slopes are 0 to 1 percent. The taxonomic class is Euic, isohyperthemric Lithic Tropofolists.

This soil is on tropical hammocks in the uplands throughout the keys. Individual areas are subject to occasional flooding from hurricanes and other tropical storms. Elevations are less than 15 feet above sea level, according to National Geodetic Vertical Datum of 1929. The mean temperature ranges from 74 to 78 degrees F, and the mean annual precipitation ranges from 50 to 65 inches.

The Matecumbe soil is dominant in this map unit. 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 Matecumbe soil are the well-drained, mineral Keyvaca and Pennekamp soils in the higher positions on the landscape; the somewhat poorly drained, marly Saddlebunch soils in the landscape positions similar to those of the Matecumbe soil; and the poorly drained, marly Cudjoe, Keywest, and Lignumvitae soils and very poorly drained, organic Islamorada, Keylargo, and Tavernier soils in the lower positions on the landscape.

The Matecumbe soil is moderately well drained. It has a seasonal high water table at a depth of 1.5 to 3.0 feet during the wet periods of most years. Permeability is rapid.

Most areas of this soil support native vegetation and are used as habitat for woodland wildlife. Some areas have been developed for residential, urban, or recreational use. Characteristic vegetation for the soils in the survey area include; poisonwood, wild tamarind, mahogany, tree cactus, crabwood, thatch palms, satinleaf, paradise tree, and stopper.

Depth to bedrock, the flooding, and an excessive amount of humus are severe limitation affecting most uses of this soil, including most kinds of building site and recreational development and sanitary facilities.

(6) Keylargo muck, tidal - The Keylargo series consists of very poorly drained soils that are deep to rippable coral or oolitic limestone bedrock. The depth to bedrock is 50 to 90 inches. These soils formed in sapric material. Slopes are less than 1 percent. The taxonomic class is Euic, isohyperthermic Typic Troposaprists.

This soil is dominantly on the upper keys but can occur throughout the keys. It is in mangrove swamps. Individual areas are subject to daily flooding by tides. Elevations are dominantly at or below sea level, according to National Geodetic Vertical Datum of 1929. The mean annual temperature is about 75 degrees F, and the mean annual precipitation is about 50 inches.

The Key largo soil is dominant in the map unit. 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 Keylargo soils are the very poorly drained, organic Islamorada and Tavernier soils in the landscape positions similar to those of the Keylargo soil; the poorly drained, marly Cudjoe, Lignumvitae and Keywest soils in the slightly higher position on the landscape; and the moderately well drained, organic Matecumbe soils and somewhat poorly drained, marly Saddlebunch soils in the significantly higher positions on the landscape.

The Keylargo soil is very poorly drained. The seasonal high water table is at or near the surface during much of the year. Permeability is rapid.

Most areas of this soil support native vegetation and are used as habitat for wetland wildlife. A few areas have been developed for residential or recreation use. Characteristic vegetation for the soils in the survey areas include; red and black mangrove.

The wetness, an excessive amount of humus, and the flooding are severe limitations affecting most uses of this soil, including most kinds of building site and recreational development.

(7) Udorthents-Urban land complex - This map unit is constructed upland areas adjacent to areas of water throughout the keys. Individual areas are subject to rare flooding from hurricanes and other tropical storms. Elevations vary, depending on the thickness of the fill material, but they are dominantly 3 to 10 feet above sea level, according to National Geodetic Vertical Datum of 1929.

The Udorthents dominantly consist of crushed oolitic limestone or coral bedrock that has been spread over the original soil material. They commonly are about 32 inches of extremely gravelly sand underlain by about 40 inches of marl. The marl is underlain by coral bedrock. Other areas of soils are underlain by muck and other soil material. Houses and other urban structures cover up to 40 percent of most areas of the Udorthents; however, the soils can still be observed. Soils that are associated in this map unit are all of the other soils that are in the Keys.

The Udorthents are moderately well drained. They have a seasonal high water table at a depth of 2 to 4 feet during wet periods of most years. Permeability is variable.

This map unit generally supports no vegetation. The stones and droughtiness are severe limitations affecting any kind of landscaping activity. The Udorthents were developed for urban use, and many areas are being used for this purpose.

The stones, seepage, and the wetness are moderate or severe limitations affecting most uses of this map unit, including most kinds of building site and recreational development.

(8) Rock outcrop-Cudjoe complex, tidal - The Cudjoe series consists of poorly drained soils that are shallow to rippable coral or oolitic limestone bedrock. The depth to bedrock is 3 to 20 inches. These soils formed in calcareous marl. The taxonomic class in Loamy, carbonatic, isohyperthermic, shallow Tropic Fluvaquents.

This map unit is in mangrove swamps throughout the keys. Individual areas are frequently flooded by tides. Elevations are 0 to 1 foot above sea level, according to National Geodetic Vertical Datum of 1929. The mean annual temperature ranges from 75 to 78 degrees F, and the mean annual precipitation ranges from 40 to 50 inches.

Approximately 60 percent of this map unit consists of areas of exposed bedrock. These areas are dominantly 1 to 4 inches above the surface of the surrounding soil and range from approximately 2 feet to more than 200 feet in diameter. The Cudjoe soil is dominant in about 40 percent of this map unit. 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 Cudjoe soil are the well-drained, mineral Keyvaca and Pennekamp soils, moderately well drained, organic Matecumbe soils, and somewhat poorly drained, marly Saddlebunch soils in the higher positions on the landscape; the poorly drained marly Keywest and Lignumvitae soils in the landscape positions similar to those of the Cudjoe soil; and the very poorly drained, organic Islamorada, Keylargo, and Tavernier soils in the lower positions on the landscape.

The Cudjoe soil is poorly drained. The season high water table is within a depth of 6 inches during the wet periods of most years. Permeability is moderate or moderately rapid.

Most area of this map unit support native vegetation and are used as habitat for wetland wildlife. Some areas have been developed for residential, urban, or recreation use. Characteristic vegetation for the soils in the survey area include; red mangrove, black mangrove, saltwort and glasswort.

The flooding, the depth to bedrock, and the wetness are several limitation affecting most uses of this map unit, including most kinds of building site and recreational development and sanitary facilities.

(9) Lignumvitae marl, tidal - The Lignumvitae series consists of poorly drained soils that are moderately deep to rippable coral of oolitic limestone bedrock. Depth to bedrock is 20 to 35 inches but can range from 20 to 40 inches. These soils formed in calcareous marl. They are in tidal areas. Slopes are 0 to 1 percent. The taxonomic class is coarse-silty, carbonatic, isohyperthermic Tropic Fluvaquents.

This soil is dominantly on the middle and lower keys in mangrove swamps. Individual areas are frequently flooded by tides. Elevations are dominantly at sea level, according to National Geodetic Vertical Datum of 1929. The mean annual

temperature ranges from 75 to 78 degrees F., and the mean annual precipitation ranges from 40 to 50 inches.

The Lignumvitae soil is dominant in this map unit. Areas that have different uses and interpretation are rare and generally are adjacent to the boundaries of the map unit.

Soils that are associated with the Lignumvitae soil are the well-drained, mineral Keyvaca and Pennekamp soils, moderately well drained, organic Matcumbe soils, and somewhat poorly drained, marly Saddlebunch soils in the higher positions on the landscape; the poorly drained, marly Cudjoe and Keywest soils in landscape positions similar to those of the Lignumvitae soil; and the very poorly drained, organic Islamorada, Keylargo, and Tavernier soils in the lower positions on the landscape.

The Lignumvitae soil is poorly drained. The seasonal high water table is within a depth of 6 inches during wet periods of most years. Permeability is moderate or moderately rapid.

Most areas of this soil support native vegetation and are used s habitat for wetland wildlife. Some areas have been developed for residential, urban, or recreational use. Characteristic vegetation for the soils in the survey area include; red mangrove, black mangrove, white mangrove, buttonwood, and glasswort.

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

(16) Bahiahonda fine sand, 0 to 3 percent slopes - The Bahiahonda series consists of moderately well drained soils that are deep to rippable coral limestone bedrock. The depth to bedrock is 60 to 90 inches. These soils formed in sandy marine material and shells overlying the limestone bedrock. They are uplands. Slopes range from 0 to 3 percent. The taxonomic class is Isohyperthermic, uncoated Aquic Quartzipsamments.

The soil is on coastal strands and topical hammocks in the uplands on Bahia Honda Key and Long Key. Individual areas are subject to rare flooding from hurricanes and other tropical storms. Elevations are dominantly 4 to 7 feet above sea level, according to National Geodetic Vertical Datum of 1929.

The Bahiahonda soil is dominant in this map unit. Soils in areas on Long Key are wetter than the Bahiahonda soil and have slightly more limitations. They have a high water table at a depth of 1.5 to 2.5 feet. Areas that have different uses and interpretations are rare and generally are adjacent to the boundaries of this map unit.

Soils that are associated with the Bahiahonda soil are moderately well drained, organic Matecumbe soils in landscape positions similar to those of the Bahiahonda

soil; the poorly drained, marly Cudjoe soils in the slightly lower positions on the landscape; and the very poorly drained, organic Islamorada and Keylargo soils and Beaches in the significantly lower position on the landscape.

The Bahiahonda soil is moderately well drained. It has a seasonal high water table at a depth of 2.5 to 3.5 feet during the wet periods of most years. Permeability is rapid.

Most areas of this soil support native vegetation and are used as habitat for woodland wildlife. A few areas have been developed for recreation use. Some areas support invader, or exotic species.

These invader species are dominantly Australian pine. Characteristic vegetation for the soils in this survey include; poisonwood, crabwood, wild tamarind, gumbo limbo, stopper, and Buccaneer palm.

The wetness, the flooding, and seepage are severe limitations affecting most uses of this soil, including most kinds of building site and recreation development and sanitary facilities.

(17) Keywest marl, tidal - The Keywest series consists of poorly drained soils that are deep to rippable coral or oolitic limestone bedrock. The depth to bedrock is more than 50 inches. These soils formed in calcareous marl. They are in tidal area. Slopes are 0 to 1 percent. The taxonomic class is coarse-silty, carbonatic, isohyperthermic Thapto-Histic Tropic Fluvaquents.

The soil is dominantly on the lower keys in mangrove swamps. Individual areas are frequently flooded by tides. Elevations are dominantly 0 to 1 foot above sea level, according to National Geodetic Vertical Datum of 1929. The mean annual temperature ranges from 75 to 78 degrees F, and the mean annual precipitation ranges from 40 to 50 inches.

The Keywest soil is dominant in this map unit. Soils in areas on Boot Key do not have a layer of muck; whereas, the Keywest soil generally has a layer of muck. The difference, however, does not affect the uses and interpretations of the soils. Areas that have different uses and interpretations are rare and generally are adjacent to the boundaries of this map unit.

Soils that are associated with the Keywest soil are the well-drained, mineral Keyvaca and Pennekamp soils, moderately well drained, organic Matecumbe soils, and somewhat poorly drained, marly Saddlebunch soils in the higher positionso n the landscape and the very poorly drained, organic Islamorada, Keylargo, and Tavernier soils in the lower positions on the landscape.

The Keywest soil is poorly drained. The seasonal high water table is within a depth of 6 inches during the wet periods of most years. Permeability is moderate or moderately rapid.

Most areas of this soils support native vegetation and are used as habitat for wetland wildlife. Some areas have been developed for residential, urban or recreational use. Characteristic vegetation for this soil survey include; black mangrove, red mangrove, white mangrove, buttonwood and glasswort.

The flooding and the wetness are severe limitations affecting most uses of this soil, including most kinds of building site and recreational development and sanitary facilities.

(18) Beaches - This map unit consists of barren areas adjacent to the Atlantic Ocean on the lower keys. Individual areas are subject to shallow flooding by tides and to deep flooding from hurricanes and other tropical storms. Elevations are at or near sea level, according to National Geodetic Vertical Datum of 1929.

The Beaches are miscellaneous areas that have been reworked by the tides. They commonly consist of about 16 inches of sand underlain by about 44 inches of fine sand. The fine sand is underlain by muck and other soil or nonsoil material at a depth of about 60 inches. The width and shape of the Beaches can change during each major storm.

The Beaches are adjacent to Bahiahonda soils. They are also adjacent to Urban land and water. The Bahiahonda soils and the Urban land are in the higher positions on the landscape.

This map unit is poorly drained. It has a seasonal high water table at the surface. Permeability is rapid or very rapid. Most areas of this map unit are not vegetated. The Beaches are used for recreational activities, such as sunbathing and fishing, and as access areas for swimming and wading. Because of the unique location of the Beaches and their value for recreational activities, other uses are not practical and interpretations have not been provided.

Addendum 5—Plant and Animal List

Bahia Honda State Park Plants

Common Name	Scientific Name	Primary Habitat Codes (for imperiled species)

PTERIDOPHYTES

Giant leather fern ..... *Acrostichum danaeifolium*

ANGIOSPERMS

MONOCOTS

Flat spikerush ..... *Abildgaardia ovata*
Agave..... *Agave americana**
False sisal ..... *Agave decipiens*
Sisal hemp ..... *Agave sisalana**
Bushy bluestem ..... *Andropogon glomeratus var. pumilus*
Arrowfeather ..... *Aristida purpurascens*
Saw grass ..... *Cladium jamaicensis*
Southern sandbur..... *Cenchrus echinatus*
Coastal sandbur ..... *Cenchrus incertus*
Silver palm..... *Coccothrinax argentata* ..... CB
Coconut palm ..... *Cocos nucifera**
Bermuda grass ..... *Cynodon dactylon**
Umbrella sedge..... *Cyperus croceus*
Yellow nutgrass..... *Cyperus esculentus**
Umbrella sedge..... *Cyperus involucratus**
False saw grass..... *Cyperus ligularis*
Umbrella sedge..... *Cyperus planifolius*
Umbrella sedge..... *Cyperus polystachyos*
Nutgrass..... *Cyperus rotundus**
Egyptian grass ..... *Dactyloctenium aegyptium**
Asia crabgrass ..... *Digitaria bicornis**
Caribbean crabgrass ..... *Digitaria filiformis var. dolichophylla*
Canada spike rush ..... *Eleocharis geniculata*
Goose grass ..... *Eleusine indica**
Pothos..... *Epipremnum pinnatum**
Lovegrass ..... *Eragrostis elliottii*
Finger grass ..... *Eustachys petraea*
Hurricane grass..... *Fimbristylis cymosa**
Chestnut sedge..... *Fimbristylis spadicea*
Spider lily ..... *Hymenocallis latifolia*
Wild bamboo ..... *Lasiacis divaricata*
Beach grass ..... *Panicum amarum*
Guinea grass ..... *Panicum maximum**
Blue paspalum ..... *Paspalum caespitosum*
Salt joint grass ..... *Paspalum setaceum*
Salt joint grass ..... *Paspalum vaginatum*
Date palm..... *Phoenix sp.**
White-tops ..... *Rhynchospora colorata*

* Non-native species

Common Name	Scientific Name	Primary Habitat Codes (for imperiled species)
Cabbage palm	*Sabal palmetto*	
Bowstring hemp	*Sansevieria hyacinthoides**	
Wire bluestem	*Schizachyrium gracile*	
Bluestem	*Schizachyrium sanguineum*	
Saw palmetto	*Serenoa repens*	
Foxtail grass	*Setaria parviflora*	
Greenbrier	*Smilax havanensis*	
Saltmeadow cordgrass	*Spartina patens*	
Prickly cordgrass	*Spartina spartinae*	
Coral dropseed grass	*Sporobolus domingensis*	
Dropseed	*Sporobolus indicus var. indicus**	
West Indian dropseed	*Sporobolus indicus var.pyramidalis**	
Coastal dropseed	*Sporobolus virginicus*	
St. Augustine grass	*Stenotaphrum secundatum**	
Key thatch	*Leucothrinax morrisii*	CB,DV
Florida thatch palm	*Thrinax radiata*	CB,DV
Sea oats	*Uniola paniculata*	
Dominican panicum	*Urochloa adspersa*	
Washington palm	*Washingtonia robusta**	
Spanish bayonet	*Yucca aloifolia*	
Turf grass	*Zoysia tenuifolia**	
DICOTS		
Barb-wire cactus	*Acanthocereus tetragonus*	
False foxglove	*Agalinis maritima*	
Woman's tongue	*Albizia lebbeck**	
Notch-leaved amaranth	*Amaranthus blitum**	
Common ragweed	*Ambrosia artemisiifolia*	
Torchwood	*Amyris elemifera*	
Aster	*Aster subulatus*	
Sand atriplex	*Atriplex cristata*	
Black mangrove	*Avicennia germinans*	
Salt bush	*Baccharis halimifolia*	
Saltwort	*Batis maritima*	
Spanish needle	*Bidens alba var. radiata*	
Green shrimp plant	*Blechum pyramidatum**	
Samphire	*Blutaparon vermiculare*	
Red spiderling	*Boerhavia diffusa*	
Sea ox-eye daisy	*Borrichia arborescens*	
Sea oxeye	*Borrichia frutescens*	
Bougainvillea	*Bougainvillea glabra**	
Blueheart	*Buchnera americana*	
Gumbo limbo	*Bursera simaruba*	
Locustberry	*Byrsonima lucida*	CB
Gray nicker-bean	*Caesalpinia bonduc*	

* Non-native species

Bahia Honda State Park Plants

Common Name	Scientific Name	Primary Habitat Codes (for imperiled species)
Southern sea rocket	*Cakile lanceolata*	
Sea daisy	*Calyptocarpus vialis**	
Bay-bean	*Canavalia rosea*	
Goatweed	*Capraria biflora*	
Love vine	*Cassytha filiformis*	
Small-flowered lilythorn	*Catesbaea parviflora*	CB
Madagascar periwinkle	*Catharanthus roseus**	
Butterfly pea	*Centrosema virginianum*	
Sensitive pea	*Chamaecrista nictitans var. aspera*	
Cocoplum (cultivated)	*Chrysobalanus icaco*	
Pitch apple	*Clusia rosea**	
Pigeon plum	*Coccoloba diversifolia*	
Seagrape	*Coccoloba uvifera*	
Coffee colubrina	*Colubrina arborescens*	
Latherleaf	*Colubrina asiatica**	
Dayflower	*Commelina diffusa**	
Day flower	*Commelina erecta*	
Buttonwood	*Conocarpus erecta*	
Dwarf horseweed	*Conyza canadensis var. pusilla*	
Geiger tree	*Cordia sebestena*	
Rhacoma	*Crossopetalum rhacoma*	CB
Limber caper	*Cynophalla flexuosa*	
Coin vine	*Dalbergia ecastophyllum*	
Virgate mimosa	*Desmanthus virgatus*	
Beggarweed	*Desmodium incanum*	
Florida begger weed	*Desmodium tortuosum**	
Ponyfoot	*Dichondra carolinensis*	
False mint	*Dicliptera sexangularis*	
Annual wallrocket	*Diplotaxis muralis**	
Milkbark	*Drypetes diversifolia*	CB
False daisy	*Eclipta prostrata**	
Black torch	*Erithalis fruticosa*	
Beach creeper	*Ernodea littoralis*	
Spanish stopper	*Eugenia foetida*	
Dog fennel	*Eupatorium capillifolium*	
Wild poinsettia	*Euphorbia cyathophora*	
Blodgett's spurge	*Euphorbia blodgettii*	
Garber's spurge	*Euphorbia garberi*	CB,DV
Grassleaf spurge	*Euphorbia graminea**	
Hairy spurge	*Euphorbia hirta*	
Graceful sandmat	*Euphorbia hypericifolia*	
Seaside spurge	*Euphorbia mesembryanthemifolia*	
Florida hammock sandmat	*Euphorbia ophthalmica*	
Blackweed	*Euphorbia prostrata **	
Seaside gentian	*Eustoma exaltatum*	

* Non-native species

Common Name	Scientific Name	Primary Habitat Codes (for imperiled species)
Strangler fig	*Ficus aurea*	
Shortleaf fig	*Ficus citrifolia*	
Laurel fig	*Ficus microcarpa**	
Yellowtop	*Flaveria linearis*	
Stalkless yellowtop	*Flaveria trinervia*	
Milk pea	*Galactia striata*	
Milk pea	*Galactia volubilis*	
Southern gaura	*Gaura angustifolia*	
Seven-year apple	*Genipa clusiifolia*	
Lignum vitae (cultivated)	*Guajacum sanctum*	DV
Blolly	*Guapira discolor*	
Crabwood	*Gymnanthes lucida*	
Flattop mille graines	*Hedyotis corymbosa**	
Scorpion tail	*Heliotropium angiospermun*	
Seaside heliotrope	*Heliotropium curassavicum*	
Sea lavender	*Heliotropium gnaphalodes*	BD
Bladder mallow	*Herissantia crispa*	
Hibiscus	*Hibiscus rosa-sinensis var. rosa-sinensis**	
Manchineel	*Hippomane mancinella*	CB
Wild indigo	*Indigofera spicata**	
Moon-flower	*Ipomoea alba*	
Morning glory	*Ipomoea imperati*	
Morning glory	*Ipomoea indica var. acuminata*	
Railroad vine	*Ipomoea pes-caprae ssp. Brasiliensis*	
Moonvine	*Ipomoea violaceae*	
Beach elder	*Iva imbricata*	
Cuban jacquemontia	*Jacquemontia havanensis*	BD,CB
Sky blue morning glory	*Jacquemontia pentanthos*	CB
Joewood	*Jacquinia keyensis*	CB
Devil's backbone	*Kalanchoe daigremontiana**	
Life plant	*Kalanchoe pinnata**	
Salt marsh mallow	*Kosteletzkya virginica*	
White mangrove	*Languncularia racemosa*	
Wild lantana	*Lantana involucrata*	
Peppergrass	*Lepidium virginicum*	
Lead tree	*Leucaena leucocephala**	
Christmas berry	*Lycium carolinianum*	
Purple bushbean	*Macroptilium atropurpureus**	
Red jumbie bean	*Macroptilium lathyroides**	
False mallow	*Malvastrum corchorifolium*	
Wild dilly	*Manilkara jaimiqui subsp. emarginata*	
Marsh elder	*Melanthera nivea*	
Fragrant milkweed	*Metatelma northropiae*	
Poisonwood	*Metopium toxiferum*	
Cheeseweed	*Morinda royoc*	

* Non-native species

Common Name	Scientific Name	Primary Habitat Codes (for imperiled species)
Soldier bush	*Myriopus volubilis*	
Tex-Mex tobacco	*Nicotiana plumbaginifolia**	
Cochineal cactus	*Opuntia cochenillifera**	
Prickly-pear cactus	*Opuntia stricta*	
Lady's sorrel	*Oxalis corniculata*	
Corky-stemmed passionflower	*Passiflora suberosa*	
Chicken weed	*Pectis prostrata**	
Devil's backbone	*Pedilanthus tithymaloides**	
Wild allamanda	*Pentalinon luteum*	
Creeping charlie	*Phyla nodiflora*	
Gale of wind	*Phyllanthus amarus**	
Mascarene island leafflower	*Phyllanthus tenellus**	
Ground cherries	*Physalis walteri*	
Artillery plant	*Pilea microphylla*	
Jamaica dogwood	*Piscidia piscipula*	
Blackbead	*Pithecellobium keyense*	
Cat's claw	*Pithecellobium unguis-cati*	
Bushy fleabane	*Pluchea carolinensis**	
Marsh fleabane	*Pluchea odorata*	
Milkwort	*Polygala grandiflora*	
Purslane	*Portulaca oleracea*	
Pink purslane	*Portulaca pilosa*	
Purslane	*Portulaca rubricaulis*	
White indigo-berry	*Randia aculeata*	
Darling plum	*Reynosia septentrionalis*	
Red mangrove	*Rhizophora mangle*	
Least snoutbean	*Rhynchosia minima*	
Rougeberry	*Rivina humilis*	
Annual glasswort	*Salicornia bigelovii*	
Woody glasswort	*Salicornia perennis*	
Milkweed vine	*Sarcostemma clausum*	
Inkberry	*Scaevola plumieri*	
Beach naupaka	*Scaevola sericea**	
Brazilian pepper	*Schinus terebinthifolia**	
Coffeweed	*Senna obtusifolia**	
Sea purslane	*Sesuvium portulacastrum*	
Broomweed	*Sida acuta*	
Fringed fanpetals	*Sida ciliaris*	
Saffron plum	*Sideroxylon celastrinum*	
American black nightshade	*Solanum americanum*	
Bahama nightshade	*Solanum bahamense*	
Mullein nightshade	*Solanum donianum*	
Necklace-pod	*Sophora tomentosa var. occidentalis**	
Necklace-pod	*Sophora tomentosa var. truncata*	
Large leaf buttonweed	*Spermacoce assurgens*	

* Non-native species

Common Name	Scientific Name	Primary Habitat Codes (for imperiled species)
Buttonweed	*Spermacoce verticillata**	
Porterweed	*Stachytarpheta cayennensis**	
Blue porterweed	*Stachytarpheta jamaicensis*	
Pencil flower	*Stylosanthes hamata*	
Sea blite	*Suaeda linearis*	
Milkweed	*Seutera angustifolium*	
Bay cedar	*Suriana maritima*	
West Indian mahogany	*Swietenia mahagoni*	DV
Tropical almond	*Terminalia catappa**	
Portia	*Thespesia populnea**	
Poison ivy	*Toxicodendron radicans*	
Oyster plant	*Tradescantia spathacea**	
Desert horsepurslane	*Trianthema portulacastrum*	
Puncture weed	*Tribulus cistoides**	
Mexican daisy	*Tridax procumbens**	
Yellow alder	*Turnera ulmifolia**	
Cow-pea	*Vigna luteola*	
Waltheria	*Waltheria indica*	
Hog-plum	*Ximenia americana*	
Yellow wood	*Zanthoxylum flavum*	CB

MARINE PLANTS

	Acetablularia calyculus
	Avrainvillea nigricans
	Avrainvillea longicaulis
	Batophora oerstedii
	Caulerpa sertularioides
	Caulerpa Mexicana
	Dasycladus vermicularis
	Dictyosphaeria cavernosa
	Halimeda incrassate
	Halimeda monile
	Halimeda opuntia
	Halodule wrightii
	Padina gymnospora
	Padina sanctae-crucis
	Penicillus capitatus
	Penicillus dumetosus
	Sargassum fluitans
	Sargassum natans
	Syringodium filiforme
	Thalassia tedtudinum
	Udotea flabellum
	Ulva fasciata
	Ventricaria ventricosa

* Non-native species

Common Name	Scientific Name	Primary Habitat Codes (for imperiled species)
	INVERTEBRATES	
Golfball coral	*Favia fragum*	MCPS,MCNS,MSGB
Rose coral	*Manicina areolata*	MCNS, MCPSMSGB
Finger coral	*Porites furcata*	MCPS,MCNS,MSGB
Finger coral	*Porites porites*	MCPS,MCNS,MSGB
Massive starlet coral	*Siderastrea siderea*	MCNS, MCPS,MSGB
Upside down jellyfish	*Cassiopeia xamachana*	MSGB,MS,MUS
Pink-tipped anemone	*Condylactis gigantean*	MCNS, MSGB
White encrusting zoanthid	*Palythoa caribaeorum*	MCNS
Portuguese man-of-war	*Physalia physalis*	MCNS,MUS,MCR,MSGB,MCPS
Tube sponge	*Aplysina cauliformis*	MCNS,MSGB
Chicken liver sponge	*Chondrilla nucula*	MCNS,MSGB
Vase sponge	*Ircinia campana*	MCPS,MCNS,MSGB
Loggerhead sponge	*Spheciospoingia vesparia*	MCNS,MSGB
Fire sponge	*Tedania iquis*	MCNS,MSGB
Tube worm moth	*Acrolophus* sp.	MTC
Leaf minor	*Tildenia* sp.	MTC
Lil' moth	*Lactura pupula*	MTC
	Yponomeuta calcarata	MTC
	Episimus augmentanus	MTC
	Strepsicrates smithiana	MTC
	Cydia palmetum	MTC
	Ecdytolopha desotana	MTC
	Pytcholoma peritana	MTC
Southern flannel moth	*Megalopyge opercularis*	MTC
Packard's white flannel moth	*Alarodia slossioniae*	MTC
Watermilfoil leafcutter moth	*Parapoynx allionealis*	MTC
Yellow-veined moth	Microtheoris ophionalis	MTC
Kemp's hellula moth	*Hellula kempae*	MTC
	Aethiophysa delicata	MTC
	Plumegesta largalis	MTC
	Dicymolomia metalophota	MTC
Wine-tinted Oenobotys moth	*Oenobotys vinotinctalis*	MTC
Garden webworm moth	*Achyra rantlis*	MTC
Genista broom moth	*Uresiphita reversalis*	MTC
Coffee-loving Pyrausta moth	*Pyrausta tyralis*	MTC
Eggplant leafroller	*Lineodes integra*	MTC
	Erecta vittata	MTC
Mopsalis diacme moth	*Diacme mopsalis*	MTC
Assembly moth	*Samea ecclesialis*	MTC
Deploring desmia moth	*Desmia divisalis*	MTC
Spotted beet webworm moth	*Hymenia perspectalis*	MTC
Yellow-spotted webworm moth	*Diasemiodes janassialis*	MTC
	Steniodes mendica	MTC

* Non-native species

Common Name	Scientific Name	Primary Habitat Codes (for imperiled species)
Black penestola moth	*Penestola bufalis*	MTC
.....	*Blepharomastix acroalis*	MTC
.....	*Blepharomastix differentalis*	MTC
.....	*Blepharomastix hampsoni*	MTC
.....	*Synclera jarbusalis*	MTC
.....	*Glyphodes floridalis*	MTC
Melonworm moth	*Diaphania hyalinata*	MTC
Soybean leaffolder moth	*Omiodes indicata*	MTC
.....	*Omiodes rufescens*	MTC
.....	*Polygrammodes elevata*	MTC
.....	*Phedropsis stictigramma*	MTC
.....	*Microthyris anormalis*	MTC
Bouganvillea caterpillar moth	*Asciodes gordialis*	MTC
.....	*Psara obsuralis*	MTC
.....	*Bicilia iarchasalis*	MTC
Scraped pilocrocis moth	*Pilocrocis ramentalis*	MTC
.....	*Cryptobotys zoilusalis*	MTC
Red-waisted florella moth	*Syngama florella*	MTC
.....	*Marasmia cochrusalis*	MTC
Prionapteryx moth	*Prionapteryx serpentella*	MTC
.....	*Crambus satrapellus*	MTC
Graceful grass-veneer moth	*Parapediasia decorella*	MTC
Grass veneer moth	*Euchromius ocelleus*	MTC
Sedge moth	*Haimbachia floridalis*	MTC
Tropical meal moth	*Pyralis manihotalis*	MTC
Parachma moth	*Parachma ochracealis*	MTC
.....	*Macalla phaeobasalis*	MTC
.....	*Jocara trilinearis*	MTC
.....	*Tetralopha floridells*	MTC
.....	*Tetralophy sp.*	MTC
Honeycomb moth	*Galleria mellonella*	MTC
.....	*Thyridopyralis gallaerandialis*	MTC
.....	*Anypsipyla univetella*	MTC
.....	*Scorylus cubensis*	MTC
.....	*Undella pellucens*	MTC
.....	*Davara caricae*	MTC
.....	*Sarasota plumigerella*	MTC
Coconut moth	*Atheloca subrufella*	MTC
.....	*Zamagiria asutralella*	MTC
.....	*Zamagiria laidion*	MTC
Limabean pod borer	*Etiella zinckenella*	MTC
.....	*Ufa rubedinella*	MTC
Lesser cornstalk borer	*Elasmopalpus lignosellus*	MTC
.....	*Divitiaca ochrella*	MTC
.....	*Ocala dryadella*	MTC

* Non-native species

Common Name	Scientific Name	Primary Habitat Codes (for imperiled species)
.....	*Palatka nymphaeela*	MTC
.....	*Bema neuricella*	MTC
.....	*Unadilla erronella*	MTC
Cactoblastis moth.....	*Cactoblastis cactorum*	MTC
.....	*Lascelina canens*	MTC
.....	*Australephestiodes stictella*.....	MTC
.....	*Moodnodes plorella*.....	MTC
Leafroller moth	*Caudellia floridensis*.....	MTC
Legume pod borer	*Maruca testulalis*	MTC
Seagrape borer.....	*Hexeris enhydris*	MTC
.....	*Banisia furva fracta*	MTC
Teak defoliator	*Hyblaea puera*	MTC
.....	*Lioptilodes parvus*	MTC
.....	*Adaina buscki*	MTC
.....	*Almodes terraria*	MTC
.....	*Semiothisa punctolineata*.....	MTC
Lopper moth.....	*Sphacelodes vulneraria*	MTC
.....	*Oxydia cubana*.....	MTC
.....	*Sericoptera virginaria*.....	MTC
Virgin Islands emerald moth	*Synchlora herbaria*	MTC
.....	*Synchlora cupedinaria*.....	MTC
.....	*Eueana niveociliaria*.....	MTC
Angle-winged emeral moth	*Chloropteryx paularia*	MTC
Straight-lined wave moth	*Lobocleta plemyraria*	MTC
.....	*Idaea minuta*.....	MTC
.....	*Idaea insulensis*	MTC
.....	*Idaea pervertipennis*.....	MTC
Common tan wave moth	*Pleuroprucha insulsaria*	MTC
Waxmyrtle wave moth	*Cylcophora myrtaria*	MTC
.....	*Scopula aemulata*.....	MTC
Pink and gold moth.....	*Leptostales laevitaria*	MTC
.....	*Pterocypha floridata*.....	MTC
.....	*Camptogramma australata*	MTC
Bouganivllea looper	*Disclisioprocta stellata*.....	MTC
.....	*Antiplecta sp. nova*.....	MTC
Dot-lined white moth	*Artace cribraria*.....	MTC
IO moth.....	*Automeris io lilith*	MTC
Pink spotted hawk moth	*Agrius cingulata*	MTC
Tobacco hornworm moth	*Manduca sexta*.....	MTC
Carter's sphinx moth.....	*Protambulyx carteri*	MTC
Ello sphinx moth	*Erinnyis ello*	MTC
Obscure sphinx moth	*Errinyis obscura*	MTC
False-windowed sphinx moth....	*Madoryx pseudothyreus*	MTC
Tanalus sphinx moth.....	*Aellopos tantalus*.....	MTC
Mournful sphinx moth	*Enyo lugubris*	MTC

* Non-native species

Common Name	Scientific Name	Primary Habitat Codes (for imperiled species)
Banded sphinx moth	*Eumorpha fasciata*	MTC
Grote's sphinx moth	*Cautethia grotei*	MTC
Tetro sphinx moth	*Pseudosphinx tetrio*	MTC
Pluto sphinx moth	*Xylophanes pluto*	MTC
Tersa sphinx moth	*Xylophanes tersa*	MTC
.....	*Nystalea eutalanta*	MTC
.....	*Heterocampa cubana*	MTC
.....	*Heterocampa zayasi*	MTC
Dyer's lichen moth	*Afrida ydatodes*	MTC
Fall webworm moth	*Hyphantria cunea*	MTC
Giant leopard moth	*Ecpantheria scribonia*	MTC
Little virgin tiger moth	*Grammia phalerata*	MTC
Florida tussock moth	*Halysidota cinctipes*	MTC
Long-streaked tussock moth	*Leucanopsis longa*	MTC
Yellow-collared scape moth	*Cisseps fulvicollis*	MTC
Edward's wasp moth	*Lymire edwardsii*	MTC
Texas wasp moth	*Horama panthalon texana*	MTC
Smoky tetanolita moth	*Tetanolita mynesalis*	MTC
.....	*Bleptina inferior*	MTC
.....	*Bleptina hydrillalis*	MTC
.....	*Bleptina sp. nova*	MTC
.....	*Lascoria orneodalis*	MTC
.....	*Macristis geminipunctalis*	MTC
Black-spotted schrankia moth	*Schrankia macula*	MTC
.....	*Hypena subidalis*	MTC
Sooty bomolocha moth	*Ophiuche minualis*	MTC
Flowing-line bomolocha moth	*Ophiuche degasalis*	MTC
.....	*Ophiuche sp.*	MTC
Variable tropic moth	*Hemeroplanis scopulepes*	MTC
Black-dotted hereoplanis	*Hemeroplanis habitalis*	MTC
Ernestine's moth	*Phytometra ernestinana*	MTC
Double-lined brown moth	*Hormoschista latipalpis*	MTC
.....	*Ommatochila mundula*	MTC
.....	*Mursa subrufa*	MTC
Yellow scallop moth	*Anomis erosa*	MTC
Okra leafworm moth	*Anomis illita*	MTC
Cabbage palm moth	*Litoprosopus futilis*	MTC
Bahamian palm moth	*Litoprosopus bahamensis*	MTC
.....	*Litoprosopus haitiensis*	MTC
Hieroglyphic moth	*Diphthera festiva*	MTC
.....	*Eulepidotis metamorpha*	MTC
Variable metallata moth	*Metallata absumens*	MTC
Velvetbean moth	*Anticarsia gemmatalis*	MTC
.....	*Azeta repugnalis*	MTC
.....	*Antiblemma filaria*	MTC

* Non-native species

Common Name	Scientific Name	Primary Habitat Codes (for imperiled species)
.....	*Antiblemma concinnula*	MTC
Erebid moth	*Ephyrodes cacata*	MTC
Ferguson's epidromia moth	*Epidromia fergusoni*	MTC
.....	*Epidromia pannosa*	MTC
.....	*Epidromia pyraliformis*	MTC
.....	*Melipotis januaris*	MTC
.....	*Melipotis famelica*	MTC
.....	*Melipotis contorta*	MTC
.....	*Melipotis prolata*	MTC
.....	*Melipotis jucunda*	MTC
.....	*Hypocala andremona*	MTC
.....	*Boryzops purissima*	MTC
Giant noctuid moth	*Ascalapha odorata*	MTC
.....	*Tyrissa multilinea*	MTC
Catocaline moth	*Lesmone hinna*	MTC
.....	*Lesmone formularis*	MTC
Pale-edged selenisa moth	*Selenisa sueroides*	MTC
.....	*Zale sp. nova Franc.*	MTC
Small mocis moth	*Mocis latipes*	MTC
Yellow mocis moth	*Mocis disserverans*	MTC
.....	*Mocis cubana*	MTC
Black-tipped ptichodes moth	*Ptichodis vinculum*	MTC
.....	*Ptichodis imunnis*	MTC
Golden looper moth	*Argyrogramma verruca*	MTC
Cabbage looper moth	*Trichoplusia ni*	MTC
Soybean looper moth	*Pseudoplusia includens*	MTC
.....	*Paectes burserae*	MTC
.....	*Paectes acutangula*	MTC
.....	*Paectes obrotunda*	MTC
Black olive moth	*Characoma nilotica*	MTC
.....	*Motya abseuzalis*	MTC
.....	*Collomena filifera*	MTC
.....	*Nola sp.*	MTC
.....	*Thioptera* sp.	MTC
Tiger moth	*Amyna bullula*	MTC
.....	*Amyna octo*	MTC
.....	*Eumestleta cinnamonea*	MTC
Straight-lined seed moth	*Eumestleta recta*	MTC
.....	*Fruva fasciatella*	MTC
Fourspotted bird-dropping moth.	*Acontia tetragona*	MTC
Wavy-lined mallow moth	*Bagisara repanda*	MTC
.....	*Euscirrhopterus poeyi*	MTC
Pickerlweed borer moth	*Bellura densa*	MTC
.....	*Dypterygia patina*	MTC
.....	*Speocropia trichoma*	MTC

* Non-native species

Common Name	Scientific Name	Primary Habitat Codes (for imperiled species)
Florida callopistria moth	*Callopistria floridensis*	MTC
Orbed narrow-wing moth	*Magusa orbifera*	MTC
Triplex cutworm moth	*Micrathetis triplex*	MTC
Beet armyworm moth	*Spodoptera exigua*	MTC
Fall armyworm moth	*Spodoptera frugiperda*	MTC
Yellow-striped armyworm moth	*Spodoptera ornithogalli*	MTC
Lateral-lined armyworm moth	*Spodoptera latifascia*	MTC
Dolichos armyworm moth	*Spodoptera dolichos*	MTC
Southern armyworm moth	*Spodoptera eridania*	MTC
Tropical armyworm moth	*Spodoptera albula*	MTC
	Elaphria nuciocolora	MTC
	Elaphria agrotina	MTC
Chalcedony midget moth	*Elaphria chalcedonia*	MTC
	Elaphria deltoides	MTC
	Playtsenta mobilis	MTC
	Playtsenta concisa	MTC
	Playtsenta sutor	MTC
Confederate moth	*Condica confederata*	MTC
Feeble grass moth	*Amolita fessa*	MTC
	Catabena vitrina	MTC
	Trichoclea florida	MTC
Armyworm moth	*Pseudaletia unipuncta*	MTC
Wheat armyworm moth	*Pseudaletia sequax*	MTC
	Leucania latiuscula	MTC
Scirpis wainscot moth	*Leucania scirpicola*	MTC
	Leucania infatuans	MTC
	Leucania dorsalis	MTC
	Leucania senescens	MTC
White-dotted wainsoct moth	*Leucania subpunctata*	MTC
Spanish moth	*Marilopteryx lutina*	MTC
	Zanthopastis timais	MTC
	Agrotis malefinda	MTC
	Agrotis ipsilon	MTC
	Agrotis subterranea	MTC
Green cutworm moth	*Anicla infecta*	MTC
	Anicla cemolia	MTC
Pearly underwingcutworm moth	*Peridroma saucia*	MTC
Corn earworm moth	*Heliothis zea*	MTC
	Schina trifascia	MTC
Gulf fritillary	*Agraulis vanillae*	CB,CL,DV
White peacock	*Anartia jatrophae*	MS,DV
Florida white	*Appias drusilla*	CB
Great southern white butterfly	*Ascia monuste phileta*	CB,CL,DV
Eastern pigmy blue	*Brephidium pseudofea*	CB
Canna skipper	*Calpodes ethlius*	CB,DV

Common Name	Scientific Name	Primary Habitat Codes (for imperiled species)
Miami Blue butterfly	*Cyclargus thomasi bethunebakeri*	CB,CL,DV
Queen	*Danaus gilippus*	CB,CL
Julia	*Dryas iulia*	CB,CL, DV
Zestos skipper	*Epargyreus zestos*	CB
Dusky wing	*Erynnis zarucco*	DV
Long bristle eunice	*Eunice longicerrata*	MS,MUS
Zebra longwing	*Heliconius charitonius*	CL,DV
Ceraneus blue butterfly	*Hemiargus ceraunus*	CB,CL,DV
West Indian buckeye	*Junonia evarete*	CB,CL,DV
Cassius blue	*Leptotes cassius theonus*	CB,CL,DB
Ruddy daggerwing	*Marpesia petreus*	CL,
Dwarf yellow	*Nathalis iole*	MS
Obscure skipper	*Panoquina panoquinoides*	MS
Giant swallowtail	*Papilio cresphontes*	CB,CL,DV
Mangrove skipper	*Phocides pigmalion*	MS,CL
Orange giant sulphur	*Phoebis agarithe*	CB,CL,DV
Cloudless giant sulphur	*Phoebis sennae*	CB,CL
Cuban crescentspot	*Phyciodes frisia*	CB,CL3,81
Phaon crescentspot	*Phyciodes phaon*	CL
Hammock skipper	*Polygonus lio savigny*	CB,CL
Ocola skipper	*Panoquina ocola ocola*	CB
Malachite	*Siporeta stelenes*	KTRB
Coumella hairstreak	*Strymor columella*	CL
Long-tailed hairstreak	*Strymor martialis*	CL
Gray hairstreak	*Strymor melinus*	CL
Lilac-banded longtail	*Urbanus dorantes*	CL
Long-tailed skipper	*Urbanus proteus*	KTRB,CL
Painted lady	*Vanessa cardui*	CB, CL

ARTHROPODS

Copepod	*Acartia* spp.	MSGB
Pistol shrimp	*Alpheus* spp.	MSGB
Mangrove tree crab	*Aratus pisonni*	MS
Blue crab	*Callinectes sapidus*	MSGB,MCPS,MS,MCNS,MUS
Land crab	*Cardisoma guanhumi*	CB,CL,DV
Barnacle	Chthamalus stellatus	MS
Land hermit crab	*Coenobita clypeatus*	KTRB,CB,CL,DV
Amphipod	*Cymadus compta*	MSGB,MS,MUS
Amphipod	*Gammarus mucronatus*	MSGB,MS,MUS
Sea roach	*Ligia* spp.	MS
Horseshoe crab	*Limulus polyphemus*	MSGB,MCNS,MUS,MCPS
Stone crab	*Menippe mercenaria*	MCNS,MS, MSGB
Shore crab	*Pachygrapsus* spp.	MSGB
Shrimp	*Palaemonetes* spp.	MSGB

* Non-native species

Common Name	Scientific Name	Primary Habitat Codes (for imperiled species)
Spiny lobster	*Panulirus argus*	MSGB,MCPS,MCNS,MS
Pink shrimp	Penaeus duorarum	MSGB
Mantis shrimp	*Pseudosquilla ciliata*	MSGB,MCPS,MCNS,MS
Marsh crab	*Sesarma* sp.	MS
Shrimp	*Snalpheus fritzmuelleri*	MSGB,MS
Fiddler crab	*Uca pugilator*	MS
SPIDERS		
Silver argiope	*Argiope argentata*	CB,KTRB,CL
Junk spider	*Cyclosa* sp.	CB,KTRB,CL,
Spinybacked orb weaver	*Gasteracantha cancriformis*	CB,KTRB,MS,
Golden orb weaver	*Nephila clavipes*	CB,KTRB,MS,CL
FISH		
Sergeant major	*Abudefduf saxatilis*	MCPS,MCNS,MSGB,MUS,MS
Eagle ray	*Aetobatus narinari*	MCPS,MCNS,MSGB,MUS
Bonefish	*Albula vulpes*	MCPS,MCNS,MSGB,MUS,MS
Anchovies	*Anchoa* spp.	MCPS,MCNS,MSGB,MUS
Porkfish	Anisotremus virginicus	MCPS,MCNS,MSGB,MUS
Trumpetfish	*Aulostomus maculates*	MCPS,MCNS,MSGB,MUS
Porgies	*Archosargus* spp.	MCPS,MCNS,MSGB,MUS
Hardhead silverside	*Atherinomorus stipes*	MCPS,MCNS,MSGB,MUS
Silver perch	*Bairdiella chrysura*	MCPS,MCNS,MSGB,MUS
Gobies	*Bathygobius* sp.	MCPS,MCNS,MSGB,MUS
Dragonet	*Callionymus paraciradiatus*	MCPS,MCNS,MSGB,MUS
Blue runner	*Caranx crysos*	MCPS,MCNS,MSGB,MUS
Bar jack	*Caranx ruber*	MCPS,MCNS,MSGB,MUS
Reef shark	*Carcharhinus springeru*	MCPS,MCNS,MSGB,MUS
Snook	Centropomus undecimalis	MCPS,MCNS,MSGB,MUS,MS
Atlantic spadefish	*Chaetodiperus faber*	MCPS,MCNS,MSGB,MUS
Pikeblenny	*Chaetodipterus faber*	MCPS,MCNS,MSGB,MUS
Four-eyed butterflyfish	*Chaetondon capistratus*	MCPS,MCNS,MSGB,MUS
Spotfin butterflyfish	*Chaetodon ocellatus*	MCPS,MCNS,MSGB,MUS
Banded butterflyfish	*Chaetodon striatus*	MCPS,MCNS,MSGB,MUS
Hardhead halfbeak	*Chridorus atherinoides*	MCPS,MCNS,MSGB,MUS
Dolphin	*Coryphaena hippurus*	MCPS,MCNS,MSGB,MUS,MS
Spottail goby	*Ctenogobius stigmaturaus*	MCPS,MCNS,MSGB,MUS
Spotted seatrout	*Cynoscion nibulosu*	MCPS,MCNS,MSGB,MUS
Sheepshead minnow	*Cyprinodon variegates*	MCPS,MCNS,MSGB,MUS
Southern stingray	*Dasyatis americana*	MCPS,MCNS,MSGB,MUS,MS
Ladyfish	*Elops saurus*	MCPS,MCNS,MSGB,MUS,MS
Porcupinefish	*Diodon hystris*	MCPS,MCNS,MSGB,MUS

* Non-native species

Bahia Honda State Park Animals

Common Name	Scientific Name	Primary Habitat Codes (for imperiled species)
Goliath grouper	*Epinephalus itajara*	MCPS,MCNS,MSGB,MUS
Spotted drum	*Equetus punctatus*	MCPS,MCNS,MSGB,MUS
Spotted blenny	*Eucinostomus gula*	MCPS,MCNS,MSGB,MUS,MS
Goldspotted killifish	*Ginglymostoma curratum*	MCPS,MCNS,MSGB,MUS
Yellowfin mojarra	*Gerres cinereus*	MCPS,MCNS,MSGB,MUS,MS
Nurse shark	*Ginglymostoma cirratum*	MCPS,MCNS,MSGB,MUS,MS
Skilletfish	*Gobiesox strumosus*	MCPS,MCNS,MSGB,MUS
White grunt	*Haemulon plumieri*	MCPS,MCNS,MSGB,MUS,MS
Bluestriped grunt	*Haemulon sciurus*	MCPS,MCNS,MSGB,MUS,MS
Slippery dick	*Halichoeres bivittatus*	MCPS,MCNS,MSGB,MUS
Scaled sardine	*Harengula pensacolae*	MCPS,MCNS,MSGB,MUS
Dwarf seahorses	*Hippocampus zosterae*	MCNS,MSGB,MUS
Blue angelfish	*Holacanthus bermudensis*	MCPS,MCNS,MSGB,MUS
Queen angelfish	*Holacanthus ciliaris*	MCPS,MCNS,MSGB,MUS
Needlefish	Hyporhamphus unfasciatus	MCPS,MCNS,MSGB,MUS,MS
Bermuda chub	*Kyphosus sectartrix*	MCPS,MCNS,MSGB,MUS
Hogfish	*Lachnolaimus maximus*	MCPS,MCNS,MSGB,MUS
Spotted trunkfish	*Lactophrys bicaudalis*	MCPS,MCNS,MSGB,MUS
Honeycomb cowfish	*Lactophrys polygonia*	MCPS,MCNS,MSGB,MUS
Pinfish	*Lagodon rhomboids*	MCPS,MCNS,MSGB,MUS,MS
Rainwater killifish	*Lacania parva*	MCPS,MCNS,MSGB,MUS
Mutton snapper	*Lutjanus analis*	MCPS,MCNS,MSGB,MUS,MS
Schoolmaster	*Lutjanus apodus*	MCPS,MCNS,MSGB,MUS,MS
Gray snapper	*Lutjanus griseus*	MCPS,MCNS,MSGB,MUS,MS
Dog snapper	*Lutjanus jocu*	MCPS,MCNS,MSGB,MUS,MS
Lane snapper	*Lutjanus synagris*	MCPS,MCNS,MSGB,MUS,MS
Tarpon	*Megalops atlanticus*	MCPS,MCNS,MSGB,MUS,MS
Southern kingfish	*Menticirrhus americanus*	MCPS,MCNS,MSGB,MUS
Fringed pipefish	*Micrognathus crinigerus*	MCPS,MCNS,MSGB,MUS,MS
Filefish	Monocanthus cilatus	MCPS,MCNS,MSGB,MUS
Mullet	*Mugil* spp.	MCPS,MCNS,MSGB,MUS,MS
Gag grouper	*Mycteroperca microlepis*	MCPS,MCNS,MSGB,MUS
Lemon shark	*Negeprion brevirostris*	MCPS,MCNS,MSGB,MUS
Yellowtail snapper	*Ocyrurs chrysurus*	MCPS,MCNS,MSGB,MUS,MS
Leatherjack	*Oligoplites zaurus*	MCNS,MSGB,MUS
Atlantic red herring	*Opisthonema oglinum*	MCNS,MSGB,MUS
Gulf toadfish	*Opsanus beta*	MCNS,MSGB,MUS
Pigfish	*Orthopristis chrysoptera*	MCNS,MSGB,MUS
Sailfin molly	*Poecilia latipinna*	MCPS,MCNS,MSGB,MUS,MS
Gray angelfish	*Pomacanthus arcuatus*	MCPS,MCNS,MSGB,MUS
French angelfish	*Pomacanthus paru*	MCPS,MCNS,MSGB,MUS
Dusky damselfish	*Pomacentrus fuscus*	MCPS,MCNS,MSGB,MUS
Beaugregory	*Pomacentrus leucostictus*	MCPS,MCNS,MSGB,MUS

* Non-native species

Common Name	Scientific Name	Primary Habitat Codes (for imperiled species)
Bicolor damselfish	*Pomacentrus partitus*	MCPS,MCNS,MSGB,MUS
Cocoa damselfish	Pomacentrus variabilis	MCPS,MCNS,MSGB,MUS
Searobin	*Prionotus* spp.	MCPS,MCNS,MSGB,MUS
Spotted goatfish	*Pseudupeneus maculates*	MCPS,MCNS,MSGB,MUS,MS
Lionfish	*Pterois volitans* *	MCPS,MCNS,MSGB,MUS,MS
Stoplight parrotfish	*Sparisoma viride*	MCPS,MCNS,MSGB,MUS,MS
Southern puffer	*Sphoeroides nephalus*	MCPS,MCNS,MSGB,MUS
Great barracuda	*Sphyraena barracuda*	MCPS,MCNS,MSGB,MUS,MS
Bonnethead	*Sphyrina tiburo*	MCPS,MCNS,MSGB,MUS,MS
Bluehead	*Thalassoma bifasciatum*	MCPS,MCNS,MSGB,MUS
Permit	*Trachinotus falcatus*	MCPS,MCNS,MSGB,MUS,MS
Yellow stingray	*Urolophus jamaicensis*	MCPS,MCNS,MSGB,MUS,MS

MOLLUSKS

Chiton	*Acanthopleura granulata*	KTRB
Atlantic strawberry cockle	*Americardia media*	MCNS,MSGB,MUS
Dove shells	*Anachis* sp.	MCPS,MCNS,MSGB,MUS
Ark shells	*Anadara* sp	MCPS,MCNS,MSGB,MUS
Sea hare	Aplysia dactylomela	MCPS,MCNS,MSGB,MUS,MS
Star shell	*Astraea* sp.	MCPS,MCNS,MSGB,MUS
Stiff pen shell	*Atrina rigida*	MCPS,MCNS,MSGB,MUS
Black horn shell	*Batillaria minima*	MCPS,MCNS,MSGB,MUS
Bittium	*Bittium varium*	MCPS,MCNS,MSGB,MUS
Broad-ribbed cardita	*Carditamera floridana*	MCPS,MCNS,MSGB,MUS
Peanut snail	*Cerion incanum*	BD, CB
Ladderhorn snail	Cerithidea scalariformis	MCNS,MSGB,MUS Ceriths
	Cerithium sp	MCNS,MSGB,MUS
Cross-barred venus	*Chione cancellata*	MCNS,MSGB,MUS
Tiger lucene	*Codakia orbicularis*	MCNS,MSGB,MUS
Slipper shell	*Crepidula* sp.	MCNS,MSGB,MUS
Triton	*Cymatum* sp	MCNS,MSGB,MUS
Tulip snail	*Fasciolaria tulipa*	MCPS,MCNS,MSGB,MUS,MS
Common egg cockle	*Laevicardium laevigatum*	MCPS,MCNS,MSGB,MUS
Florida tree snail	*Liguus fasciatus*	CB
Periwinkle	*Littorina* spp.	MCPS,MCNS,MSGB,MUS
Pennsylvania lucine	*Lucina pennsylvanica*	MCPS,MCNS,MSGB,MUS
Saltmarsh snail	*Melampus coffeus*	MCPS,MCNS,MSGB,MUS,MS
Northern mussel	*Modulus modulus*	MCPS,MCNS,MSGB,MUS,MS
Bleeding tooth nerite	*Nerita peloronta*	KTRB
Checkered nerite	*Nerita tessellata*	KTRB
Octopus	Octopus briareus	MCPS,MCNS,MSGB,MS
Predatory snail	*Pisania tincta*	MCPS,MCNS,MSGB,MUS
Florida horse conch	*Pleuroploca gigantean*	MCPS,MCNS,MSGB,MUS,MS

* Non-native species

Common Name	Scientific Name	Primary Habitat Codes (for imperiled species)
Rissoina	*Rissoina* sp.	MCPS,MCNS,MSGB,MUS
Caribbean reef squid	*Sepioteuthis sepioidea*	MCPS,MCNS,MSGB,MUS,MS
Queen conch	*Strombus gigas*	MCPS,MCNS,MSGB,MUS
Sunrise telling	*Tellina radiata*	MCPS,MCNS,MSGB,MUS
Vase shell	*Vasum* sp.	MCPS,MCNS,MSGB,MUS
ECHINODERMS		
Agassiz' sea cucumber	*Actinopyga agassizi*	MCPS,MCNS,MSGB,MUS
Long-spined urchin	*Diadema antillarium*	MCPS,MCNS,MSGB,MUS
Thorny starfish	*Echinaster sentus*	MCPS,MCNS,MSGB,MUS,MS
Rock-boring urchin	*Echinometra lucunter*	MCPS,MCNS,MSGB,MUS
Florida sea cucumber	*Holothuria floridana*	MCPS,MCNS,MSGB,MUS
Variegated urchin	*Lytechinus variegates*	MCPS,MCNS,MSGB,MUS
West Indian sea biscuit	*Meoma ventricosa*	MCPS,MCNS,MSGB,MUS
Sea egg	*Tripneustes ventricosus*	MCPS,MCNS,MSGB,MUS
AMPHIBIANS		
Green tree frog	*Hyla cinerea*	CB
Cuban tree frog	*Hyla septentrionalis* *	CB,CL,DV
REPTILES		
Atlantic loggerhead	*Caretta caretta*	BD, MCPS,MCNS,MSGB,MUS
Atlantic green turtle	*Chelonia mydas*	BD, MCPS,MCNS,MSGB,MUS
Leatherback turtle	*Dermochelys coriacea*	MCPS,MCNS,MSGB,MUS
Hawksbill turtle	*Eretmochelys imbricata*	BD, MCPS,MCNS,MSGB,MUS
Kemp's ridley	*Lepidochelys kempii*	MCPS,MCNS,MSGB,MUS
Florida box turtle	*Terrapene carolina bauri*	CB
LIZARDS		
Green anole	*Anolis carolinensis*	CB,CL,DV
Lower Keys green anole	*Anolis carolinensis seminolus*	CB,CL,DV
Cuban anole	*Anolis sagrei* *	BD,CL,CB, DV,KTRB
Six-lined racerunner	*Aspidoscelis sexlineatus*	CB
Basilisk	*Basilicus basiliscus*	DV
American crocodile	*Crocodylus acutus*	MS
Florida Keys mole skink	*Eumeces e. ergregius*	CB
Green iguana	*Iguana iguana* *	CB,CL,DV
Northern curly-tailed lizard	*Lerocephalus carinatus armouri* *	CL,DV
Ground skink	*Leiolopisma laterale*	CB
Southeastern five-lined skink	*Plestiodon inexpectatus*	CB,KTRB
Ashy gecko	*Sphaerodactylus cinereus*	CB,CL
Reef gecko	*Sphaerodactylus n. aotatus*	CB,CL,DV

* Non-native species

Bahia Honda State Park Animals

Common Name	Scientific Name	Primary Habitat Codes (for imperiled species)
SNAKES		
Southern black racer	*Coluber constrictor priapus*	BD,CB,CL
Red rat snake	*Elaphe guttata guttata*	CB,CL
Atlantic saltmarsh snake	*Nerodia compressicauda*	MSGB,MS
BIRDS		
LOONS		
Common Loon	*Gavia immer*	OF
CORMORANTS		
Double-crested Cormorant	*Phalocrocorax auritus*	MTC
DUCKS AND GEESE		
Blue-winged Teal	*Anas discors*	MTC
Lersser Scaup	*Aythya affinis*	MTC
Red-breasted Merganser	*Mergus serrator*	MTC
PELICANS		
White Pelican	*Pelecanus erythrorhynchos*	MTC
Brown Pelican	*Pelecanus occidentalis*	MTC
GULLS		
Caspian Tern	*Hydroprogne caspia*	MTC
Herring Gull	*Larus argentatus*	MTC
Ring-billed Gull	*Larus delawarensis*	MTC
Lesser Black-backed Gull	*Larus fuscus*	MTC
Glaucous Gull	*Larus hyperboreus*	MTC
Laughing Gull	*Leucophaeus atricilla*	MTC
Forster Tern	*Sterna forsteri*	MTC
Sooty Tern	*Sterna fuscata*	BD
Common Tern	*Sterna hirundo*	MTC
Least Tern	*Sternullla antillarum*	MTC
Royal Tern	*Thalasseus maximus*	MTC
Sandwich Tern	*Thalasseus sandvicensis*	MTC
FRIGATEBIRDS		
Magnificent Frigatebird	*Fregata magnificens*	OF
TROPICBIRDS		
White-tailed Tropicbird	*Phaethon lepturus*	OF
HERONS AND BITTERNS		
Great Egret	*Ardea alba*	KTRB,MSGB,MS
Great Blue Heron	*Ardea herodias*	KTRB,MSGB,MS

* Non-native species

Common Name	Scientific Name	Primary Habitat Codes (for imperiled species)
Great White Heron	*Ardea herodias occidentalis*	KTRB,MSGB,MS
Wurdemann's Heron	*Ardea wurdemanni*	KTRB,MSGB,MS
Cattle Egret	*Bubulcus ibis*	CL,KTRB,MS
Green Heron	*Butorides virescens*	KTRB,MS
Little Blue Heron	*Egretta caerulea*	KTRB,MSGB,MS
Reddish Egret	*Egretta rufescens*	BD,KTRB,MSGB,MS
Snowy Egret	*Egretta thula*	BD,MSGB,MS
Tricolored Heron	*Egretta tricolor*	KTRB,MSGB,MS
Black-crowned Night Heron	*Nycticorax nycticorax*	KTRB,MS
Yellow-crowned Night Heron	*Nycticorax violaceus*	BD,KTRB,MS
STORKS		
Wood Stork	*Mycteria americana*	OF
IBISES AND SPOONBILLS		
White Ibis	*Eudocimus albus*	BD,MS,CL
Roseate Spoonbill	*Platalea ajaja*	MSGB,MS
AVOCETS AND STILTS		
Black-necked stilt	*Himantopus mexicanus*	BD,MUS
PLOVERS		
Ruddy Turnstone	*Arenaria interpres*	BD
Piping Plover	*Charadrius melodus*	BD
Semi-palmated Plover	*Charadrius semipalmatus*	BD
Killdeer	*Charadrius vociferus*	BD
Wilson's Plover	*Charadrius wilsonia*	BD,KTRB
Black-bellied Plover	*Pluvialis squatarola*	BD
SNIPES AND SANDPIPERS		
Spotted Sandpiper	*Actitis macularia*	BD
Sanderling	*Calidris alba*	BD
Western Sandpiper	*Calidris mauri*	BD
Least Sandpiper	*Calidris minutilla*	BD
Semi-palmated Sandpiper	*Calidris pusilla*	BD
Short-billed Dowitcher	*Limnodromus griseus*	BD
Lesser Yellowlegs	*Tringa flavipes*	BD
Greater Yellowlegs	*Tringa melanoleuca*	BD
Willet	*Tringa semipalmata*	BD
Solitary Sandpiper	*Tringa solitaria*	BD
HAWKS, EAGLES, AND KITES		
Sharp-shinned Hawk	*Accipiter striatus*	OF.
Red-tailed Hawk	*Buteo jamaicensis*	OF
Red-shouldered Hawk	*Buteo lineatus*	OF,CB

* Non-native species

Common Name	Scientific Name	Primary Habitat Codes (for imperiled species)
Broad-winged Hawk	*Buteo platyerus*	OF.
Turkey Vulture	*Cathartes aura*	OF
Northern Harrier	*Circus cyaneus*	OF
Black Vulture	*Coragyps atratus*	OF
Merlin	*Falco columbarius*	OF.
Peregrine Falcon	*Falco peregrinus*	OF.
American Kestrel	*Falco sparverius*	CB,OF
Bald Eagle	*Haliaeetus leucocephalus*	OF
Osprey	*Pandion haliaetus*	OF
PIGEONS AND DOVES		
Rock Pigeon	*Columba livia**	BD,CB,CL,DV
Common Ground-Dove	*Columbina passerina*	CB,CL
White-crowned Pigeon	*Patagioenas leucocephala*	CB
Eurasian Collared Dove	*Streptopelia decaocto**	CL,DV
Mourning Dove	*Zenaida macroura*	CB,CL
KINGFISHERS		
Belted Kingfisher	*Megaceryle alcyon*	MS
WOODPECKERS		
Red-bellied Woodpecker	*Melanerpes carolinus*	CB
TYRANT FLYCATCHERS		
Great-crested Flycatcher	*Myiarchus crinitus*	CB
Eastern Kingbird	*Tyrannus tyrannus*	CB,CL
Gray Kingbird	*Tyrannus dominicensis*	CB,CL
SWALLOWS		
Barn Swallow	*Hirundo rustica*	OF
Tree Swallow	*Iridoprocne bicolor*	OF
Purple Martin	*Progne subis*	OF
Rough-winged Swallow	*Stelgidopteryx ruficollis*	OF
GNATCATCHERS AND KNGLETS		
Blue-gray Gnatcatcher	*Polioptila caerulea*	CB,CL
MOCKINGBIRDS AND THRASHERS		
Gray Catbird	*Dumetella carolinensis*	CB,CL
Northern Mockingbird	*Mimus polyglottos*	CB,CL,DV
Brown Thrasher	*Toxostoma rufum*	BD,CB
THRUSHES		
Gray-cheeked Thrush	*Cahtarus minimus*	BD

* Non-native species

Bahia Honda State Park Animals

Common Name	Scientific Name	Primary Habitat Codes (for imperiled species)
VIREOS		
White-eyed Vireo	*Vireo griseus*	CB
WARBLERS		
Black and White Warbler	*Mniotilta varia*	CB,MS
Common Yellowthroat	*Geothlypis trichas*	BD
Northern Waterthrush	*Parkesia noveboracensis*	CB, MS
Louisiana Waterthrush	*Parkesia motacilla*	BD, CB
Prothonotary Warbler	*Protonotaria citrea*	CB,CL
Northern Parula	*Setophaga Americana*	CB
Black-throated Blue Warbler	*Setophaga caerulescens*	CB
Yellow-rumped Warbler	*Setophaga coronata*	CB,MS
Prairie Warbler	*Setophaga discolor*	BD,CB,MS,CL
Yellow-throated Warbler	*Setophaga dominica*	CB,MS
Kirtland's Warbler	*Setophaga kirtlandii*	CB
Palm Warbler	*Setophaga palmarum*	BD,CB, CL
American Redstart	*Setophaga ruticilla*	CB,CL
Cape May Warbler	*Setophaga tigrina*	CB
BLACKBIRDS AND ORIOLES		
Red-winged Blackbird	*Agelaius phoeniceus*	BD,CB,MS,CL
Common Grackle	*Quiscalus quiscula*	BD,CB,CL
Bobolink	*Dolichonyx oryzivorus*	CL
CARDINALS, GROSBEAKS, AND BUNTINGS		
Northern Cardinal	*Cardinalis cardinalis*	CB,CL
SPARROWS		
Savannah Sparrow	*Passerculus sandwichensis*	CB,CL
TANAGERS		
Scarlet Tanager	*Piranga olivacea*	DV
STARLINGS		
Common Mynah	*Acridotheres tristis**	CL,DV

* Non-native species

Bahia Honda State Park Animals

Common Name	Scientific Name	Primary Habitat Codes (for imperiled species)
MAMMALS		
Domestic cat	*Felis catus* *	CB,CL,DV
Seminole Bat	*Lasiurus seminolus*	CB
Key Deer (accidental)	*Odocoileus virginianus clavium*	CB
Raccoon	*Procyon lotor*	CB,CL,DV,MS
Black rat	*Rattus rattus* *	CB,CL,DV,MS
Norway rat	*Rattus norvegicus* *	CB,CL,DV,MS
Marsh rabbit	*Sylvilagus palustris*	SAM
West Indian Manatee	*Trichechus manatus latirostris*	MCPS,MCNS,MSGB,MUS,MS
Atlantic bottlenose dolphin	*Tursiops truncatus*	MCPS,MCNS,MSGB,MUS,MS

* Non-native species

TERRESTRIAL

Beach Dune ---------- BD
Coastal Berm---------- CB
Coastal Grassland---------- CG
Coastal Strand ---------- CS
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

* Non-native species

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

* Non-native species

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

* Non-native species

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 Fish and Wildlife Conservation 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.
LT.....Listed 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.
EXPE, XE.....Experimental essential population. A species listed as experimental and essential.
EXPN, XN....Experimental non-essential population. A species listed as experimental and non-essential. Experimental, nonessential populations of endangered species are treated as threatened species on public land, for consultation purposes.

STATE

ANIMALS ..(Listed by the Florida Fish and Wildlife Conservation Commission - FWC)

FE.....Federally-designated Endangered

FT.....Federally-designated Threatened

FXN .....Federally-designated Threatened Nonessential Experimental Population

FT(S/A) .....Federally-designated Threatened species due to similarity of appearance

ST .....Listed as Threatened Species by the FWC. 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.

SSC .....Listed as Species of Special Concern by the FWC. 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 which 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 at:
http://www.flheritage.com/preservation/compliance/guidelines.cfm

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, 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 make preparations 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, certain information must be submitted for comments and recommendations. The minimum review documentation requirements can be found at: http://www.flheritage.com/preservation/compliance/docs/minimum_review_documentation_requirements.pdf .

* * *

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

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) 245-6425
Toll Free: (800) 847-7278
Fax: (850) 245-6435

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 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
- **e)** 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.

Addendum 8—Land Management Review

Land Management Review of Bahia Honda State Park
Monroe County (Lease No. 3609): January 25, 2000

Prepared by Division of State Lands Staff

William Howell, OMC Manager
John Barrow, Environmental Specialist II

for
the Bahia Honda State Park Site Management Review Team

Final Report April 28, 2000

Land Manager:	DRP
Area:	524 acres
County:	Monroe County
Mngt. Plan Revised:	5/29/1997
Mngt. Plan Update Due:	5/29/2002

Management Review Team Members

Agency Represented	Team member Appointed	Team member in attendance
DEP/DRP	Ms. Renate Skinner	Ms. Renate Skinner
DEP South District	Mr. R.J. Helbling	Mr. R.J. Helbling
DACS/DOF	Mr. Bill Korn	Mr. Bill Korn
FWCC	Mr. Robert Guerra	Mr. Robert Guerra
Soil and Water Conservation		
County Commission	Mr. Harry Delashmutt	Mr. Harry Delashmutt
Conservation Organization	Ms. Pam Pierce	Ms. Pam Pierce
Private Land Manager	Mr. Bernie Cogan	

Process for Implementing Regional Management Review Teams

Legislative Intent and Guidance:

Chapter 259.036, F. S. was enacted in 1997 to determine whether conservation, preservation, and recreation lands owned by the state Board of Trustees of the Internal Improvement Trust Fund (Board) are being managed properly. It directs the Department of Environmental Protection (DEP) to establish land management review teams to evaluate the extent to which the existing management plan provides

sufficient protection to threatened or endangered species, unique or important natural or physical features, geological or hydrological functions, and archaeological features. The teams also evaluate the extent to which the land is being managed for the purposes for which it was acquired and the degree to which actual management practices, including public access, are in compliance with the adopted management plan. If a land management plan has not been adopted, the review shall consider the extent to which the land is being managed for the purposes for which it was acquired and the degree to which actual management practices are in compliance with the management policy statement and management prospectus for that property. If the land management review team determines that reviewed lands are not being managed for the purposes for which they were acquired or in compliance with the adopted land management plan, management policy statement, or management prospectus, DEP shall provide the review findings to the Board, and the managing agency must report to the Board its reasons for managing the lands as it has. A report of the review findings are given to the managing agency under review, the Land Acquisition and Management Advisory Council (LAMAC), and to the Division of State Lands. Also, DEP shall report the annual review findings of its land management review teams to the Board no later than the second board meeting in October of each year.

Review Site

The management review of Bahia Honda State Park considered approximately 524 acres in Monroe County that are managed by Division of Recreation and Parks. The team evaluated the extent to which current management actions are sufficient, whether the land is being managed for the purpose for which it was acquired, and whether actual management practices, including public access, are in compliance with the management plan. The Division of Recreation and Parks revised the management plan on May 29,1997, and the management plan update is due on May 29, 2002.

Review Team Determination

Is the land being managed for the purpose for which it was acquired?

After completing the checklist, team members were asked to answer "yes" or "no" to this question. All team members agreed that the Bahia Honda State Park is being managed for the purpose for which it was acquired.

Are actual management practices, including public access, in compliance with the management plan?

After completing the checklist, team members were asked to answer "yes" or "no" to this question. All team members agreed that actual management practices, including public access, were in compliance with the management plan for this site.

Commendations to the Managing Agency

1. The team commends the park staff for their continued vigilance in keeping the park free of invasive exotics. (Vote 6+, 0-)

2. The team commends the park manager for aligning partners for aid in removal of debris near mangrove area.

3. The team commends the park staff for the fencing & boardwalks to protect the dune environment and focus people towards designated access sites. (Vote 6+, 0-)

4. The team commends the park staff for it's good efforts to restore dunes following storms and work to protect populations of hammock and dune plants some of which are listed species. (Vote 6+, 0-)

5. The team commends the park staff for it's extensive interpretive program at this park. (Vote 6+, 0-)

Exceptional Management Actions

The following items received high scores on the review team checklist (see Attachment 1), which indicates that management actions exceeded expectations.

- Natural Communities: protection & maintenance for the rockland hammock, beach dune, and marine composite substrate
- Restoration of disturbed natural communities: beach dune
- Non-native Invasive & Problem Species: animals & plants
- Resource Protection: gates & fencing, signage, law enforcement presence, and boardwalks
- Public Access and Education: roads, parking, water access, recreational opportunities, interpretive facilities & signs, and environmental education/outreach

Recommendations and checklist findings

The management plan must include responses to the recommendations and checklist items that are identified below.

1. The team recommends that Division of Recreation and Parks initiate a feasibility study to improve surface water circulation in impounded mangrove areas. (Vote: 6+, 0-)

Agree. Funding will need to be sought for both impounded areas, bayside and next to treatment plant #3. Feasibility studies have already been completed.

2. The team recommends that because permanent housing for resident park personnel is inadequate alternatives should be considered because of the affordable housing crisis and R.O.G.O. restrictions. Considerations should be given to moving the families in the ranger residence area into the existing cabins and restore the ranger residence area. (Vote 5+, 1-)

Disagree. The existing cabins produce substantial revenue and provide a recreational activity in fitting with the resource. The restoration of the resident area is likely to have an adverse impact on the surrounding communities since it is fill over a prior dump.

3. The team recommends that the Division of Recreation and Parks insure that the current arthropod control plan provides safeguard to protect natural areas from control measures inappropriate for environmental sensitive lands. (Vote 6+, 0-)

Agree. The present arthropod plan provides sufficient safeguards. However, the approval to larvacide by helicopter should be rescinded since the lagoon has natural, tidal creek connections to the Atlantic Ocean and Florida Bay.

4. The team recommends that Division of Recreation and Parks pursue a maintenance dredging policy for the marina in the unit plan. (Vote 6+, 0-)

Agree. The main channel is slowly filling in from the east shore. A study just completed by the concessionaire shows the channel ranges from a depth of 3 ½ feet on the west side to 8 inches on the east side at mean low water (mlw). A depth of 3 ½ feet mlw needs to be maintained.

5. The team recommends that Division of Recreation and Parks should retain storm water with best management practices from all parking areas. (Vote 6+, 0-)

Agree. We will be participating in the "Clean Marina Program" and meet storm water runoff requirements at parking lots that drain to our marina. Since upland areas are limited and contain important communities, we will consider the feasibility and impacts of making modifications of drainage from eastern day use parking lots.

Checklist findings

The following items received low scores on the review team checklist (see Attachment 1), which indicates that management actions, in the field, were insufficient (*f*) or that the issue was not sufficiently addressed in the management plan (*p*). These items need to be addressed in the management plan update.

1.Inholdings/Additions (*p*)
Manager's Response: *Disagree. The DRP does not include Little Bahia Honda Key on the current additions and inholdings list* ***as it is already a part of the park****. The optimum boundary line of the park will be re-evaluated in the process of developing the next updated UMP.*

2. Cabin Facilities (*p*)
Manager's Response: *Disagree. The six existing cabins comply with 1990 extended unit management plan. Bahia Honda is not included on the statewide-proposed unit's list.*

3. Housing (*f*)
Manager's Response: *Disagree. Housing, both state-owned and employee-owned, meet established criteria.*

ATTACHMENT I

The management review checklist was analyzed as follows: The checklist consisted of two parts: a plan review section that answered whether or not the management plan sufficiently addressed protection/ restoration/ management needs for a series of items; and a field review section that scored to what extent sufficient management actions were being taken for a series of items. For each item in each section the scores for all team members were averaged. Some items received high scores (≥ 4.0) in the field review, which indicates that exceptional management actions are being taken. Some items received low scores (≤ 0.5 for plan review; ≤ 2.0 for field review), which indicates that they were not sufficiently addressed in the plan, or that management practices did not meet expectations. These items must be addressed in the management plan update.

PLAN REVIEW								**AVERAGE**
Coastal Berm	I.A.1	1	1	1	1	1	1	1
Rockland Hammock	I.A.2	1	1	1	1	1	1	1
Beach Dune	I.A.3	1	1	1	1	1	1	1
Marl Prairie	I.A.4	1	1	1	0	1	1	0.83
Marine Tidal Swamp	I.A.5	1	1	1	1	1	1	1
Marine Composite Substrate	I.A.6	1	1	1	1	1	1	1
Marine Consolidated Substrate	I.A.7	1	1	1	1	1	1	1
Marine Grassbed	I.A.8	1	1	1	1	1	1	1
Marine Unconsolidated Substrate	I.A.9	1	1	1	1	1	1	1
Animals	I.B.1	1	1	1	1	1	1	1
Plants	I.B.2	1	1	1	1	1	1	1

Survey	ll.A	1	1	1	0	1	1	0.83
Protection and Preservation	ll.B	1	1	1	1	1	1	1
Beach Dune	III.B1	1		1	1	1	1	1
Mangroves	III.B.2	1		1	1	1	1	1
Hammock	lll.B.3	1		1	1	1	1	1
Animals	lll.D.1	1	1	1	1	1	1	1
Plants	III.D.2	1	1	1	1	1	1	1
Shoreline Erosion	III.E.A	1		1	1	1	1	1
Wetland Restoration	III.E.B	1	1	0	0	1	1	0.67
Boundary Survey	III.F.1	1	1	1	1	1	1	1
Gates & Fencing	III.F.2	1	1	1		1	1	1
Signage	III.F.3	1	1	1	1	1	1	1
Law Enforcement Presence	III.F.4	1	1	1	1	1	1	1
Boardwalks	III.F.5	1	1	1	1	1	1	1
Inholdings/Additions	III.G.2	1	0		0	0	1	0.33
Roads	IV.1.A	1	1	1	1	1	1	1
Parking	IV.1.B	1	1	1	1	1	1	1
Water Access	IV.1.C	1	1	1	1	1	1	1
Recreational Opportunities	IV.2	1	1	1	1	1	1	1
Interpretive Facilities and Signs	IV.3	1	1	1	1	1	1	1
Environmental Education/outreach	IV.4	1	1	1	1	1	1	1
Swimming	VI.A.1	1	1	1	1	1	1	1
Fishing	VI.A.2	1	1	1	1	1	1	1
Camping	VI.A.3	1	1	1	1	1	1	1
Boating	VI.A.4	1	1	1	1	1	1	1
Nature Trails	VI.A.5	1	1	1	1	1	1	1
Interpretive Exhibits	VI.B.1	1	1	1	1	1	1	1
Cabin Facilities	VI.B.2	1	1	0	0	0	1	0.5
Ranger Residence	VI.B.3	1	1	1	1	1	1	1
FIELD REVIEWS								
Coastal Berm	I.A.1	5	3	4	3	3	4	3.67
Rockland Hammock	I.A.2	4	4	5	4	3	4	4
Beach Dune	I.A.3	5	4	4	4	5	4	4.33
Marl Prairie	I.A.4	5	4	3	3	3	4	3.67
Marine Tidal Swamp	I.A.5	5	2	3	3	3	2	3
Marine Composite Substrate	I.A.6	5	4	4	3	3	5	4
Marine Consolidated Substrate	I.A.7	5	4	3	3	3	5	3.83
Marine Grassbed	I.A.8	5	3	4	3	3	5	3.83
Marine Unconsolidated Substrate	I.A.9	5	4	3	3	3	4	3.67
Animals	I.B.1	5	3	4	3	3	4	3.67
Plants	I.B.2	5	3	3	4	4	4	3.83
Survey	II.A	5	2	4	2	3	4	3.33
Protection and Preservation	II.B	5	3	4	3	3	4	3.67
Beach Dune	III.B.1	4	5	4	4	5	4	4.33
Mangroves	III.B.2	4	4	5	3	4	2	3.67
Hammock	III.B.3	4	3	4	3	3	4	3.5
Animals	III.D.1	5	4	4	3	4	4	4

Plants	III.D.2	5	4	4	4	4	4	4.17
Shoreline Erosion	III.E.1 A	5		4	4	3	3	3.5
Wetland Restoration	III.E.1 B	3	2		2	3	2	2.33
Quality	III.3.A	4	3	3	4	3	4	3.5
Boundary Survey	III.F.1	5	5	3	3	3	4	3.83
Gates & Fencing	III.F.2	4	4	4	4	4	5	4.17
Signage	III.F.3	5	5	4	4	4	4	4.33
Law Enforcement Presence	III.F.4	5	4	4	4	4	4	4.17
Boardwalks	III.F.5	5	5	4	4	4	5	4.5
Inholdings/additions	III.G.2	3	3		3	3	2	2.67
Roads	IV.1A	4	4	4	4	4	4	4
Parking	IV.1B	5	4	3	4	4	4	4
Water Access	IV.1C	5	4	4	4	4	4	4.17
Recreational Opportunities	IV.2	5	5	3	4	3	4	4
Interpretive Facilities and Signs	IV.3	5	3	5	4	4	4	4.17
Environmental Education/Outreach	IV.4	5	3	5	4	4	4	4.17
Waste Disposal	V.1A	4	3	4	3	4	2	3.33
Sanitary Facilities	V.1B	4	3	4	3	4	4	3.67
Buildings	V.2A	4	2	4	3	3	4	3.33
Equipment	V.2B	4	2		3	3	4	3.33
Housing	V.2C			1	2	2	2	1.75

Addendum 9–Miami Blue Butterfly Management Plan

The goal of this management plan is to identify and describe issues threatening the persistence of Miami Blue Butterflies within the boundaries of Bahia Honda State Park (BHSP), to provide practical management guidelines to address those threats, and to create conditions favoring the persistence or reestablishment of Miami Blue Butterflies at Bahia Honda.

The Miami Blue Butterfly (*Cyclargus thomasi bethunebakeri*) is a small butterfly, with a wingspan of an inch or less. A member of the Lycaenidae, the Miami Blue Butterfly is the only subspecies of Thomas's Blue Butterfly (*Cyclargus thomasi*) occurring in the United States.

Except for a few records from the Bahamas, the Miami Blue Butterfly is endemic to South Florida. Though occasionally found further north and further inland, the Miami Blue Butterfly was once abundant in coastal areas from Hillsborough and Volusia Counties south through the Florida Keys. The area occupied by the species has retracted southward as natural habitat was altered or destroyed and for human uses. By 1992 the species was believed to be extinct. In 1999 a small population was discovered at Bahia Honda State Park which later expanded within the park. Two additional colonies were discovered in 2006 on islands approximately 20 miles west of Key West.

In 2002, the Miami Blue Butterfly was listed as endangered Species. At that time the species met three of five criteria for listing used by the Florida Fish and Wildlife Conservation Commission. These criteria included:

1. A reduction in population size by more than 80% from 1992 through 2002)
2. A reduction in area occupied of more than 99%
3. A population comprised of fewer than 250 adults, all within a single location

The Miami Blue Butterfly is not the first species in Florida to be threatened with extinction by human activities. Even in the Florida Keys, there have been other species that have declined and even disappeared completely. However, the Miami Blue Butterfly and its decline are early examples of an ongoing problem, and an opportunity that will test our understanding of the problem, our ingenuity and ability to find solutions, and our resolve to save threatened and endangered species.

MANAGEMENT OBJECTIVES FOR MIAMI BLUE BUTTERFLY AT BAHIA HONDA

The management objective for this endangered endemic butterfly that, from 1999 to 2006 was only known to persist at this park, is to maintain, restore and protect known habitat required by this species in a condition favorable to the persistence of this species at this park.

This goal can only be achieved by an integrated approach combining the following:

1. Effective monitoring and management of the species and its habitat.
2. Mitigation of known threats and monitoring to detect new threats to the survival of this species.

3. Education of; Florida Park Service staff, volunteers and associated personnel, park visitors, and the local community.
4. Working cooperatively with other agencies and non-government organizations wherever possible.

Threats to the Miami Blue Butterfly at Bahia Honda State Park (BHSP)

Habitat Loss Due to Land Use

The most often cited cause for the Miami Blue Butterfly's decline and its current precarious status is the loss of natural habitat. Natural areas along the Florida coast have been and continue to be converted for development of commercial and residential buildings, recreational facilities (such as golf courses and ball fields), and rights-of-way for transportation and utilities. Even where "green areas" are preserved, turf and other non-native ornamental landscape plants often replace native plant species utilized by the Miami blue butterfly as both larval and nectar host plants as well as adversely impacting native plant communities. Within Bahia Honda, development such as picnic shelters, parking facilities, campgrounds, restrooms and trails all create and focus visitor activities with direct traffic and indirect impacts on nearby resources.

Trampling of habitat

While traffic through natural areas has always been a difficult-to-manage threat to habitat at BHSP for the Miami Blue butterfly, it threatens not only the butterfly's population at this park, but the survival of the species in the United States.

Currently, one of the most significant threats to Bahia Honda's native plants, the soil they protect, and the communities they create appears to be caused by foot traffic entering natural areas. Both park visitors and park staff create this damage, the latter usually in the performance of park maintenance activities, or during resource management work including removal of exotic plants and animals, or monitoring butterflies.

Most of the species on which the Miami Blue butterfly depends are herbaceous plants. Unlike woody plants and some of the tougher vines, many herbaceous plants have comparatively fragile stems, easily damaged if stepped on. During the dry season from November-May, these stems are especially brittle and even more easily broken. Recovery or replacement of plants damaged or killed by trampling during the latter portion of the annual dry season, a period lasting approximately six months and exacerbated during droughts can be difficult.

Despite fences and regulatory signs, some park visitors persist in walking through areas marked as "closed" to access. This activity appears to be most problematic in and around the historic Old Bahia Honda Bridge, a popular destination that many park visitors hope to reach by the most direct route.

Access to the bridge is by a footpath up a gentle grade on the same route once used by vehicles and railroad traffic. The material used to build up this grade reaches an elevation of approximately fifty feet where it meets the bridge. As it

approaches the bridge, the slope to either side of the bridge access trail grows steadily steeper. Because of its narrow profile and steepness, and the very porous nature of the fill material, the soils on either side of the fill are prone to erosion.

Many park visitors miss the entrance to the access trail and until they have already walked to the stairs that pass under the bridge, are unaware that the upper deck of the Old Bahia Honda Bridge cannot be accessed from the west end of the island. What is visible at this point is the short 100 feet of concrete walkway leading to two steep but conspicuously well-worn dirt paths of approximately 50 feet that appear to provide access to and from the bridge. This route is surrounded by a fence and with several signs indicating path is within a "restricted area." However, unauthorized spur trails persist as a result of visitors accessing the path of least resistance. These unauthorized trails are especially conspicuous toward the end of the six-month dry season.

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To better protect this area additional signs or brochures directing visitors to the approved route, as well as an interpretive display or kiosk providing information on the importance of impacts from unauthorized access will be needed. Increased enforcement and public outreach will also be necessary in order to minimize or prevent this unauthorized access.

Habitat Loss to Invasive Exotic Plants

In addition to land development, habitat loss is also caused by invasive non-native species. Even in areas set aside for conservation, introduction of invasive species plants alter and replace native plant communities. For the Miami Blue butterfly invasive plants including beach naupaka (*Scaevola sericea*), coconut palm (*Cocos nucifera*), portia (*Thespesia populnea*) latherleaf (*Colubrina asiatica*), yellow alder (*Turnera ulmifolia*) and Brazilian pepper (*Schinus terebinthifolia*) alter habitat and reduce the availability of the native larval and nectar plants the butterfly relies on.

Habitat fragmentation

Fragmentation of habitat is important because the Miami Blue butterfly typically occurs in small, often ephemeral populations that rely on genetic exchange with other nearby populations. Barriers to this exchange, such as urbanized landscapes, increase the vulnerability of each population and can also prevent the butterfly from establishing new populations.

At Bahia Honda, Miami Blue butterflies no longer have access to genetic reinforcement or to replenishment after a population decline from other nearby populations. Whether the subspecies can survive this isolation remains in doubt, especially since it has been extirpated from more than 99% of its range in Florida.

Invasive Exotic Wildlife

The number of species of non-native wildlife introduced by humans is still increasing, even as the impacts of well-established exotic species are only just becoming apparent. In the Florida Keys several non-native species distributed by the pet trade are established as a result of escapes and/or intentional releases.

Green Iguanas

The Miami Blue butterfly has adapted to a diet based on a plant that most other insects shun due to chemical defenses in the plant. Species that can use a toxic or noxious food avoided by other species gain an advantage by avoiding competition. During times of scarcity, this advantage is especially important.

Other than native insects, the only significant herbivore at Bahia Honda is the non native green iguana (*Iguana iguana*).Green iguanas have become well established with increasing population densities in the Keys. Native from Mexico to Brazil, green iguanas may live twenty years in captivity, however, most iguanas often become unmanageable as pets after two or three years. At this point, there is the potential for them to be released by their owners into natural areas where it is believed by the owners that they will flourish. This practice is illegal.

Although immature green iguanas can be taken by native snakes, raptors, wading birds, and other predators, their control by predators and disease found within their natural range is lacking. There have been no documented reports that raccoons excavate iguana nests.

The diet of green iguanas starts with the foliage, flowers and tender shoots of their preferred food plants. However, where population densities increase, iguanas have altered the landscape by consuming almost all vegetation. The rare reports of wild green iguanas feeding on anything but plants appear to represent incidental items ingested while grazing on plants and a few insignificant anomalies. In is important to note that recent documentation by U.F. Fish and Wildlife cameras shows green iguanas and other non-native reptiles feeding on the carcasses of Key Deer in the Key Deer National Wildlife Refuge (Chad Anderson personal communication June 2011).

Exotic Ants

One of the least well-understood factors in the decline of the Miami Blue butterfly is its obligate relationship with several native ant species, most notably *Camponotus*. These ants tend the larvae of the Miami Blue and other butterflies, even defending them from predators in exchange for nutrient-rich liquid secreted by the larvae. Introduced species of ants, especially the South American fire ant (*Solenopsis invicta*) and the elongate twig ant (*Pseudomyrmex gracilis*), appear to compete with and sometimes displace native ant species, and may prey on the eggs and larvae of this and other butterflies.

Other Exotic Fauna

Though seldom mentioned in discussions about the Miami Blue butterfly, there are other invasive exotic lizards at Bahia Honda, in addition to the green iguana. The brown anole (*Anolis sagrei*) and the bark anole (*Anolis distichus*) are two Caribbean species well established in the park. Both are diurnal insectivores capable of taking Miami Blue butterfly adults and larvae.

Pesticide Use

Increased development in Florida and decreased tolerance of mosquitoes has resulted in the widespread use of non-selective insecticides despite the non-target impact to other arthropods. It has been documented that spray dispensed from vehicles and aircraft can drift for miles beyond the intended treatment areas, sometimes killing non-target species in nearby natural areas.

Once the Miami Blue butterfly was observed in the park, the use of mosquito control was restricted and could only take place with the approval of the Park Manager. Mosquito spraying is approved in the buttonwood campground, maintenance shop and staff residence area. To prevent accidental spraying where it has not been authorized, park staff must ensure that the truck operator, upon entering the park, is aware of the limited area approved for spraying. This is critical not only to the potential future of Miami Blue populations, but to the interagency agreement which allows the mosquito spraying to be conducted.

Climate Change

There is little that management of state parks can do to affect climate change. However, measures can be taken to protect threatened species and natural communities, to prepare for and to lessen its effects. Even the mitigation of other threats can enhance the Miami Blue butterfly's ability to adapt to the effects of climate change.

The Miami Blue butterfly is a tropical species at the northern limit of its range. A record-setting cold spell in January 2010 created severe impacts on sensitive species. Most relevant was the destruction of tender foliage and flowers of tropical and subtropical plants used by the butterflies.

Miami Blue butterflies were temporarily deprived of their larval host plant, the new shoots and flowers of gray nickerbean (*Caesalpinia bonduc*), and the nectar sources required by adult butterfly. The latter included mostly perennial herbaceous species such as snow squarestem (*Melanthera nivea*), scorpion-tail (*Heliotropium angiospermum*), Spanish needle (*Bidens alba*), sleepy morning (*Waltheria indica*), and many other species of wildflowers.

Gray nickerbean is a large shrub with a significant underground root system. After the cold spell nickerbean began to replace its lost foliage with new growth critical to the survival of Miami Blue butterfly caterpillars. Because there was limited new growth on most of the herbaceous vegetation, green iguanas began consuming the new shoots of the nickerbean. This undoubtedly had an impact on incidental ingestion of butterfly larvae and eggs. Smaller, herbaceous vegetation either died back or were killed by the cold, thereby limiting the nectar sources for the Miami Blue. Miami Blue butterflies were observed only a few times after the cold with documented photographs confirming the sightings in January, February, March and July 2010.

The cold spell also impacted the green iguanas throughout the Keys, but the population at BHSP had a higher survival rate due to the availability of burrows.

The current Bahia Honda park brochure states that "All plant and animal life is protected in State Parks. Do not remove, deface, mutilate or molest any natural or cultural resources or park facilities." New information needs to be added to an updated brochure to include discussion of Miami Blue butterfly habitat protection, specifically addressing the fragility of butterfly habitat and the importance of remaining on marked trails. The park also distributes its own in-house brochures featuring list of the park's butterflies, birds and plants. Produced primarily to aid park visitors who hope to observe these species; each should be amended with a statement addressing the protection of fragile habitat and the need to remain on marked trails.

Suggested Guidelines for Addressing Habitat Loss at BHSP

Habitat Management

1. All FPS staff, DEP Law Enforcement officers, and volunteers must understand the importance of staying out of fragile habitat, especially during the dry season. Toward this goal, it is recommended that park staff, law enforcement officers, volunteers and others working in the park should be briefed each month on status of the Miami Blue Butterfly and other park projects that require access to sensitive habitat.
2. When access to sensitive habitat is needed, trampling of vegetation should be avoided or minimized. Multiple site needs should be handled simultaneously and care should be taken not to step on stems, particularly of herbaceous species.
3. Tools and techniques should be developed to reduce the need to trample vegetation while removing litter from natural areas.
4. Access through fragile vegetation, especially if repeated, will create what appears to be a trail. Therefore, such access should be planned so that such trails are inconspicuous as possible and do not appear to provide a shortcut to any popular destination.
5. Photo points of at least 10 sites identified as important or likely habitat for the Miami Blue butterfly should be established to document habitat alterations.

Pesticide Use

1. The use of non-selective pesticides for mosquito control should be minimized.
2. Management should ensure that other methods (screening, mosquito-resistant clothing, personally applied repellents, CO2 traps) are encouraged.
3. To prevent accidental spraying where it has not been authorized, park staff must ensure that the truck operator, upon entering the park, is aware of the limited area approved for spraying.

Interagency Cooperation

1. One or more FPS staff with knowledge of the status of Miami Blue butterfly management effort should participate in the Imperiled Butterfly Work Group.
2 One or more FPS staff with knowledge of the park's Miami Blue butterfly management effort should participate in the Florida Keys Invasive Exotics Task Force.

Exotic Species Control

1. Non-native vegetation should be removed from natural areas, to protect native plants that provide food for Miami Blue butterfly and other wildlife as well as preventing soil erosion. Exotic removal should prioritize prevention of seed production, removal of existing seeds on target species and schedule follow-ups treatment at three month intervals for at least one year.
2. Iguana removal should remain a priority at Bahia Honda targeting reproductive adults, then nests, and finally young iguanas.
3. Each iguana removed from Bahia Honda should be recorded with information sufficient to gauge the program's success and to guide future control efforts. Data collected on each individual should include date and time collected, location, snout to vent length, weight, sex, and reproductive condition.
4. Saint Augustine grass (*Stenotaphrum secundatum*), a non-native species, is not a plant preferred by iguanas, but does appear to be an effective barrier to erosion of the bridge embankment. Therefore, treatment of St. Augustine grass should not be undertaken until suitable native plants can be planted to prevent erosion on this embankment.

Interpretation

1. Signs and kiosks interpreting the restricted area need to be installed to prevent visitors from continuing to access unauthorized spur trails. Sign language such as: "No Access to Old Bahia Honda Bridge Beyond This Point;" and "Bridge Access Trail Starts at south Side of Parking Lot, Near the Public Restrooms" should be placed alongside the paved sidewalk leading from the parking lot to the west end of the park; on the north side of the park where the sidewalk leaves the parking lot; after the nature center; where the path divides into upper and lower terraces; and at the top of the stairs that pass under the bridge.
2. The picnic pavilions and Old Bahia Honda Bridge are a main destination that draws visitors through restricted areas. Additional signs near and above those areas may help reduce unauthorized access.
3. Signs and park brochures should reiterate that it is illegal to release non-native species in Florida.
4. Current signs protecting fragile habitat merely state that the area is restricted. Additional signage explaining the impact of trampled vegetation on the endangered butterfly would provide more effective deterrence.
5. Temporary "wire stake" signs should be developed in closing newly developing trails.

Enforcement of Park Rules and Regulations

1. Park Officers and Park staff need to be aware of impacts to sensitive habitat.
2. Park Officers and Park staff should be encouraged to watch for park visitors violating restricted areas.

Addendum 10—Local Government Comprehensive Plan Compliance

From: Cioffari-Cheryl
To: Maldonado, Tyler
Cc: Degagne, Demi; Roberts-Michael; Schemper-Emily; Cioffari-Cheryl
Subject: RE: Monroe County - Request to Review BAHIA HONDA STATE PARK Unit Management Plan
Date: Monday, October 05, 2020 10:47:00 AM
Attachments: image001.png
image007.png

Tyler,

The proposed vacation rental cabins would be considered new transient residential units. Currently, there is a moratorium on new transient units. This is noted in both the Comprehensive Plan and the Land Development Code (see below):

Policy 101.3.5

Due to the limited number of allocations and the State's requirement that the County maintain a maximum hurricane evacuation clearance time of 24 hours, **Monroe County shall prohibit new transient residential allocations for hotel or motel rooms, campground spaces, or spaces for parking a recreational vehicle or travel trailer until May 2022**. Lawfully established transient units shall be entitled to one unit for each type of unit in existence before January 4, 1996 for use as a ROGO exemption. (Ord. No. 024-2011)

Sec. 138-23. - Moratorium on New Transient Units.

New transient residential units, such as hotel or motel rooms, or campground, recreational vehicle or travel trailer spaces, **shall not be eligible for residential ROGO allocations until May 1, 2022**.

It is not clear what will happen after May 1, 2022 – if the County will amend the Comprehensive Plan and Land Development Code to allow new allocations to be utilized for transient units.

Thanks,

Cheryl

Cheryl Cioffari, AICP
Assistant Director of Planning
305-407-0924

From: Maldonado, Tyler <Tyler.Maldonado@dep.state.fl.us>
Sent: Thursday, September 24, 2020 2:28 PM
To: Cioffari-Cheryl <Cioffari-Cheryl@MonroeCounty-FL.Gov>
Cc: Degagne, Demi <Demi.Degagne@dep.state.fl.us>; Roberts-Michael <Roberts-Michael@MonroeCounty-FL.Gov>; Schemper-Emily <Schemper-Emily@MonroeCounty-FL.Gov>
Subject: RE: Monroe County - Request to Review BAHIA HONDA STATE PARK Unit Management Plan

CAUTION

Hi Cheryl,

Thank you for the feedback! I've included a screenshot from the Monroe County GIS app to help with my responses to your questions.

The two proposed cabins discussed in the Draft Unit Management Plan (UMP) are new development proposals. The three existing cabins have been repaired since Hurricane Irma. Ideally, these new cabins would be co-located with the three existing and the plan gives a general area for the two new cabins. We have not given a specific upland acreage because these proposals are entirely conceptual, and the specific locations have not been determined. Upon approval (Council meeting scheduled for Dec. 2020), the UMP will be on a ten-year time horizon. Currently, there are no immediate or short-term plans to fund the design and construction of this concept. This plan would allow for up to 2 new cabins so new ROGO allocations could be pursued one at a time. If this project is funded at some point during the lifespan of the plan, the Division's Bureau of Design and Construction would be required to go through the necessary permitting and approval processes.

I hope my responses are satisfactory. I'd be happy to consider any recommended edits to the draft plan, if necessary. Please let me know if I can provide any additional information.

Thanks,

-Tyler

From: Cioffari-Cheryl <Cioffari-Cheryl@MonroeCounty-FL.Gov>
Sent: Wednesday, September 23, 2020 4:02 PM
To: Maldonado, Tyler <Tyler.Maldonado@dep.state.fl.us>
Cc: Degagne, Demi <Demi.Degagne@dep.state.fl.us>; Roberts-Michael <Roberts-Michael@MonroeCounty-FL.Gov>; Schemper-Emily <Schemper-Emily@MonroeCounty-FL.Gov>; Cioffari-Cheryl <Cioffari-Cheryl@MonroeCounty-FL.Gov>
Subject: RE: Monroe County - Request to Review BAHIA HONDA STATE PARK Unit Management Plan

Tyler,
In response to the request to review the Bahia Honda State Park unit management plan, I offer you the following.

Requests from Bahia Park are in **bold**.

1. **Determine if the park unit management plan is in compliance with the comprehensive plan.**

   County Staff is not able to definitely determine if the proposed park unit management plan is in compliance with the Comprehensive Plan until questions regarding the proposed two (2) vacation rental cabins are answered.

2. **Are [Does the plan] accurately citing the future land use and zoning designations for the park?**

   Yes, the Park Unit Management Plan accurately cites the future land use and zoning designations of the Park.

   Zoning = NA, PR and SS

FLUM = R

Tier I

3. Confirm that our proposed developments in the conceptual land use section comply with those designations.

Pursuant to LDC Section 130-157, the allocated density is two (2) dwelling units per acre for hotel/motel, campground, recreational vehicle, seasonal and institutional residential densities within the Park and Refuge (PR) zoning district. The Native Area (NA) zoning district does not provide for allocated density for hotel/motel, campground, recreational vehicle, seasonal and institutional residential densities

As a note, the submitted plan does not indicate the upland square footage of the Park as specified by zoning district. Therefore, it is not possible for County Staff to provide an estimate of permissible density.

Pages 70 and 72 of the park unit management plan reference the proposed development of "two vacation rental cabins within the Cabin Area" at the park. The proposed vacation rental cabins are indicated on Page 72 to be duplexes.

Pg. 70

Objective: Expand the park's recreational carrying capacity by 40 users per day.

Two additional picnic shelters in the Calusa Beach Day Use Area and two additional vacation cabins in the Cabin Area are proposed at the park. These improvements will expand the park's recreational opportunities and increase the estimated carrying capacity. As the FKOHT is continually improved, more cyclists will pass by the park and could use park facilities as a rest stop. Encouraging cyclists to visit the park will be an important part of developing a strong relationship between the FKOHT and state parks throughout Monroe County.

Pg. 72

Cabin Area

Within the Cabin Area, two additional duplex cabins are proposed north of the existing cabins on the western side of the borrow pit. A floating dock adjacent to the existing cabins is also proposed with 10 boat slips to be installed after restoration efforts in the borrow pit are completed.

Please clarify if these proposed vacation rental cabins are new development or if they are redevelopment of lawfully established transient units (previously existing vacation rental cabins, campground or recreational vehicle spaces).

New vacation rental cabins would require ROGO allocations for each proposed unit. The County Comprehensive Plan and Code do not currently provide for new transient residential allocations for hotel or motel rooms, campground spaces, or spaces for parking a recreational vehicle or travel trailer until May 2022

Policy 101.3.5

Due to the limited number of allocations and the State's requirement that the County maintain a maximum hurricane evacuation clearance time of 24 hours, Monroe County shall prohibit new transient residential allocations for hotel or motel rooms, campground spaces, or spaces for parking a recreational vehicle or travel trailer until May 2022. Lawfully established transient units shall be entitled to one unit for each type of unit in existence before January 4, 1996 for use as a ROGO exemption. (Ord. No. 024-2011)

Sec. 138-23. - Moratorium on New Transient Units. New transient residential units, such as hotel or motel rooms, or campground, recreational vehicle or travel trailer spaces, shall not be eligible for residential ROGO allocations until May 1, 2022.

Staff notes that the cabins are located adjacent to mangrove wetlands and to the previously dredged basin. Note that in accordance with Policy 203.1.2, development must provide a 50' vegetated buffer to wetlands:

Policy 203.1.2

Monroe County shall require minimum vegetated setbacks of fifty (50) feet to be maintained as an open space buffer for development occurring adjacent to all types of wetlands except for tidally inundated mangrove fringes and as provided for in Policy 204.2.3, 204.2.4 and 204.2.5. If a 50-foot setback results in less than 2,000 square feet of principal structure footprint of reasonable configuration, then the setback may be reduced to allow for 2,000 square feet of principal structure footprint of reasonable configuration, provided that the setback is not

reduced to less than twenty-five (25) feet. On properties classified as scarified adjacent to wetlands, the wetland setback may be reduced to twenty-five (25) feet, without regard to buildable area, if the entire setback is managed in accordance with County regulations approved by the County Biologist and is placed under conservation easement.

Shoreline setback standards are provided in Policy 212.2.2 and include a setback of 20 foot from the mean high water (MHW) line of manmade water bodies and/or lawfully altered shorelines of natural water bodies. Pursuant to Policy 212.2.4 paragraph 8, *No enclosed structures, other than a dock box of five (5) feet in height or less, a screened gazebo, and a screen enclosure over a pool or spa, shall be allowed within the shoreline setback. Gazebos must be detached from any principal structure on the parcel. No decks or habitable spaces may be constructed on the roof of any gazebo in the shoreline setback.*

As provided in Paragraph 14 of 212.2.4, *For structures serving commercial uses, public uses, or more than three dwelling units, the Planning Commission may approve deviations from the above standards as a major or minor conditional use. Such approval may include additional structures or uses provided that such approval is consistent with any permitted uses, densities, and intensities of the land use district, furthers the purposes of this section, is consistent with the general standards applicable to all uses, and the proposed structures are located in a disturbed area of an altered shoreline. Such additional uses are limited to waterfront dining areas, pedestrian walkways, public monuments or statues, informational kiosks, fuel or septic facilities, and water-dependent marina uses.*

4. **The existing facilities section will also need to be reviewed.**

Pages VI, 70 and 72 indicates the development of 2 vacation cabins.

Pursuant to LDC Section 130-157, the allocated density is two (2) dwelling units per acre for hotel/motel, campground, recreational vehicle, seasonal and institutional residential densities within the Park and Refuge (PR) zoning district.

As a note, the submitted plan does not indicate the upland square footage of the Park as specified by zoning district. Therefore, it is not possible for County Staff to provide an estimate of permitted density.

Pages 70 and 72 reference the proposed development of "two vacation rental cabins within the Cabin Area" at the park. The proposed vacation rental cabins are indicated on Page 72 to be duplexes. Please clarify if these proposed vacation rental cabins are new development or if they are redevelopment of lawfully established transient units (previously existing vacation rental cabins, campground or recreational vehicle spaces).

New vacation rental cabins would require ROGO allocations for each proposed unit. The County Comprehensive Plan and Code do not currently provide for new transient residential allocations for

hotel or motel rooms, campground spaces, or spaces for parking a recreational vehicle or travel trailer until May 2022

Policy 101.3.5

Due to the limited number of allocations and the State's requirement that the County maintain a maximum hurricane evacuation clearance time of 24 hours, Monroe County shall prohibit new transient residential allocations for hotel or motel rooms, campground spaces, or spaces for parking a recreational vehicle or travel trailer until May 2022. Lawfully established transient units shall be entitled to one unit for each type of unit in existence before January 4, 1996 for use as a ROGO exemption. (Ord. No. 024-2011)

Sec. 138-23. - Moratorium on New Transient Units. New transient residential units, such as hotel or motel rooms, or campground, recreational vehicle or travel trailer spaces, shall not be eligible for residential ROGO allocations until May 1, 2022.

As noted in Item 3 above, Shoreline setback standards are provided in Policy 212.2.2 and include a setback of 20 foot from the mean high water (MHW) line of manmade water bodies and/or lawfully altered shorelines of natural water bodies. Pursuant to Policy 212.2.4 paragraph 8, *No enclosed structures, other than a dock box of five (5) feet in height or less, a screened gazebo, and a screen enclosure over a pool or spa, shall be allowed within the shoreline setback. Gazebos must be detached from any principal structure on the parcel. No decks or habitable spaces may be constructed on the roof of any gazebo in the shoreline setback.*

As provided in Paragraph 14 of 212.2.4, *For structures serving commercial uses, public uses, or more than three dwelling units, the Planning Commission may approve deviations from the above standards as a major or minor conditional use. Such approval may include additional structures or uses provided that such approval is consistent with any permitted uses, densities, and intensities of the land use district, furthers the purposes of this section, is consistent with the general standards applicable to all uses, and the proposed structures are located in a disturbed area of an altered shoreline. Such additional uses are limited to waterfront dining areas, pedestrian walkways, public monuments or statues, informational kiosks, fuel or septic facilities, and water-dependent marina uses.*

Please note, the Park is required to obtain applicable development review approvals and building permits prior to construction. A full compliance review of any proposed development for consistency with the Comprehensive Plan and Land Development Code would occur at that time.

If you have any questions, please contact me.

Thank you,

Cheryl

Cheryl Cioffari, AICP
Assistant Director of Planning
305-407-0924

From: Degagne, Demi <Demi.Degagne@dep.state.fl.us>
Sent: Tuesday, September 15, 2020 7:51 AM
To: Cioffari-Cheryl <Cioffari-Cheryl@MonroeCounty-FL.Gov>
Cc: Maldonado, Tyler <Tyler.Maldonado@dep.state.fl.us>
Subject: Re: Monroe County - Request to Review BAHIA HONDA STATE PARK Unit Management Plan

CAUTION

Thank you Ms. Cioffari.
We appreciate your time and assistance with this request.

From: Cioffari-Cheryl <Cioffari-Cheryl@MonroeCounty-FL.Gov>
Sent: Monday, September 14, 2020 4:30 PM
To: Degagne, Demi <Demi.Degagne@dep.state.fl.us>
Cc: Maldonado, Tyler <Tyler.Maldonado@dep.state.fl.us>; Cioffari-Cheryl <Cioffari-Cheryl@MonroeCounty-FL.Gov>
Subject: RE: Monroe County - Request to Review BAHIA HONDA STATE PARK Unit Management Plan

Demi,
We have received your request. I have begun reviewing the document, but a full review may take an additional two weeks.

I will contact Tyler Maldonado if I have any questions.

Thank you,
Cheryl

Cheryl Cioffari, AICP
Assistant Director of Planning
305-407-0924

From: Degagne, Demi <Demi.Degagne@dep.state.fl.us>
Sent: Monday, September 14, 2020 8:09 AM
To: Cioffari-Cheryl <Cioffari-Cheryl@MonroeCounty-FL.gov>
Cc: Maldonado, Tyler <Tyler.Maldonado@dep.state.fl.us>
Subject: Fw: Monroe County - Request to Review BAHIA HONDA STATE PARK Unit Management Plan
Importance: High

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CAUTION: This email originated from outside of the County. Whether you know the sender or not, do not

click links or open attachments you were not expecting.

Follow-up request. Please see below. Thank you.

From: Degagne, Demi <Demi.Degagne@dep.state.fl.us>
Sent: Wednesday, September 2, 2020 12:38 PM
To: cioffari-cheryl@monroecounty-fl.gov <cioffari-cheryl@monroecounty-fl.gov>
Cc: Maldonado, Tyler <Tyler.Maldonado@dep.state.fl.us>
Subject: Monroe County - Request to Review BAHIA HONDA STATE PARK Unit Management Plan

Good Afternoon,

The Florida Department of Environmental Protection, Division of Recreation and Parks, Office of Park Planning is responsible for the unit management planning of all Florida State Parks. As part of this planning process, prior to the unit management plan being presented to its Acquisition and Restoration Council for consideration, the Office of Park Planning is now required to connect and communicate with the area's agency that is responsible for the local comprehensive plan to determine if the park unit management plan is in compliance with the comprehensive plan. Specifically, we want to make sure we are accurately citing the future land use and zoning designations for the park and would like to confirm that our proposed developments in the conceptual land use section comply with those designations. The existing facilities section will also need to be reviewed.

We would like to have the attached **Bahia Honda State Park** unit management plan reviewed. Please let me know if this can be done, who the point person is for these requests (for future needs) and an approximate turn-around time for the review.

If you need any clarification regarding the attached document or its contents, please contact Tyler Maldonado at tyler.maldonado@floridadep.gov as he is the Planning Consultant assigned to handle the park's management planning and will be able to answer any questions regarding the plan. As Mr. Maldonado's assistant, I am also available to assist if you need any other information or have any questions.

Thank you for your time, help and direction.

Have a good rest of the day!

Demi P. Degagne
Florida Department of Environmental Protection
Division of Recreation and Parks/Office of Park Planning
Government Operations Consultant and
Park Planning Administrative Assistant
Demi.Baxley@floridadep.gov
Office: 850.245.3051
Direct: 850.245.3052

Dep Customer Survey