

**Lee County Board Of County Commissioners  
Agenda Item Summary**

**Blue Sheet No. 20031013**

**1. REQUESTED MOTION:**

**ACTION REQUESTED:** Approve the San Carlos Bay – Bunche Beach Preserve (SCBBBP) Land Stewardship Plan with its provision of prohibiting dogs at the preserve.

**WHY ACTION IS NECESSARY:** The SCBBBP Land Stewardship Plan must be approved by the Board for Lee County to receive the \$3,190,012 reimbursement grant from the Florida Communities Trust, for which the County has received conceptual approval.

**WHAT ACTION ACCOMPLISHES:** Approving of the SCBBBP Land Stewardship Plan Lee County will meet on of the requirements to receive the \$3,190,012 grant from the Florida Communities Trust for the reimbursement of 50% of the original acquisition cost of the preserve.

**2. DEPARTMENTAL CATEGORY:**  
**COMMISSION DISTRICT # 3**

*C11B*

**3. MEETING DATE:**

*09-09-2003*

**4. AGENDA:**

- CONSENT
- ADMINISTRATIVE
- APPEALS
- PUBLIC

**5. REQUIREMENT/PURPOSE:**  
*(Specify)*

- STATUTE
- ORDINANCE
- ADMIN. CODE
- OTHER Grant contract

**6. REQUESTOR OF INFORMATION:**

- A. COMMISSIONER
- B. DEPARTMENT Parks and Recreation
- C. DIVISION

BY: *John Yarbrough*  
*[Signature]*

**WALK ON**

**15 min TIME REQUIRED:**

**7. BACKGROUND:**

In Blue Sheet No. 20030008 the BOCC approved the Florida Communities Trust Grant Contract for a grant award in the amount of \$3,190,012.

As part of the requirements in the Florida Communities Trust Grant Contract Lee County Parks and Recreation is required to write a Land Stewardship Plan detailing issues such as natural resource management and public use of the preserve.

The CLASAC (Conservation Lands Acquisition and Stewardship Advisory Committee) passed a motion on August 14, 2003, with 7 members in favor and 3 opposed, stating "[They] recommend the San Carlos Bay - Bunche Beach Land Stewardship Plan be [approved] and amended as follows: to recognize the piping plover is a protected species and Bunche Beach is a critical habitat for this species, and dog use will not be allowed when the protected species is utilizing this site. During the time the protected species is not utilizing the beach, an identified portion of the beach will be designated for on- and off-leash pet [dog] use."

The Department of Parks and Recreation recommends that the Land Stewardship Plan be approved as is with the provision of prohibiting dogs year round. The United States Department of the Interior, Fish and Wildlife Service, has written a letter to our Department stating that "The presence of dogs on the beach, on or off leashes, would disrupt foraging patterns and cause the birds to leave the area. Because this may result in a violation of the ESA [Endangered Species Act], the Service supports the proposal to restrict dog access to the beach during the winter when piping plovers may be present." Parks and Recreation has documented the presence of piping plovers at SCBBBP from July 8 through April 27 leaving May and June as the only 2 months where typically piping plovers are not present.

**8. MANAGEMENT RECOMMENDATIONS:**

**9. RECOMMENDED APPROVAL:**

*CCM*

A Department Director	B Purchasing or Contracts	C Human Resources	D Other	E County Attorney	F Budget Services				G County Manager
<i>[Signature]</i> <i>8/26/03</i>				<i>[Signature]</i> <i>8/26/03</i>	<i>OA</i> <i>8/26/03</i>	<i>OM</i> <i>8/27/03</i>	<i>Risk</i> <i>8/27/03</i>	<i>GC</i> <i>8/27/03</i>	<i>[Signature]</i> <i>8-27-03</i>

**10. COMMISSION ACTION:**

- APPROVED
- DENIED
- DEFERRED
- OTHER

Rec. by CoAtty
Date: <i>8/26/03</i>
Time: <i>3:10 PM</i>
Forwarded To:
<i>Co. Atty</i> <i>8/26/03</i>

*TO RR*  
*8/27/03*  
*5 PM*

**MEETING MINUTES FROM THE SIXTY-FIFTH  
CONSERVATION LANDS ACQUISITION AND STEWARDSHIP ADVISORY COMMITTEE  
AUGUST 14, 2003**

**COMMITTEE MEMBERS**

Rick Barber  
Bill Burdette  
John Cassani  
Kate Gooderham  
Mitch Hutchcraft  
Erick Lindblad  
Ray Pavelka  
Jake Slot  
Gary Tasman  
George Wheaton

**STAFF**

Reneé Armstrong  
Roger Clark  
Jerry Cutlip  
Shelby Evans  
Karen Forsyth  
Laura Greeno  
Barbara Manzo  
Lynda Riley  
Holly Schwartz  
Anik Smith  
Laura Wewerka  
Jim Yaeger  
John Yarborough

**DRAFT**

**1. CALL TO ORDER**

Chairman Rick Barber called the meeting to order at 5:30 PM.

**2. APPROVE MINUTES**

**MEETING MINUTES FROM THE AUGUST 14, 2003, CLASAC MEETING (CONT'D)**

**Ray Pavelka** motioned approval of the **June 12, 2003 CLASAC Meeting Minutes**, as submitted.

**Erick Lindblad** seconded the motion. *With no opposition to the motion, the motion carried unanimously.*

**3. PUBLIC COMMENT**

Jack Tanner, Chairman of the Libertarian Party of Lee County asked the CLASAC to allow the tax to expire, stating it is unfair to use the force of government to take money from people who consider non-essential activities a low priority for their personal funds. Mr. Tanner recommended two alternatives to the tax: (1) create a private voluntary land trust (more information is available by visiting website [www.lta.org](http://www.lta.org)), and (2) reduce regulations that discourage free market environmentalism. Maggie Mullins, a resident of Lee County spoke in favor of open spaces and renewing the program. Pat DeVincent, President of Save Our Outdoor Dog Areas, Inc. (S.O.O.D.A., Inc.) requested to speak on agenda item 4C.

**AGENDA ITEM 9A WAS HEARD AT THIS TIME.**

**9. OTHER BUSINESS**

**A. Tax Collector Request to Acquire a Portion of Prairie Pines Preserve (194)**

Karen Forsyth advised part of the duties and requirements of the office of County Lands is to locate sites for the Constitutional Officers and any other County entity needing land for office buildings or what have you. The Tax Collector has requested County Lands locate an area suitable for a new satellite office in North Fort Myers, near the Del Tura Subdivision. Ms. Forsyth reminded CLASAC, when Parcel

## MEETING MINUTES FROM THE AUGUST 14, 2003, CLASAC MEETING (CONT'D)

194 (the addition to the Prairie Pines Preserve) was forwarded for purchase consideration there was discussion about the commercial portion of the overall site being carved out, which did not happen. Ms. Forsyth asked the CLASAC what their thoughts were on conceptually carving out a 3-acre commercial portion that has no environmental significance on the Prairie Pine Preserve addition to accommodate the need of the Tax Collector's satellite office. Ms. Forsyth further advised that updated appraisals would be ordered specifically for 3-acres of commercial property. The Tax Collector would reimburse Conservation 20/20 the current market value of the property and be responsible for any other cost associated with the transfer of this property for use by their office. Department of Parks and Recreation Land Stewardship staff asked for the opportunity to meet with County Lands and the Tax Collector to further explore this item. Anik Smith, Land Stewardship Supervisor, expressed concern about the pending Florida Communities Trust Grant that was written in the expectation of using the commercial frontage on US 41 to accommodate vehicles used to transport horses for the equestrian uses planned for this parcel. Ms. Forsyth advised she had planned to involve Parks and Recreation if CLASAC approved of this request, if CLASAC decided to not consider the possibility of surplusizing the commercial frontage this property, she would immediately need to begin to research other properties.

**Gary Tasman motioned to allow County Lands to explore surplusizing the US-41 commercial-frontage of Conservation 20/20 Parcel 194 (the addition to the Prairie Pines Preserve) for use by the Tax Collector. George Wheaton seconded the motion, with the amendment that County Lands staff is to involve Parks and Recreation staff in the exploratory process of surplusizing the commercial-frontage of this parcel, so that the needs of all parties are met and considered. Gary Tasman agreed with the amendment to the motion. *With no opposition, the motion carried unanimously.***

#### 4. MANAGEMENT SUB-COMMITTEE REPORTS

##### A. Status Reports



## **MEETING MINUTES FROM THE AUGUST 14, 2003, CLASAC MEETING (CONT'D)**

Anik Smith reviewed the August Management Status Report. Ray Pavelka requested Parks and Recreation to provide the report to CLASAC being prepared on the impacts of exotics on native vegetation when they become available. Discussion ensued regarding the CLASAC policy to postpone expending funds on restoration and exotic control until management plans are approved. The Department of Parks and Recreation prefers to not delay restoration or exotic removal opportunities to obtain approval from the Management Sub-Committee and CLASAC that result in lost revenue or free labor. Bill Burdette, Chairman of the Management Sub-Committee suggested reminding the Director of Parks and Recreation of the CLASAC policy to prohibit said activities prior to management plans being in place.

### **B. Land Stewardship Operations Manual**

Parks and Recreation/Land Stewardship staff created a guide to aide in the writing of management plans to be used for all County preserves. Staff advised this manual is for informational purposes only and does not require any action to be taken by the CLASAC. Staff asked if there were any comments or questions from the CLASAC on the manual. Items discussed were:

- Having a greater sensitivity on the effect exotics have on neighboring property;
- Access to 20/20 properties; all modes of transportation should be considered when deciding appropriate access, such as motor vehicle, boat, bicycle, foot and horse.
- Management needs to protect sensitive resources, but historical or traditional uses need to be accommodated, if possible.

Bill Burdette advised the Management Sub-Committee is continuing to look at creating a new ordinance specifically for Conservation 20/20 property due to the overly restrictive nature of Ordinance 02-12,

## **MEETING MINUTES FROM THE AUGUST 14, 2003, CLASAC MEETING (CONT'D)**

which covers all Parks and Recreation managed parks. This issue will be deferred to the Management Sub-Committee

### **C. San Carlos Bay Bunche Beach Land Stewardship Plan**

Anik Smith reminded CLASAC of the urgency in approving a management plan to meet the requirements of the Florida's Communities Trust (FCT) to receive a \$3.3 Million reimbursement grant for the San Carlos Bay Bunche Beach Preserve. The deadline to submit the Land Stewardship Plan for the San Carlos Bay Bunche Beach Preserve to FCT is September 15, 2003. Staff has requested a one-month extension to be sure the FCT deadline is met. Staff is asking CLASAC to approve the Land Stewardship Plan.

Land Stewardship staff addressed issues CLASAC directed staff to research at the June 12, 2003 CLASAC meeting. First was to look at possible sites for an on-leash dog area on Bunche Beach or an off-leash dog area off-site. Staff provided documentation from the U.S. Fish and Wildlife Service that on-leash or off-leash dog-use should NOT be allowed at Bunche Beach because Bunche Beach is critical habitat for the wintering piping plover, a federally endangered species. If the County does allow dog-use that results in any harassment of the protected species, the County could be in violation of the Endangered Species Act. Staff also received documentation of state protected and listed species that utilize Bunche Beach during the summer months and a response from the permitting agency that there were sovereign land issues with a dog park because it would not be considered a "water dependent" use. Staff found Lee DOT's ordinance does not allow for pets at an alternative site suggested for an aquatic dog-use near the causeway islands and parking area of Punta Rassa. Staff also expressed concern about safety issues of having a dog park on the causeway islands and potential tollbooth facility expansion. For these reasons, it does not appear these suggested alternative locations would to be appropriate or feasible for aquatic dog-use. Staff advised a new Community Park in South Fort

## MEETING MINUTES FROM THE AUGUST 14, 2003, CLASAC MEETING (CONT'D)

Myers, not far from Bunche Beach, could accommodate on and off-leash dog-use with a water feature (lake). Mitch Hutchcraft asked why off-leash dogs wouldn't be able to be accommodated at Bunche Beach during the summer. Staff explained there are state protected species that utilize Bunche Beach Preserve to feed during the summer months. Gary Tasman asked about other beaches in Lee County and the opportunity for dog uses at those sites. Staff advised that 72% of beaches in Lee County are open for on-leash pet use and Dog Beach in Bonita Springs allows for off-leash pet [dog] use. John Yarborough, Director of Parks and Recreation, advised dog uses are planned in all new County community parks. Kate Gooderham advised she was pleased with the effort of staff to find a viable alternative for the aquatic dog use and knows the difficulty involved in finding compromised solutions.

Anik advised there were minor changes made to the Land Stewardship Plan, as a result of comments received by CLASAC and the public, noting the changes did not affect the overall integrity of the plan. Staff provided CLASAC members a summary of the public comments and changes made to the plan to CLASAC. All public comments have been made part of the official record. Kate Gooderham asked how Bunche Beach would benefit by having the preserve designated as a critical wildlife area and/or an important bird area. Staff responded such designation offers publicity and advertising to the bird watching and naturalist communities, but does not provide any additional legal protection to the birds or wildlife. Rick Barber expressed concern with this program placing land in government ownership and then restricting the traditional use of the land; however, after reading the reasoning for the restrictions understood the need for the restrictions. **Mitch Hutchcraft motioned to recommend adoption of the San Carlos Bay Bunche Beach Preserve Land Stewardship Plan as amended, with two provisions. One provision, is that CLASAC make it clear to staff and the Board of County Commissioners of our wishes to aggressively look for public recreational opportunities with pets included in future Conservation 20/20 parks; and second to understand there is a commitment by the Department of Parks and Recreation to provide pet [dog] facilities in future public County parks as well. Kate Gooderham seconded the motion.**

## MEETING MINUTES FROM THE AUGUST 14, 2003, CLASAC MEETING (CONT'D)

### Public Comment was taken at this time.

Mary Ellen Ruddick, a resident of Lee County, addressed an email from Cindy Bear to Parks and Recreation concerned about safety and public health issues of dog use conflicting with environmental education fields trips with children on Bunche Beach. Safety of children is a concern and is evident by the S.O.O.D.A. and Park regulations at Lover's Key off-leash dog area where no children under 12 are allowed. She presumed a similar rule would be in effect at any off-leash dog area. She further stated a large number of birds have been documented as utilizing the area west of the parking lot where very little human traffic is found. The tidal flats are also more extensive west of the parking lot, which allows for more space for the birds to forage. Ms. Ruddick asked CLASAC to consider dog use to the east of the parking lot, on leash to a marked area and a certain portion for an off-leash area, having no dogs allowed west of the parking lot. This proposal addresses for all concerns, with minimal disturbance and the environment.

Pat DeVincent, President of S.O.O.D.A., Inc., handed out a visitor guide for Shell Key Preserve in Pinellas County to show an example of how dog use is accommodated near to sensitive resource areas. It is unfortunate that staff, CLASAC and the Lee County Commissioners, have not tried to accommodate the almost two thousand dog loving residents and tourist visitors who signed a petition to allow dog use on Bunche Beach.

Rosemary Greencabbage, asked why a dog is considered more detrimental than other mammals such as the Florida Panther. She expressed delight with the County's purchase of Bunche Beach and commented a park on Bass Road with a water feature is not comparable to having dog use at Bunche Beach. The park is not a beach. The birds have survived for 28-years on Bunche Beach, so if children haven't hurt them [the birds], neither will the dogs.

## MEETING MINUTES FROM THE AUGUST 14, 2003, CLASAC MEETING (CONT'D)

Linda Hutsler stated it was apparent some CLASAC members favor dog use on Bunche Beach. The CLASAC and staff have heard the outcry from the public requesting dog use at Bunche Beach and believed it was very sad that this use is still being restricted.

Jo Dion asked for a dog beach closer to Cape Coral and Pine Island.

Terry Ray, a resident of Bonita Springs, stated she appreciated the effort of staff to find an alternative site for a dog park, but stated if she would go to Naples rather than using the alternative site. Having a 100-pound dog run loose in a 200-acre fenced-in area is not the same experience as a dog running free a beach.

Joanne Packart, a resident of Siesta Isles, in favor of an off-leash dog area on Bunche Beach, because dogs need to run free at the beach.

Carl Veaux, with National Wildlife Federation and the Turkey Federation, speaks for the animals. He asked what the population of birds would be had there not been 28-years of dogs use on Bunche Beach. He suggested dog owners use Rotary Park in Cape Coral, which has an off-leash dog recreational opportunity.

***Public Comment was closed at this time.***

Jake Slot advised due to the critical time of the program's continuance and gauging public perception on dog use, he would have to vote against the motion.

*The motion was called, with five/five tied vote, the motion failed.*

**Gary Tasman motioned to approve the Management Plan and find a place on Bunche Beach where people could recreate on and off-leash with their pets.** Jake Slot offered to second the motion if it were amended for "on-leash only" use. Gary Tasman disagreed and felt the dog use should be off-leash. *The motion failed for lack of a second.* George Wheaton expressed that he didn't mind restricting people with their dogs on this property due to the protection needed for the birds, but felt there had to be a compromise to allow dogs on Bunche Beach. Discussion ensued about having

## MEETING MINUTES FROM THE AUGUST 14, 2003, CLASAC MEETING (CONT'D)

designated areas for the on- and off-leash dog use and how to allow and monitor the use. Staff advised patrolling enforcement of leash use is not something they are able to commit to at this time. Jake Slot suggested the dog use be on an honor system, putting the responsibility back on dog owners. Pat DeVincent, President of S.O.O.D.A., Inc., advised every beach area he had ever been to allowing dog use has had flags designating the on- and off-leash areas, stating dog owners are responsible for the actions of their dogs and cleaning up a majority of waste left on the beach from non-dog owners. Jim Yaeger advised if Bunche Beach has an endangered species on its habitat, the County is going to be responsible for whatever happens on this site.

**Mitch Hutchcraft motioned to recommend adoption of the Management Plan, modified with a small area of the beach where pets would be allowed, provided that there is an agreement established between the County and SOODA, Inc., that the designated dog use area is only allowed to be used by off-leash dogs when there is a SOODA representative present to monitor this park use.** *The motion failed for lack of a second.* Jake Slot asked County Attorney, Jim Yaeger, if the County had an obligation to include allow dog-use at this site. Jim Yaeger answered, to the extent this site has listed endangered species, I do not know that you could designate a dog-use area on the beach that wouldn't infringe on that habitat. Mr. Yaeger further stated, "If the County allows anything considered harassment to the endangered species, it is the County that would be in violation of the Endangered Species Act. The past users of this property (trespassers) were probably in violation of the Endangered Species Act; but there was no enforcement. Once the County came into ownership and took responsibility, the charges will be enforced." Anik Smith, Land Stewardship staff, indicated the entire beach has been designated as critical habitat for the piping plover and explained that if people or pets willingly threaten the birds, they can be in violation of the Endangered Species Act. Mitch Hutchcraft asked if the entire beach was designated as critical habitat for any species other than the piping plover. Staff responded it was not, but explained the piping plover utilizes Bunche Beach during its migration period. Migration started in early August and continues through early March or April. Staff also indicated state listed species occur on the site during the summer. **Mitch Hutchcraft motioned to**

## MEETING MINUTES FROM THE AUGUST 14, 2003, CLASAC MEETING (CONT'D)

recommend the San Carlos Bunche Beach Land Stewardship Plan be amended as follows: to recognize the piping plover is a protected species and Bunche Beach is a critical habitat for this species, and dog use will not be allowed when the protected species is utilizing this site.

During the time the protected species is not utilizing the beach, an identified portion of the beach will be designated for on- and off-leash pet [dog] use. CLASAC encourages staff and the Board of County Commissioners to aggressively look for recreational opportunities including pets in future Conservation 20/20 Management Plans and on other County projects. George Wheaton asked how Sanibel handles dogs on their beaches. Staff responded Sanibel allows only on-leash dog use on their beaches. **Gary Tasman seconded the motion.** Jim Yaeger responded he would not allow the Board of County Commissioner to do anything that would be a violation of the Endangered Species Act. *The motion was called with one abstention, 7 in favor and 2 opposed, the motion carried.* Ray Pavelka clarified his abstention to the San Carlos Bay/Bunche Beach Preserve, he advised his vote should have been reflected against the motion, since he did not have a conflict of interest. *The motion, as clarified still carried with 7 in favor and 3 opposed.*

### **D. Hickey's Creek Mitigation Park Land Stewardship Plan – Revision to the Multi-use Trail**

Jerry Cutlip, Manager of the Hickey's Creek Mitigation Park, spoke on a revision to the Hickeys Creek Mitigation Park Land Stewardship Plan (HCMPLS), specifically with regard to the multi-use trail in the Greenbriar area that was proposed to extend into Conservation 20/20 Site 57. Funding for this revision to the plan has not been established. Staff is asking CLASAC to approve the trail route as presented and insert the original language back into the HCMPLS Plan. Erick Lindblad asked if this revision to the multi-use trail addressed any concerns made in the letter handed out from RaeAnn Wessel or Dick Workman about the trail crossing jurisdictional wetlands. Jerry Cutlip advised a jurisdictional evaluation had been done and explained none of the wetlands on Conservation 20/20 Site 57 will be crossed. The trail does cross a jurisdictional wetland in the souther-end of the East County Water Control District,

## **MEETING MINUTES FROM THE AUGUST 14, 2003, CLASAC MEETING (CONT'D)**

Greenbriar Slouth. Dick Workman representing Jan Brown a neighbor to the Hickey's Creek Site #57, asked CLASAC to withhold any action on this matter until concerned parties have had a chance to review and address this issue with staff. Jerry Cutlip advised originally the route did cross forested wetlands, but the revised trail does not. Staff advised the trail route will need to be closed during the wet season. **George Wheaton motioned to accept the proposed trail plan as written. Gary Tasman seconded.** Erick Lindblad expressed concern that CLASAC was prematurely accepting the staff recommendation without all concerned parties having the opportunity to comment. Jerry Cutlip said he would be more than happy to meet with the interested parties to address their concerns. **Ray Pavelka motioned to table the multi-use trail item until the September CLASAC Meeting to allow staff to meet and address the issues of the concerned parties. Erick Lindblad seconded the motion.** *The motion was called and carried unanimously.*

### **5. Criteria and Ranking Sub-Committee Reports**

#### **A. Revised brochure for nominators**

Lynda Riley advised the Criteria and Ranking Sub-Committee did not meet in July or August, but wished to advise CLASAC the brochure created for potential nominators of the program had been recently revised to elaborate on the extensiveness of website additions and accomplishments of the program.

### **6. Program Renewal Sub-Committee Reports**

Kate Gooderham, Chairwoman of the Program Renewal Subcommittee, recapped the accomplishments of the Sub-Committee's efforts. Five public hearings were conducted in different parts of the County, in response to the request of the Board of County Commissioners to gauge public perception of the Conservation 20/20 Program. The sub-committee created a media plan, which included a flyer, questionnaire and bookmark that were extensively distributed, and modifications to the



## MEETING MINUTES FROM THE AUGUST 14, 2003, CLASAC MEETING (CONT'D)

website to advertise the Public Forums and submit questionnaires. Press releases were also sent out prior to each Public Forum. **The report provided to CLASAC is a summary of the public outreach program and the Program Renewal Sub-Committee recommendation on program renewal. It consists of an agenda sheet and back-up materials for presentation to the Board of County Commissioners at the September 8, Management and Planning Meeting.**

The public outreach effort made it convenient for people to have numerous options and broad opportunity to provide input, possibly more inclusion than a referendum would have included.

**Erick Lindblad suggested the text, "for County projects", should be added after Item 3A's mitigation credit.** Bill Burdette expressed concern that a term of renewal needs to be part of the recommendation so this is not considered a forever tax. **Ray Pavelka suggested a repeat of the 7-year term, with a sunset review period be added as part of the recommendation in a new sentence.** Ray Pavelka further suggested including the text, "without conducting a non-binding referendum", be included after the first sentence of Section 5.

*The Program Renewal Sub-Committee recommends approval of the Management and Planning Agenda Request form, as amended. The motion was called, with 6 in favor and 3 opposed. The motion carried.*

**The Program Renewal Sub-Committee approves the fifty-six pages following the "yellow sheet" Management and Planning Agenda Request form, reflecting the amendments, as noted. With no opposition, the motion carried.**

### 7. OTHER STATUS REPORTS

Lynda Riley summarized the Acquisition and Negotiation Status report, noting Nomination 206 is scheduled to close soon. The closing of this parcel will put the total Conservation 20/20 inventory acreage over 11,200 acres. Ms. Riley noted negotiations had failed on the four small out-parcels within

## MEETING MINUTES FROM THE AUGUST 14, 2003, CLASAC MEETING (CONT'D)

the boundary of the Caloosahatchee Creeks preserve. There are three properties currently under negotiation: two properties comprising the Baker Ranch in Alva, and property on Gator Slough contiguous to the Prairie Pines Preserve. Conservation 20/20 cash flow is healthy.

### 8. NOMINATION OF OFFICERS

Rick Barber advised last year CLASAC created a sub-committee to nominate officers for CLASAC. Mr. Barber asked the CLASAC if they wished to create another sub-committee or would they prefer to entertain a motion now. **George Wheaton motioned to retain the current officers. Ray Pavelka seconded.** *With no opposition the motion carried.*

## **MEETING MINUTES FROM THE AUGUST 14, 2003, CLASAC MEETING (CONT'D)**

### **10. NEXT MEETING DATES**

The next meeting of the Management Sub-Committee will be Monday, August 25, 2003, 3PM at Terry Park in the Caloosahatchee Room. The next meeting of the Criteria & Ranking Sub-Committee will be Tuesday, September 2, 2003, 3PM, at 1500 Monroe Street, in Conference Room 4C. The next meeting of CLASAC will be Thursday, September 11, 2003, 5:30 PM, at 1500 Monroe Street, in the first floor Conference Room. The Board of County Commissioners Management and Planning meeting discussing Program Renewal is scheduled for Monday, September 8, 2003, at 1:30 PM in Board Chambers. It was suggested that, although public participation is not allowed, as many CLASAC members as possible be present for the Management and Planning Meeting. An email reminder of the Board of County Commissioners Management and Planning Meeting will be sent to CLASAC members.

### **11. ADJOURN**

With no further business the meeting was adjourned at 7:45 PM.

**Respectfully submitted by: Reneé Armstrong**

**San Carlos Bay  
Bunche Beach Preserve**

**Land Stewardship Plan  
2003**

**LEE COUNTY**



**PARKS AND RECREATION  
[WWW.LEEPARKS.ORG](http://WWW.LEEPARKS.ORG)**

SAN CARLOS BAY - BUNCHE BEACH PRESERVE

LAND STEWARDSHIP PLAN

Draft 8/12/03

Approved by Lee County

Board of County Commissioners: \_\_\_\_\_

FCT Project # 02-072-FF2

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- N. Projected Costs and Funding Sources Table



## *Vision Statement*

*It is the vision of the Lee County Department of Parks and Recreation to conserve, protect and restore all of the natural resources found at San Carlos Bay – Bunche Beach Preserve so that they are productive, functional and viable. The Preserve will continue to serve as a haven for wildlife especially avian life. The Preserve will provide an exceptional resource-based experience for visitors through opportunities such as canoeing/kayaking, wildlife viewing from the beach and boardwalks, guided nature walks and safe bicycle and pedestrian access from Summerlin Road. Visitors to the Preserve will experience clean beaches and facilities that are environmentally compatible.*

## Executive Summary

The San Carlos Bay - Bunche Beach Preserve (SCBBBP) was purchased in August 2001 through Lee County's Conservation 20/20 Program. The Conservation 20/20 Program was established in 1996 after Lee County voters approved a referendum that increased property taxes by up to .5 mil for the purpose of purchasing and protecting environmentally sensitive lands. The county is pursuing a partnership with the Florida Communities Trust (FCT) for the reimbursement of 50% of the purchase cost of the Preserve. The purchase and perpetual preservation of this site will provide protection for over 550 acres of tidal swamp, an extensive tidal creek system, 160 acres of coastal grasslands, coastal berms that define the southern border and extremely productive seagrass beds and mudflats that provide habitat and food for both fish and a wide variety of birds. In addition to protecting the resources for wildlife and native plant communities, appropriate resource based public use will be managed to protect the Preserve's biologic integrity.

Bunche Beach Park, consisting of ½ acre, has been owned by Lee County since 1950. A small portion of this area is currently used for unimproved parking. The additional 703-acre purchase has created one of the most unique coastal preserves in the area. The coastal geology of the area is unique because of the surrounding geographical features that allows a sandy beach to form seaward of the mangrove forest. The topography of the Preserve is fairly flat, with a maximum elevation of 7 feet (NGVD) in the coastal berm communities. Typically a large portion of the Preserve experiences tidal flooding and all of it lies within Lee County's coastal high hazard area. Both the soils and native plant communities reflect this hydrological influence. The tidal swamp community's soil composition is almost entirely peckish mucky fine sand, which is found in areas that are poorly drained. In addition to tidal influences, there is some freshwater runoff from the surrounding areas. The three tidal creeks that flow through the Preserve are beneficial for both wildlife and to the visitors who want to explore the beauty and solitude of the mangroves. On any given day, an abundance of wildlife can be spotted throughout the Preserve, including several listed species. The size and stewardship practices of the Preserve will allow for those more secretive species to thrive without human disturbance.

The beach area has been appreciated by the public for years, both as a recreation area and as an excellent bird watching site. This stewardship plan will help guide future development of public use facilities to balance the needs of the public while protecting the resource. By installing an improved parking lot, restroom facilities and trashcans, the amount of pollutants released will be greatly decreased. Additionally, construction of an improved parking area with subsequent enforcement will confine automobiles into one small portion of the property and eliminate parking along side of the road, which will make it safer for pedestrians and bicycle riders, while preventing coastal portion of the Preserve

from becoming a more intensely used beach like those provided by the County on Estero Island. Staff hired to work at the Preserve will help with keeping the property clean and educating visitors about the Preserve and its important ecosystem functions. Their presence will also curtail historical uses that are against the Lee County Parks and Recreation ordinance such as drinking alcohol, nudity, littering and bringing pets. A canoe/kayak launch will be constructed that will allow visitors that currently have to launch from the beach to enter and leave the water from a more sheltered location that won't require dragging their vessel across the mudflats. Signs will be posted to direct visitors to its location. Fishing is another recreational activity that will continue to be allowed, but with the addition of monofilament recycling bins, staff trash pick up and volunteer clean-up days the current, and dangerous litter problem will be greatly reduced. Volunteer groups that currently assist with maintenance of the Preserve include Lee County Bird Patrol and the Ostego Bay Foundation. These partnerships will help to keep the Preserve free of debris, help to identify possible management concerns as well as to monitor for wildlife.

In addition to public use of the Preserve, a variety of other influences will direct future land stewardship activities. Several ditches dug years ago for mosquito control and drainage have exotic plants growing on the associated spoil mounds that will need to be controlled. Additionally, the ditches along the sides of John Morris Road serve as drainage for more inland communities and must be kept clean of debris. Vehicular access to both the beach and coastal grassland community has been curtailed with the construction of fencing and placement of large rocks at the termination of John Morris Road. Constant monitoring of these areas will continue to prevent future problems. In the late spring of 2003 exotic plants were removed from different areas of the coastal grassland community and these areas will be constantly monitored for resprouts and new seedlings. The Preserve is also influenced by surrounding land use. Development surrounding the Preserve influences the area by visitor utilization, dumping of both horticultural waste and other trash as well as pollutants washed in with freshwater runoff. A variety of monitoring activities established for the Preserve will be essential to discover potential problems before they become greater concerns (see Management Action Plan).

The goal of this land management plan is to identify Preserve resources, develop ways to protect those resources and implement restoration activities to restore SCBBBP to a viable, functioning, natural system while insuring the Preserve will be developed in accordance with FCT's Grant Contract (Appendix A). Since this Preserve has been, and will continue to be, a popular place for vacationers and residents to recreate, a balance will need to be established between the needs of the people and the wildlife that utilize the Preserve. This goal will be met through stewardship activities, monitoring by County Staff, volunteer support and educational outreach. A Management Action Plan that divides the Preserve into 6 units has already been established. Each unit has goals depending on its

needs, strategies on how to accomplish the goals, a timetable for completion and standards for how accomplishment of the goals will be measured.

All literature and information about San Carlos Bay-Bunche Beach Preserve will identify both Lee County's Conservation 20/20 Program and Florida Communities Trust as partners in the acquisition of the property and that it is a conservation area.

## I. Introduction & Purpose

San Carlos Bay – Bunche Beach Preserve, located in southwestern Lee County, is approximately 704 acres consisting of 3 major natural plant communities: coastal berm, coastal grassland and tidal swamp. The majority of the Preserve consists of tidal or mangrove swamp. John Morris Road runs north and south through the entire Preserve, which provides easy access for both county staff and visitors.

Summerlin Sands Ltd. previously owned the property. Since 1950, Lee County has owned ½ acre of the site at the terminus of John Morris Road. This site was called Bunche Beach Park. The coastal portion of this property has always been, and continues to be, a popular site for both tourists and residents of Lee County. The property was purchased through Lee County's Conservation 20/20 Program which was established to acquire, preserve and restore environmentally critical or sensitive lands within Lee County. This Preserve was acquired because of its large size, incredible diversity of wildlife and the importance of preserving undeveloped mangrove swamps in coastal communities.

Land stewardship challenges for this Preserve are varied. Invasive exotic plants occur in several areas, especially along the coastal berm and on spoil piles from historic mosquito ditching, and also in the northwestern and northeastern sections. Numerous listed species utilize the property to varying degrees. Human disturbance, particularly to the birds foraging and loafing on the coast and vehicular disturbance to the coastal grassland community must be addressed. At the same time, a balance needs to be found between the outstanding recreational opportunities this Preserve provides, and protection of wildlife that utilize it.

The purpose of this stewardship plan is to define the conservation goals for SCBBBP that will address the above concerns. It is a guide for Lee County's Department of Parks and Recreation to use best management practices with the proper stewardship and protection of the Preserve. It also can be used as a reference guide as a tremendous amount of research was conducted with field work, reading scientific literature, studies and historical records to understand how the Preserve functions in the ecosystem, what wildlife and plants are found within its boundaries as well as human history and influences.

Invasive exotic plants will be controlled and regular monitoring will ensure exotic plants are kept at a maintenance level. Removal of exotics will be followed with replanting of appropriate native plants where necessary. Staff and volunteers will monitor shorebird and other wildlife's utilization of the property, monitor nesting activity of both sea turtles and diamondback terrapins and watch for potential nesting shorebirds. Both feral animal trapping and natural predator control measures will be instigated if necessary. An increased staff presence on the beach will help to both minimize trash and enforce the "no dogs" policy.

Interpretive signs and educational programs will be provided to encourage visitors to understand the importance of preserving natural areas and the impact of their actions while visiting this and other preserves. Finally, boardwalks, nature trails, a canoe/kayak launch and a marked waterway trail directing paddlers to the Great Calusa Blueway and the 3 tidal creeks in the area will be developed to increase the recreational opportunities at this Preserve.

## II. Location and Site Description

San Carlos Bay -- Bunche Beach Preserve is located in southwestern coastal Lee County, Sections 11-14, Township 46S, Range 23E on the shores of San Carlos Bay, south of the Caloosahatchee River and between Estero and Sanibel Islands and consists of approximately 704 acres. The Preserve is irregularly shaped. Its widest points stretch approximately 1 ½ miles north/south as well as east/west. Summerlin road defines the northwest border. John Morris Road runs north/south through the center of the Preserve. The north and east boundaries are surrounded by development (mainly mobile home communities such as Palmetto Palms and Siesta Isles), although some portions currently have a buffer of undeveloped property between the housing areas and the Preserve (Figures 1 & 2).

The Preserve consists of three native plant communities: coastal berm, coastal grassland and tidal swamp (Figure 6). These community designations are based upon Florida Natural Areas Inventory's Guide to the Natural Communities of Florida (1990). The southern boundary along the shore of San Carlos Bay has a narrow strip of beach. Behind that, and consisting of the majority of the property, is 551 acres of tidal or mangrove swamp. The northern portions of the Preserve are slightly higher coastal grasslands.

Figure 1: San Carlos Bay - Bunche Beach Preserve Location Map

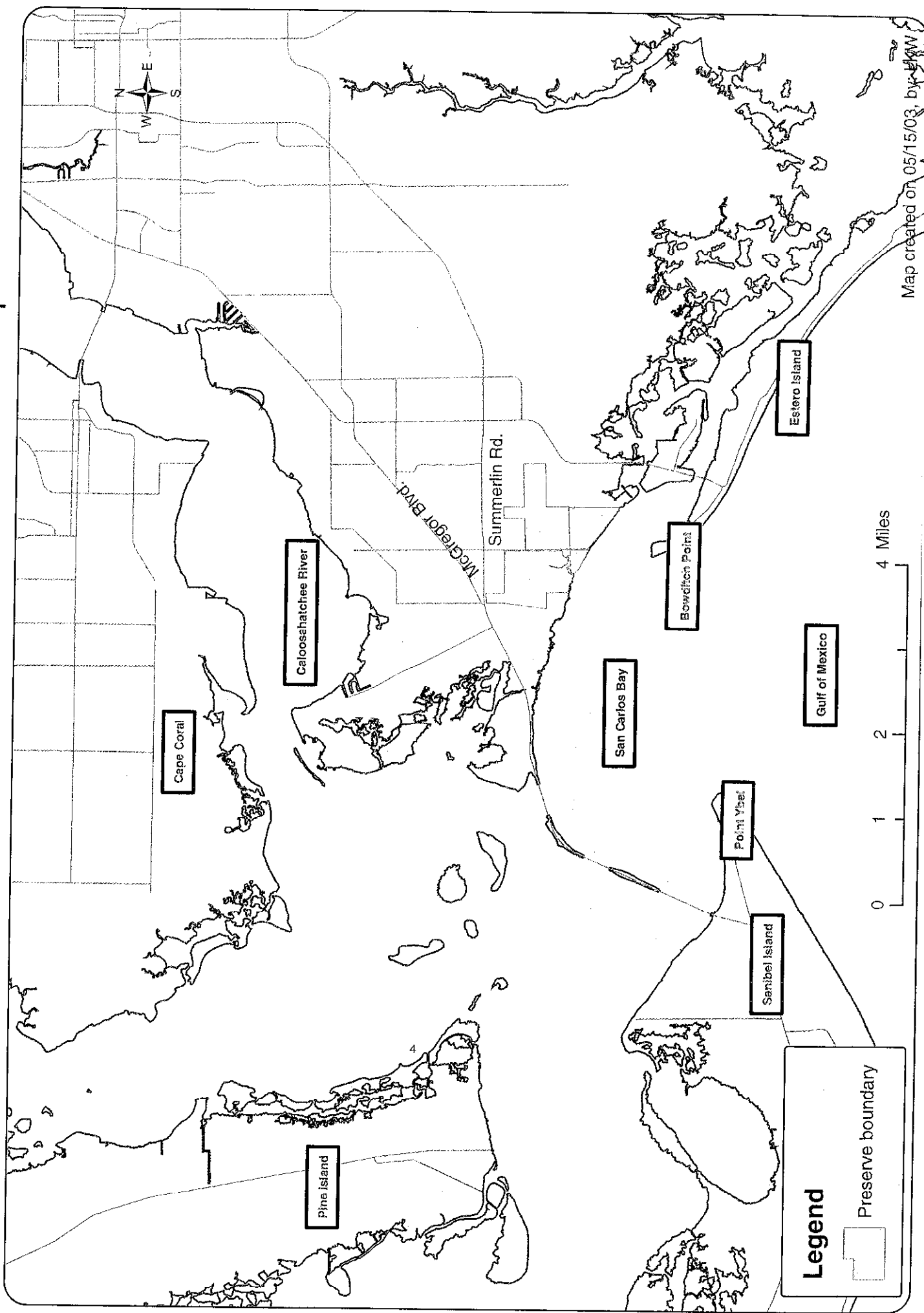
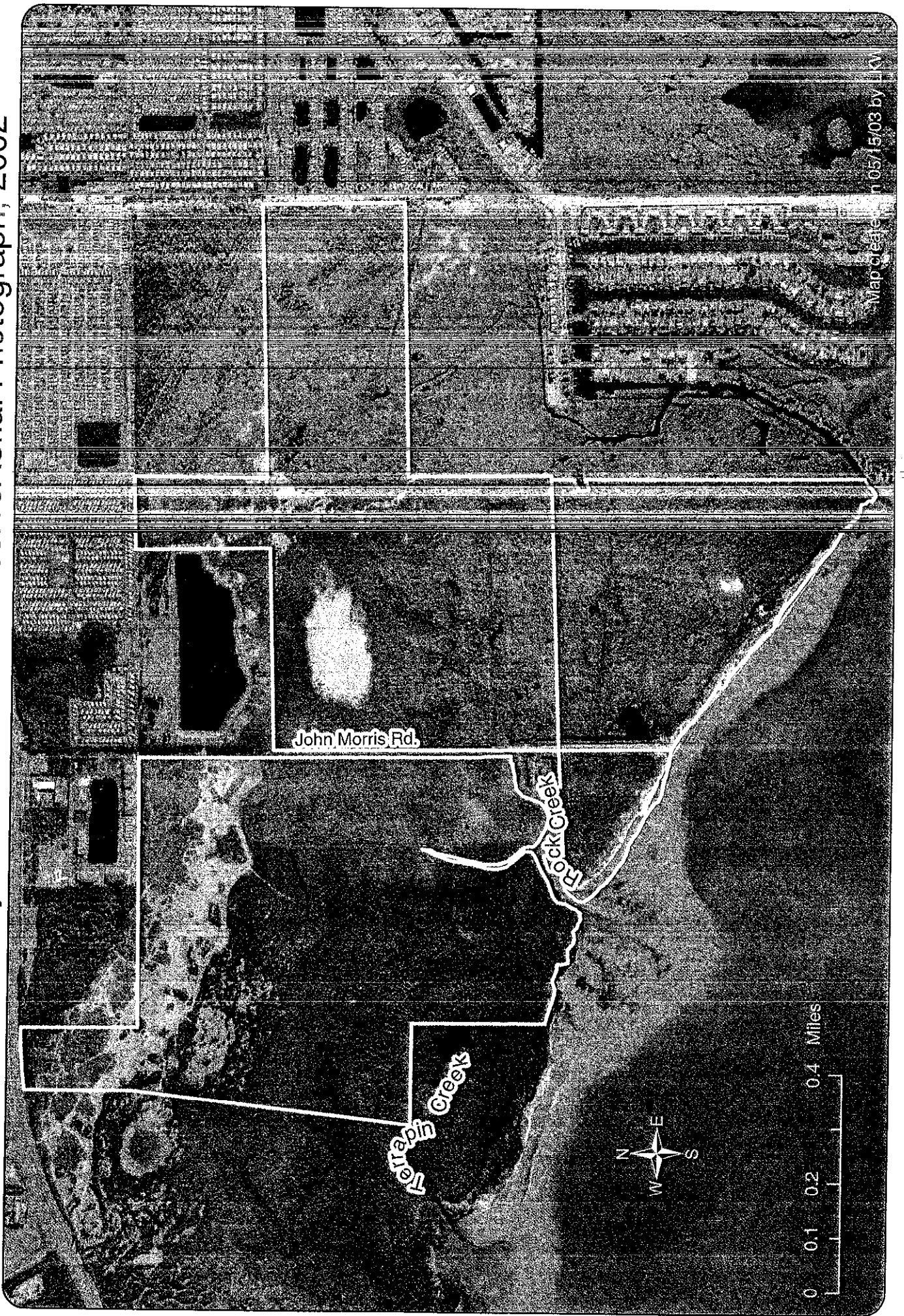


Figure 2 - San Carlos Bay - Bunche Beach Preserve Aerial Photograph, 2002





### III. Natural Resources Description

#### A. Physical Resources

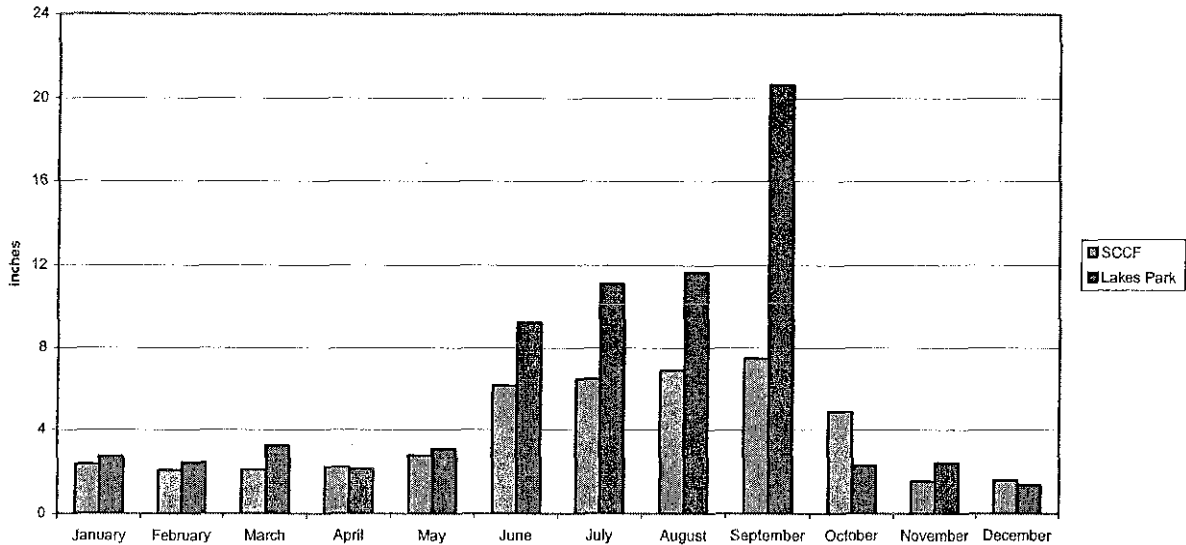
##### a. Climate

Southwest Florida has a humid, sub-tropical climate due to its maritime influence from the Caribbean Sea and the Gulf of Mexico. The mild temperatures encourage winter residents and tourists to visit the Preserve. Temperate climate influences are exerted as well, with infrequent but significant freezes occurring. These freezes prevent some of the more tropical plants from becoming established and occasionally damage the subtropical vegetation. Cold fronts regularly push cool, sometimes moist weather from the southeastern U.S. to southwest Florida during the winter. These cold fronts also encourage birds to utilize the Preserve as either a stop off point on a longer migration, or as a winter roosting and feeding area.

Rainfall data has not been collected for this Preserve. However, annual rainfall averages 54.7 inches at Lakes Park; a Lee County facility located approximately 5 miles northeast from the Preserve. Additionally, the average annual rainfall at the Sanibel-Captiva Conservation Foundation (SCCF), located on Sanibel Island approximately 4 miles to the west of the Preserve, is 46.59 inches. The Graph depicts southwest Florida's typical winter dry season and summer rainy season that also occurs at SCBBBP. The entire Preserve lies within Lee County's coastal high hazard area and is vulnerable to both tropical storms and hurricanes during June-November.

Graph 1

SCCF 1990-1999  
Lakes Park 1992-2003



## b. Geology

San Carlos Bay – Bunche Beach Preserve is within the Southwestern Slope physiographic feature. The Southwestern Slope borders the Immokalee Rise on the southwest and slopes gently from a high elevation near 25 feet at its eastern edge to sea level at the Gulf coast (SFWMD 1982). Near surface sediments of the Southwestern Slope are predominately sand, shell and limestone (Lane 1981).

### Coastal Geology

San Carlos Bay is formed by Sanibel and Estero Islands to the west and east, respectively, the Gulf of Mexico to the south and the mainland to the north (Figure 1). The eastern shore of San Carlos Bay is unique in southwest Florida due to its a low energy shoreline including a wide, shallow intertidal zone with grass flats and sandbars and a narrow coastal strand area that includes a sandy beach. This apparently is due to the three-mile distance between Point Ybel (the eastern tip of Sanibel) and Bowditch Point (the northern tip of Estero Island) and the large ebb shoal between the islands. The distance between passes separating other barrier islands in southwest Florida is much smaller. The shorelines landward of other passes

are all fringed with mangroves. The distance between Sanibel and Estero Islands allows sufficient wind energy to build from the Gulf of Mexico and continue across San Carlos Bay. This wind energy is transferred into waves that in turn carry sand across the shallow intertidal areas and have formed the beaches that occur in 2 locations, Bunche Beach and another unnamed beach to the west of Bunche Beach. Because of their location, the beaches are also sheltered from the dominant northwest winds.

The beach areas are low profile with flat dunes vegetated by typical southwest Florida coastal berm vegetation. The coastal berm is seaward of an extensive tidal swamp, which transitions into a coastal grassland community before upland areas, which are mostly developed, occur. The distance from the beach to upland areas is nearly a mile.

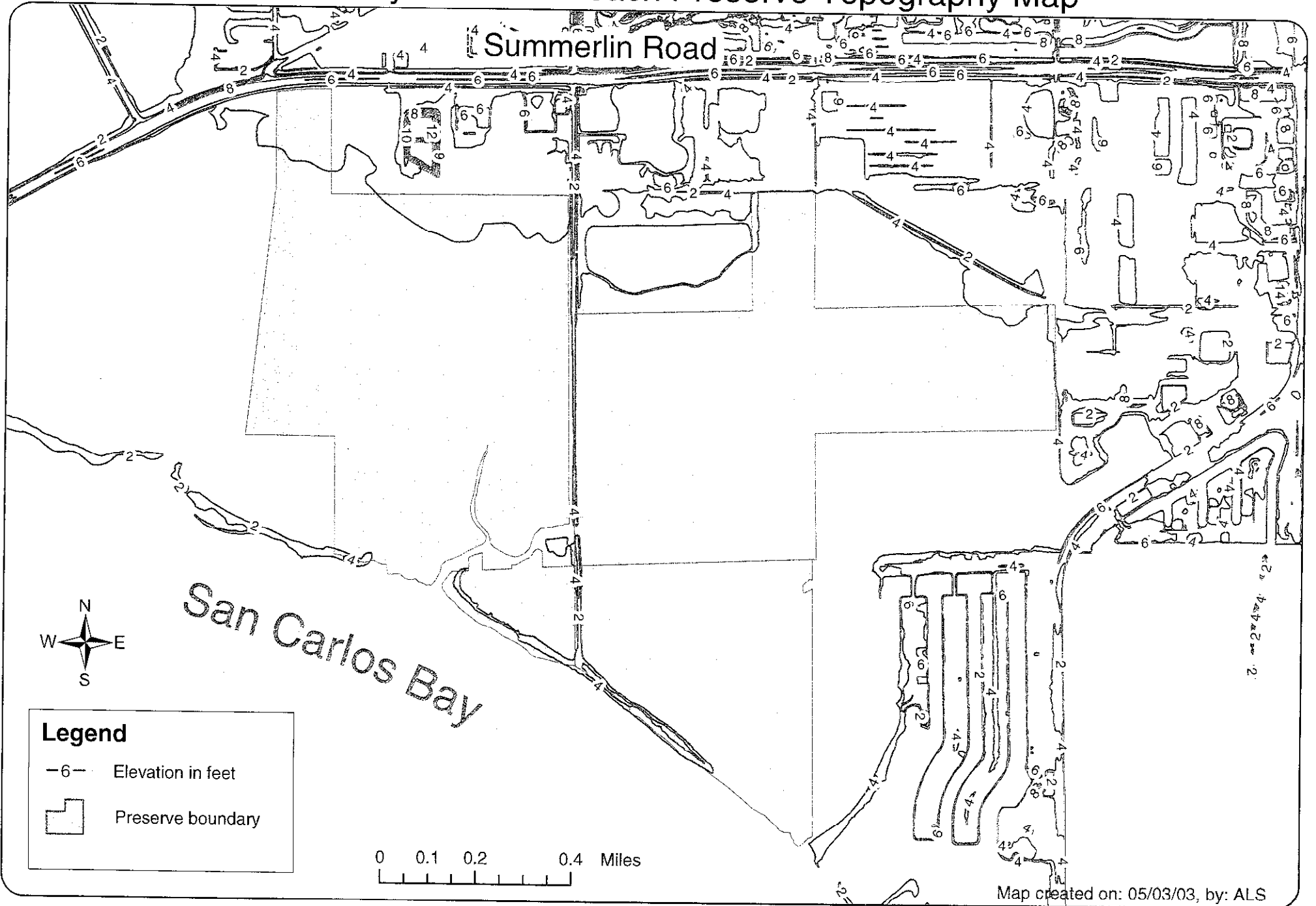
An examination of a map of the coast of Florida indicates there are only a few areas where there are beaches that do not occur either on barrier islands fronting either the Gulf of Mexico or the Atlantic Ocean or on the mainland where there are no barrier islands. These types of beach areas correspond to locations like Bunche Beach where there is at least a several mile space between barrier islands and the beach occurs on the mainland shoreline.

The combination of an adjacent shallow littoral zone that is incredibly biologically productive, subtropical coastal berm vegetation adjacent to an extensive mangrove forest and heavy recreational use makes protection of the dunes, vegetation and ecological processes of this Preserve exceedingly important.

### c. Topography

The topography of SCBBBP is relatively flat and near sea level (Figure 3). The tidal swamp on both sides of John Morris Road varies between 1-2 feet in elevation. Towards the northwest end of the Preserve, in the coastal grassland community, the elevation varies from 1.5-3.8'. The highest points of the Preserve are John Morris Road at 5' and the coastal berm, varying between 4-7 feet, which stretches along portions of the coastline approximately 20-75' back from the high tide mark. All elevations are based on National Geodetic Vertical Datum (NGVD).

Figure 3: San Carlos Bay - Bunche Beach Preserve Topography Map



Map created on: 05/03/03, by: ALS

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#### d. Soils

The general soil type that encompasses this Preserve consists of Peckish mucky fine sand, which includes 10 to 15 percent of Hallandale, Boca, and Estero soils (Figure 4). This soil is found in tidal swamp areas, which are very poorly drained due to the smooth slope that ranges from 0 to 1 percent. "The natural vegetation that occurs in this soil type consists of black mangrove (*Avicennia germinans*), red mangrove (*Rhizophora mangle*), and saltwort (*Batis maritima*). This soil is not suitable for cultivation of crops, pasture grasses, citrus, or woodland". Urban and recreational uses are limited due to flooding, high water table, and sandy textures (USDA/SCS 1984).

The southwest section of the Preserve consists of Wulfert muck. This soil is nearly level and drains very poorly on broad tidal swamps. Smooth slopes range from 0 to 1 percent. "Natural vegetation consists of red mangrove, black mangrove, and needlegrass" (USDA/SCS 1984).

Just to the north of the Peckish mucky fine sand is the Estero muck. Also, this soil is nearly level, with poor drainage on broad tidal marshes with a 0 to 1 percent slope. "Natural vegetation consists of seashore saltgrass, batis, oxeye daisy, black mangrove, and scattered red mangrove" (USDA/SCS 1984).

The Boca fine sand-tidal is found just north of the Estero muck soil. Boca fine sand-tidal, is nearly level and poorly drained, saline soil that is sometimes tidally flooded. Slopes are concave and less than 1 percent. "Natural vegetation consists of buttonbush, sea daisy, seashore saltgrass, saltwort, scattered black and white mangrove, and cabbage palm" (USDA/SCS 1984).

Near the north boundary of the Preserve is Boca fine sand, which is nearly level with a smooth slope of 0 to 2 percent. "Natural vegetation consists of saw palmetto, pineland threeawn, South Florida slash pine, and wax myrtle" (USDA/SCS 1984).

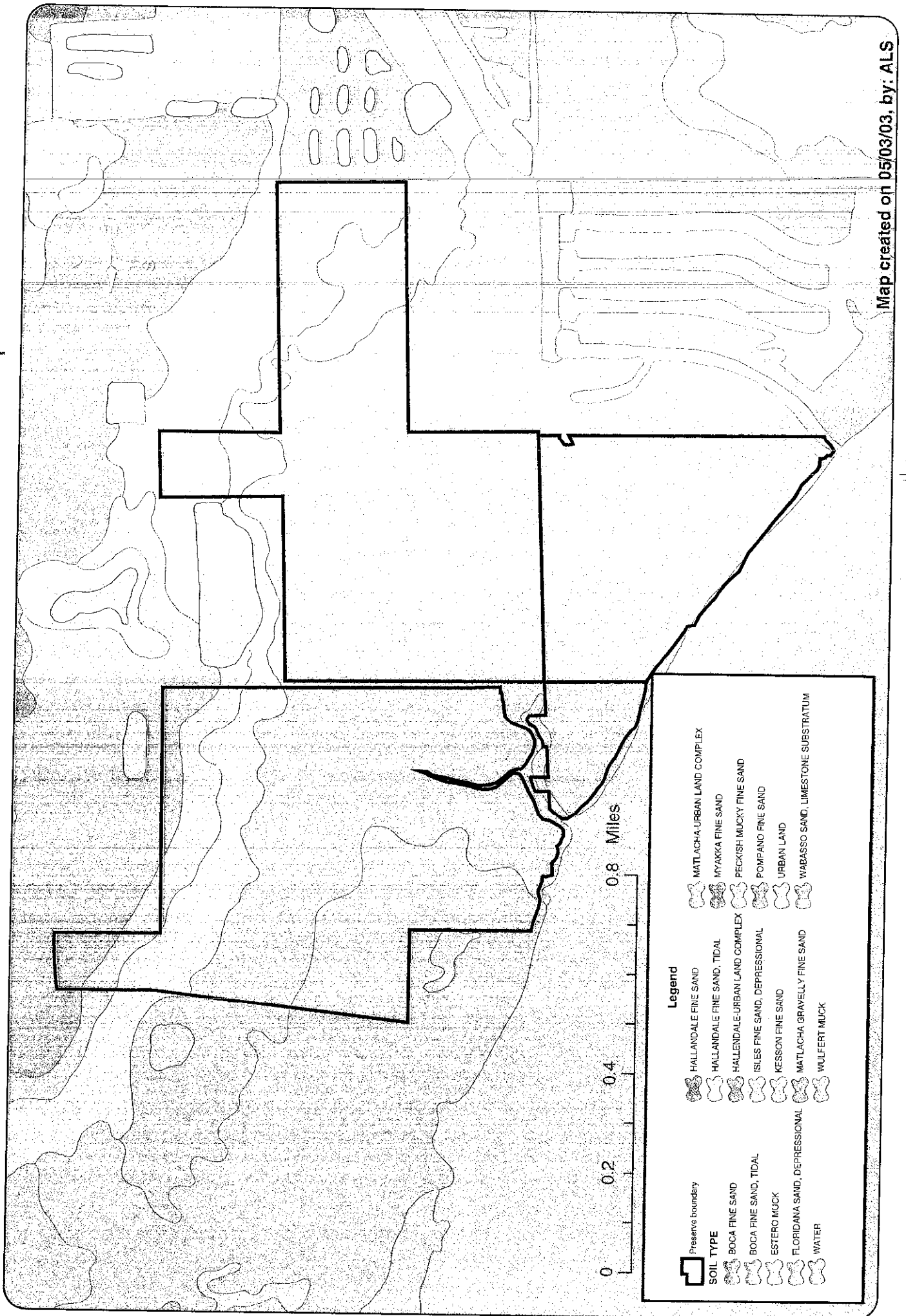
#### e. Hydrology and Watershed

San Carlos Bay – Bunche Beach Preserve is located along the north shoreline of San Carlos Bay at the north end of the Estero Bay estuary and watershed (Figure 5). Over three-quarters of the Preserve consist of a relatively unspoiled mangrove swamp, which is influenced by tidal and freshwater runoff. The tides bring relatively clean water to the mangroves, and in turn, flush out accumulations of hydrogen sulfide and salts. The mangrove swamp also filters nutrients such as phosphorus and nitrogen from terrestrial runoff, which help to buffer the estuary from water pollution.

There are three major tidal creeks that flow through the Preserve that are virtually pristine, as well as several smaller tributaries.

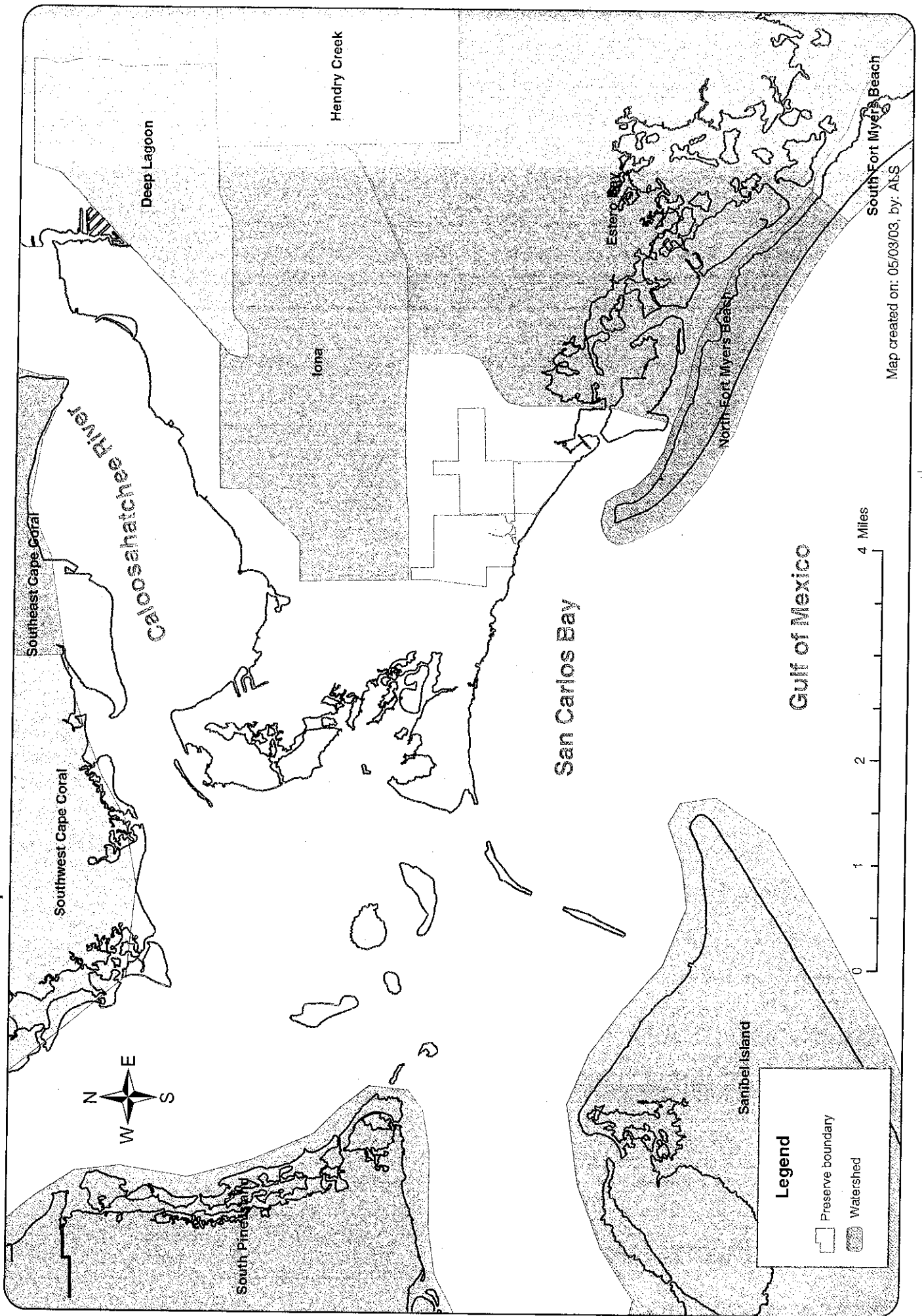
Extending out from the beach is a large, shallow area of mudflats, sandbars, shoals and seagrass beds that are highly productive for marine life, shorebirds and wading birds. San Carlos Bay has been altered by several human influences. The Caloosahatchee River, which drains into the bay, was originally a shallow, meandering stream. In 1884, the river was extended east and upstream to Lake Okeechobee by dredging. The river was then channelized in the 1930's to improve navigation and flood control. As a result, the natural pattern of freshwater flow into the estuary has been disrupted. During the rainy season, periodic mechanical releases of freshwater into the estuary exceed historical volume. Conversely, during the dry season, unnaturally low fresh water inflow can occur due to the high water demand for agricultural and urban uses. The Cape Coral-Ft. Myers metropolitan area is among the fastest growing area in the U.S. In the 1980's Lee County's Population increased by 63%, and it is projected to increase between 1990-2010 by another 90%, so the demand for freshwater from the Caloosahatchee will only increase. The South Florida Water Management District has developed an Estuary Research Plan that addresses the Caloosahatchee estuary freshwater inflow problem (South Florida Ecosystem Restoration Taskforce, 1996). Additionally, the sediment loads from the Caloosahatchee River are likely to have a strong impact on the water quality off the shores of Bunche Beach. Although water quality work is currently being conducted by Dr. Joe Boyer, Florida International University, no research of sediment studies has been conducted.

Figure 4: San Carlos Bay - Bunche Beach Preserve Soils Map



Map created on 05/03/03, by: ALS

Figure 5: Watershed Map





## B. Biological Resources

### a. Ecosystem Function

The beaches of Florida are important wintering grounds for shorebirds. Florida's most abundant wintering residents are sanderlings (*Calidris alba*), least sandpiper (*C. minutilla*), western sandpiper (*C. mauri*), dunlin (*C. alpina*), short-billed dowitcher (*Limnodromus griseus*), semipalmated plover (*Charadrius semipalmatus*), black-bellied plover (*Pluvialis squatarola*) ruddy turnstone (*Arenaria interpres*) and willet (*Catoptrophorus semipalmatus*), all of which are consistently present at SCBBBP (Myers & Ewel, 1990). The mud flats and sand bars exposed at low tide are an important feeding area, due to the high diversity of inhabiting macro invertebrates, and also serve as a loafing area for waterbirds.

In addition to being an important winter feeding ground, this Preserve is a major stop-over for shorebird species that continue their migration further north or south, depending on the season. Red knots (*Calidris canutus*) typically appear in groups of 300-500 individuals at one time and are seen for several days eating and resting before they move on. Shortly afterwards, another large group comes in for a break during their journey. Other species known to utilize the beach in this manner include black terns (*Chlidonias niger*) and common terns (*Sterna hirundo*) (Postmus, per.comm.).

Florida is also the main wintering ground of the piping plover (*Charadrius melodus*) a federally and state listed Threatened species (Rodgers et.al., 1996). The piping plover has been documented at SCBBBP since 1995 when the area was first monitored by local birdwatchers (McGrath, per. comm.). Since 2000, several banded piping plovers from New Brunswick, Canada have consistently been seen at this Preserve and a single piping plover banded in Nova Scotia was seen in the fall, not at all during the winter, and again in the spring. This indicated that this beach is a stop-over for some plovers that continue further south in the fall and north in the spring to their breeding grounds. There have been studies indicating that plovers have a relatively high site fidelity to wintering areas, which seems to be apparent from these observations (Hecht, 1996). The US Fish and Wildlife Service has designated Bunche Beach as a wintering critical habitat for the plover. The southeastern snowy plover (*Charadrius alexandrinus tenuirostris*), a State threatened species, has also been consistently seen at SCBBBP, but more recently snowy plovers hatching from Sanibel nests have been confirmed utilizing Bunche Beach, via the color identification bands on their legs (Postmus, per. comm.). This could indicate that even though Sanibel beaches offer good nesting sites, Bunche Beach is a vital feeding ground.

A mangrove swamp, such as that found at SCBBBP, is a significant plant community because it functions as a nursery ground for most of Florida's commercially and recreationally important fish and shellfish. Mangrove swamps also provide breeding grounds for substantial populations of wading birds, shorebirds and other animals (FNAI, 1990). Although nesting has not been confirmed, it is possible that mangrove cuckoos (*Coccyzus minor*), black-whiskered vireos (*Vireo altiloquus*) and gray kingbirds (*Tyrannus dominicensis*) may utilize the Preserve's vast mangrove swamp for nesting. These 3 species are dependent on mangroves and their numbers are jeopardized by the fragmentation of mangrove habitat. There are at least two butterfly species, the mangrove skipper (*Phocides pigmalion*) and the black mangrove buckeye (*Junonia evarete*), that depend on mangroves as a larval food source (Postmus, per.comm.). Additionally, mangroves can produce up to 80% of the total organic material available in the aquatic food web through the continuous shedding of its leaves and other plant components (FNAI, 1990).

The entire SCBBBP, with its extensive mangrove forest, serves to protect inland habitations from storms and storm surges coming in from the Gulf of Mexico, by taking the frontal attack from winds and providing natural land for water storage.

#### b. Natural Plant Communities

Situated at the edge of San Carlos Bay, SCBBBP is comprised of coastal upland and marine native plant communities. Figure 6 illustrates the location and acreage of each community within the Preserve. The main communities found at SCBBBP are defined using the Florida Natural Area's Guide to The Natural Communities of Florida (1990). Appendix B contains a complete list of plant species identified on numerous site inspections to SCBBBP. Appendices B & C document animal species occurring at SCBBBP.

#### **Coastal Grassland Community – 160 acres, 22% coverage of SCBBBP**

This community is found at the north end of the Preserve. Synonyms for coastal grassland are salt flat, saltern, and coastal savannah. At SCBBBP this community is characterized as a predominately treeless flat land with dense ground cover and open sandy areas of varying size. Buttonwood (*Conocarpus erectus*) and silver buttonwood (*C. erectus* var. *sericeus*) represent the trees occupying this harsh maritime community. A variety of halophytic grasses, sedges and other herbaceous or suffrutescent species also occur within this community.

Animals documented utilizing this community at SCBBBP include fiddler crabs (*Uca spp.*), shorebirds such as yellowlegs (*Tringa spp.*), plovers (*Charadrius spp.*, *Pluvialis spp.*), black-necked stilts (*Himantopus mexicanus*), and bobcats (*Lynx rufus*).

This community does occasionally receive tidal flushing at high tides and during storm events due to the low dune system at the shoreline and tidal creeks that flow throughout the Preserve.

The condition of this community is fair. Invasive exotic plants, such as Brazilian pepper (*Schinus terebinthifolius*), Australian pine (*Casuarina equisetifolia*) and melaleuca (*Melaleuca quinquenervia*) are scattered in portions of this community. When the Preserve was first purchased, there was considerable trash and vehicle rutting throughout this area. The amount of trash is reduced and vehicular access is greatly reduced.

#### **Tidal Swamp Community – 551 acres, 76% coverage of SCBBBP**

Tidal swamps are also known as mangrove swamps and at SCBBBP they begin at the southern edge of the coastal grassland and extend to the coastal berm areas or in some places to San Carlos Bay. Black mangrove (*Avicennia germinans*) is the predominate species of this community but red mangrove (*Rhizophora mangle*) and white mangrove (*Laguncularia racemosa*) also occur, especially near the shoreline.

A variety of animals utilize this community such as periwinkle snails, fish, especially at water's edge, snakes, waterbirds and raccoons.

This community is in very good condition. Invasive exotic plants are limited to the berms adjacent to a few mosquito ditches dug in the 1960's. Trash occasionally washes in with the tides and storms, but minimal dumping occurs.

#### **Coastal Berm Community – 10 acres, 2% coverage of SCBBBP**

This plant community at SCBBBP occurs along the shoreline of San Carlos Bay and originates mainly from storm deposited sand, shells and debris although some of it may be artificial. Xerophytic plants, such as sea grape (*Coccoloba uvifera*), strangler fig (*Ficus aurea*), gray nicker (*Caesalpinia bonduc*) and coinvine (*Dalbergia ecastaphyllum*) are established in this area. This community is often associated with and grades into tidal swamp, which occurs at the Preserve.

Migratory songbirds and hawks have been documented to use this habitat at SCBBBP. The higher elevation of this community compared to surrounding habitats makes it vulnerable to invasive exotic plants such as

Australian pines and Brazilian pepper. This community also contains the largest problems with trash and other debris that washes in and is left by visitors to the Preserve.

### **Seagrass Bed Community**

This community occurs beyond the Preserve boundaries along the edge of San Carlos Bay, in the subtidal zone where wave energy is moderate. Seagrasses are not true grasses and the three most common species in Florida are turtle grass (*Thalassia testudinum*), manatee grass (*Syringodium filiforme*) and shoal grass (*Halodule wrightii*) all of which are found at SCBBBP.

Seagrass leaf blades support epiphytic life forms such as algae and invertebrates, which serve as important food sources for manatees, marine turtles, and many fish, including spotted seatrout (*Cynoscion nebulosus*), spot (*Leiostomus xanthurus*), mullet (*Mugil cephalus*), sheepshead (*Archosargus probatocephalus*), and redfish (*Sciaenops ocellatus*). This community also serves as shelter or nursery grounds for many invertebrates and fish.

Turbidity in coastal waters affects the health of seagrass beds in limiting solar radiation reaching leaf blades for photosynthesis. Other potential human impacts to this community include dredging and filling, oil spills, unnaturally high temperatures such as power plant outfalls, and scarring from boat propellers. There is also evidence of mercury contamination in the area. Specifically, elevated mercury levels among local spotted seatrout have been observed (Bortone, per.comm). Recent samplings of other plants and animals in this community have not been conducted, but mercury contamination can affect the entire food web. Additionally, the water from the Caloosahatchee River flows directly into San Carlos Bay, right past Bunche Beach. The seagrasses are directly effected by the water quality, sediment loads and timing of releases of fresh water discussed in the Hydrology and Watershed section of this plan. The creation of SCBBBP and shallow waters beyond Preserve boundaries will ensure the protection, from many of the aforementioned elements, of the seagrass beds adjacent to the Preserve.

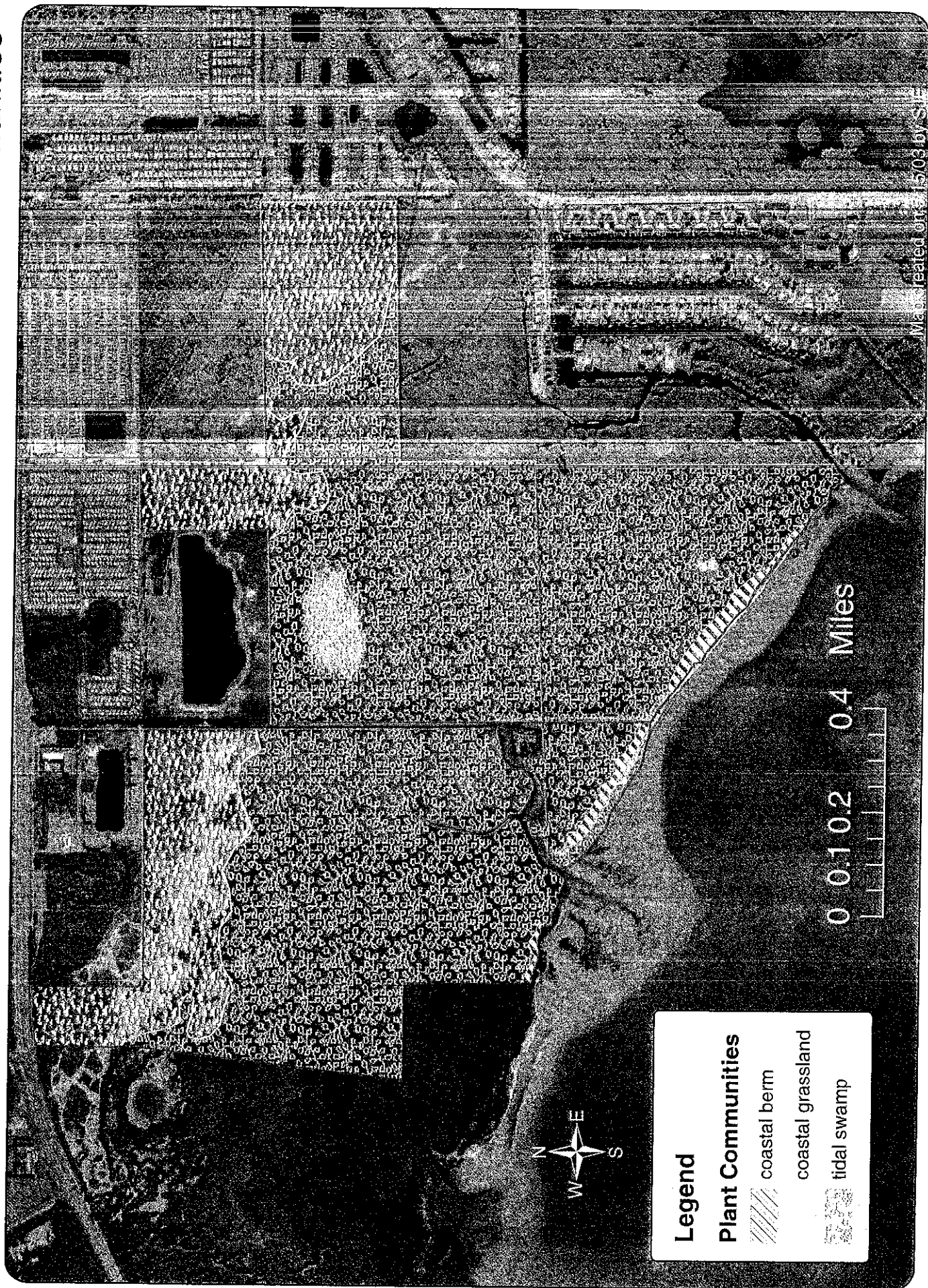
### **Unconsolidated Substrate Community**

This community, as with the seagrass beds, occurs beyond the official boundaries of SCBBBP. The Preserve's mile long shoreline provides protection to these two communities.

The most commonly used terms for this community is mud flat or tidal flat. Mud flats may support large populations of organisms such as tube worms,

sand dollars, mollusks, isopods, amphipods, burrowing shrimp, and a variety of crabs. These organisms are not readily visible in mud flats but their densities can reach the tens of thousands per meter square, making this community important feeding grounds for many bottom feeding fish, such as redfish, flounder (*Paralichthys ssp.*), spot and sheepshead. The intertidal and supratidal zones are extremely important feeding grounds for many shorebirds, which has been documented at SCBBBP through regular monitoring since 1998.

Figure 6: San Carlos Bay - Bunche Beach Preserve Native Plant Communities



### c. Wildlife Species

Submerged seagrass beds occur at SCBBBP just beyond the beach. During the warmer months of the year the endangered West Indian manatee (*Trichechus manatus*) frequents the gulf waters and use seagrass beds as its main food source. Small invertebrates that attract many shorebirds and wading birds inhabit the mud flats. Sea turtles are a marine reptile that spend most of their life at sea but depend on beaches for nesting. Although the habitat is not ideal, loggerhead sea turtles (*Caretta caretta*) have been known to occasionally nest at SCBBBP (Haverfield pers. comm.). Beaches in this area are also important nesting sites for several shorebirds. Appendix C lists all bird species that have been recorded at SCBBBP. This list was compiled with data gathered by staff and experienced volunteer bird watchers from the area over an 8-year period. Appendix D lists wildlife, other than birds, documented at the Preserve.

The beach area at the Preserve transitions into the coastal berm. Typical animals include six-lined racerunners (*Cnemidophorus sexlineatus sexlineatus*), ghost crabs (*Ocyopode quadrata*), kestrels (*Falco sparverius*), red-winged blackbirds (*Agelaius phoeniceus*), beach mice (*Peromyscus polionotus*), and raccoons (*Procyon lotor*). House cats (*Felis domesticus*) in the area are major predators of native rodents (Myers & Ewel, 1990). Raccoons are also a problem because they will eat shorebird eggs as well as sea turtle eggs.

The tidal swamp continues north through most of the Preserve. Tidal swamps consist mainly of red, white, and black mangrove, and buttonwood. They are vital wildlife habitat to many animals, such as turtles, frogs, snakes, lizards, raccoons, river otters, many birds, and fish. Many fish take advantage of the protection that the mangroves provide for their nurseries. Wading birds such as wood storks (*Mycteria americana*), white ibis (*Eudocimus albus*), and roseate spoonbills (*Ajaia ajaja*), use large mangroves as nesting and roosting sites.

Towards the north end of the Preserve the tidal swamp thins and transitions into the coastal grassland. A few animals have adapted to this unstable area that often fluctuates between dry periods and inundation, but most are just transients that visit the area. Many wading birds utilize the openness of the saltern to forage and roost. "Those few species that have adapted to these difficult conditions are often abundant: thus, animal production is high in salt marshes, but diversity is low" (Myers & Ewel, 1990). Some examples of these animals are fiddler crabs, mud crabs, killifish, and diamondback terrapins (*Malaclemys terrapin macrospilota*).

The Northwest corner of the site is a disturbed upland spoil consisting of mainly Australian pine, Brazilian pepper and melaleuca. This area provides diminished habitat value for native wildlife and thus exhibits low biodiversity.

#### d. Designated Species

SCBBBBP provides habitat for a variety of listed animal species (Table 1). The majority of the Preserve has been identified by the Florida Fish and Wildlife Conservation Commission as a Strategic Habitat Conservation Area. Although all native plants and animals on the Preserve are protected, some species need additional attention. For stewardship purposes, all plants and animals listed by the U.S. Fish and Wildlife Service (USFWS), Florida Fish and Wildlife Conservation Commission (FWC), Florida Department of Agriculture and Consumer Services (FDA) and/or Florida Natural Areas Inventory (FNAI) will be given special consideration.

Typically, the designated species will benefit from proper management of the biological communities in which they occur. However, some species may require additional measures to ensure their protection. Daily management practices at the Preserve will include trash removal, wildlife and feral animal monitoring and public educational programs. Enforcement of the no littering, no dogs and no motorized vehicle regulations will all help with the protection of listed species. The public use facilities will include wildlife-proof trash bins, sea turtle friendly lighting (if any lighting is used) and educational kiosks and smaller signs. In areas where extensive exotic plants are removed, the area will be replanted with native plants. Finally, if necessary, more intense management activities will be conducted such as feral animal removal, flagging off nesting areas and caging turtle nests. Table 1 documents listed species known to utilize the Preserve and is followed with brief summaries of each species, why they are in decline and the specific management measures at the Preserve that will be taken to protect them.



Table 1

Listed Species Found at SCBBBP and their designated status.

Scientific Name	Common name	USFWS	FWC	FNAI	Occurrence
<b>FISH</b>					
<i>Acipenser Oxyrinchus desotoi</i>	gulf sturgeon	T	SSC	G3T2/S2	expected
<b>REPTILES</b>					
<i>Crocodylus acutus</i>	American crocodile	E	E	G2/S1	expected
<i>Caretta caretta</i>	loggerhead	T	T	G3/S3	confirmed
<i>Chelonia mydas</i>	green turtle	E	E	G3/S2	unlikely
<i>Eretmochelys imbricata</i>	hawksbill turtle	E	E	G3/S1	unlikely
<i>Lepidochelys kempii</i>	Kemp's ridley	E	E	G1/S1	unlikely
<i>Demochelys coriacea</i>	leatherback	E	E	G3/S2	unlikely
<i>Malaclemys terrapin macrospilota</i>	ornate diamondback terrapin			G4/S4	confirmed
<i>Drymarchon corais couperi</i>	eastern indigo snake	T	T	G4T3/S3	expected
<b>BIRDS</b>					
<i>Pelecanus occidentalis</i>	brown pelican		SSC	G4/S3	confirmed
<i>Egretta thula</i>	snowy egret		SSC	G5/S3	confirmed
<i>Egretta caerulea</i>	little blue heron		SSC	G5/S4	confirmed
<i>Egretta tricolor</i>	tricolored heron		SSC	G5/S4	confirmed
<i>Egretta rufescens</i>	reddish egret		SSC	G5/S2	confirmed
<i>Eudocimus albus</i>	white ibis		SSC	G5/S4	confirmed
<i>Ajaia ajaja</i>	roseate spoonbill		SSC	G5/S2	confirmed
<i>Mycteria americana</i>	wood stork	E	E	G4/S2	confirmed
<i>Haliaeetus leucocephalus</i>	bald eagle	T	T	G4/S3	confirmed
<i>Charadrius melodus</i>	piping plover	T	T	G3/S2	confirmed
<i>Charadrius alexandrinus</i>	snowy plover		T	G4/S1	confirmed
<i>Charadrius wilsonia</i>	Wilson's plover			G5/S2	confirmed
<i>Haematopus palliatus</i>	American oystercatcher		SSC	G5/S2	confirmed
<i>Sterna maxima</i>	royal tern			G5/S3	confirmed
<i>Sterna sandvicensis</i>	sandwich tern			G5/S2	confirmed
<i>Sterna antillarum</i>	least tern		T	G4/S3	confirmed
<i>Rynchops niger</i>	black skimmer		SSC	G5/S3	confirmed
<i>Coccyzus minor</i>	mangrove cuckoo			G5/S3	confirmed
<b>MAMMALS</b>					
<i>Trichechus manatus</i>	West Indian manatee	E	E	G2/S2	confirmed
<b>PLANTS</b>					
			FDA	FWS	
<i>Acrostichum aureum</i>	golden leather fern	T	E	G5/S3	confirmed
USFWS = U.S. Fish & Wildlife Service FWC = Florida Fish and Wildlife Conservation Commission FDA = Florida Department of Agriculture & Consumer Services  E = Endangered T = Threatened SSC = Species of Special Concern		FNAI = Florida Natural Areas Inventory  G = Global rarity of the species S = State rarity of the species T = Subspecies or special population  1 = Critically imperiled 2 = imperiled 3 = rare, restricted or otherwise vulnerable to extinction 4 = apparently secure 5 = demonstrably secure			

The following are brief descriptions of the species listed in Table 1, as well as management recommendations for SCBBBP in regards to the life history needs of each species.

### **Gulf Sturgeon**

The gulf sturgeon ( *Acipenser oxyrinchus desotoi* ) is the only sturgeon species found in Florida's gulf coastal waters or drainages. Adults and subadults spend the coldest 3-4 months in the Gulf of Mexico and the rest of the year in major panhandle rivers. They are in decline due to the damming of many of north Florida's rivers that drain into the Gulf (Hipes et.al. 2000).

Since management concerns focus on their spawning range, little can be done at SCBBBP to protect them.

### **American Crocodile**

The American crocodile ( *Crocodylus acutus* ) is occasionally sighted in Lee County. South Florida is the northernmost edge of the crocodile's range and they were probably never very numerous in the state. However, its range has shrunk considerably due to the increase in human population. The number one cause of mortality for this species in the United States is U.S. Highway 1 in the Florida Keys (Moler 1992).

Since the majority of American crocodiles are typically just "traveling through" Lee County, little can be done at SCBBBP to protect them.

### **Loggerhead**

Loggerhead sea turtles ( *Caretta caretta* ) face many challenges in Florida including coastal development, boat propellers, hatchling disorientation due to bright lights, human consumption of turtles and their eggs, pollution, shrimp trawls, long-line and gill-net fisheries, fire ants, nest depredation due to exploding raccoon populations and beach erosion.

Loggerheads are known to nest in small numbers at SCBBBP. According to Eve Haverfield of Turtle Time Inc., a non-profit organization that monitors sea turtle nesting throughout the county, the Preserve historically has had problems with raccoon predation on nests. During sea turtle nesting season (May through early September) staff will walk the beach each morning to survey any nesting activity and remove any trash that may interfere with either the adult or hatchling turtles. Nests will be marked and GPS coordinates taken. If human encroachment upon the nests becomes an issue, staff will use stakes and flagging or rope to prevent the public from disturbing the nest. If raccoons are depredating the majority of eggs staff will look into caging the nests. If this is not sufficient, staff will look into live trapping raccoons on the beach. Any trash receptacles placed at the

Preserve will be the type with heavy closing lids that raccoons cannot open. In addition to protecting the nests, it is likely that any lighting on the beach could affect adult and hatchling sea turtles on SCBBBP, Bowditch Point and Sanibel Island. Therefore, any lights installed at the Preserve will be low-pressure sodium lights mounted on low posts and shielded.

### **Green, Hawksbill, Kemp's Ridley and Leatherback Turtles**

All 4 of these endangered sea turtle species are known to occur in the Gulf of Mexico. They face the same dangers as the loggerhead discussed in detail above.

None of these species have ever been recorded nesting on SCBBBP. However, both green and Kemp's ridley turtles have nested in Lee County. The management recommendations for the loggerhead will also benefit the other species of sea turtles.

### **Ornate Diamondback Terrapin**

The ornate diamondback terrapin ( *Malaclemys terrapin macrospilota* ) is not a listed species in Florida, but is still protected by FWC with possession and trade limitations. The biggest threats to terrapin populations are habitat degradation and incidental drowning in crab traps (Hipes et.al. 2000). Very little is known about terrapins in the state and according to FNAI, "statewide population surveys and monitoring are sorely needed".

Terrapins have been seen in the creeks of SCBBBP and may also utilize it as a nesting site. Staff will monitor the creeks for any signs of terrapins utilizing the Preserve and surrounding waters. During the nesting season, April through June, staff will walk the beach each morning to survey any nesting activity and remove trash. Nests will be marked and GPS coordinates taken. If there appears to be excessive predation by raccoons, measures similar to those listed for the loggerhead turtle, will be taken to reduce the problem. All information gathered by staff will be shared with interested FWC officials or other researchers working on the species (currently Dr. Joe Butler, University of North Florida).

### **Eastern Indigo Snake**

The eastern indigo ( *Drymarchon corais couperi* ) is rare throughout its range due to habitat loss, degradation and fragmentation. Although now illegal, the pet trade is another cause for decline of this species. The most common causes of mortality are human caused, either by people afraid of snakes or accidental highway mortality.

The size of SCBBBP and habitats present are unlikely to support a viable population of eastern indigo snakes. However, hydric habitats, including mangrove swamps, are critical foraging areas for the species. With the much larger Estero Bay State Buffer Preserve approximately ¼ mile away, it might be possible to have an occasional sighting at this Preserve. Proper management of SCBBBP can benefit this species.

### **Brown Pelican**

Population estimates for the brown pelican (*Pelecanus occidentalis*) have fluctuated tremendously between the 1970's through the mid 90's. While the number of breeding birds increased in the northern part of the state between 1977-1989 the population decreased from Tampa Bay to the Florida Keys. Food shortages, human disturbance, increased turbidity from dredging and pollution (especially entanglement in fishing gear) are all factors that have led to their decline (Hipes et. al. 2000).

Daily trash pickup by county staff, along with providing trashcans for visitors should limit potential hazards. Trash cans and recycling bins provided for visitors will be securely covered with a push-door lid to help prevent attracting raccoons, rats, crows and other animals that could be detrimental to wildlife utilizing the Preserve. As an additional protection, the cans will be emptied daily. Visitors that are fishing will also be able to use the trashcans, as well as monofilament recycling bins. There will be designated volunteer beach clean up days that will concentrate on monofilament and other debris that could endanger birds and other wildlife. Staff will encourage visitors that are fishing to pick up after themselves and educational signs will be posted to remind visitors that may not encounter an employee. To minimize human disturbance, staff should be on site at the SCBBBP during peak visitation hours when they can talk to visitors and ensure they are following the "no dogs" policy, as well as staying far enough from the birds to avoid disturbing them.

### **Snowy Egret**

The snowy egret (*Egretta thula*) is declining throughout its range, and has been since the 1950's. Scientists believe that the main reason for this decline is the loss and alteration of wetlands where they forage. Their breeding colonies are also vulnerable to human disturbance (Hipes et. al 2000).

The measures mentioned above in the "brown pelican" section will also benefit this species. The closest rookery to SCBBBP is approximately .6 miles south of the southeastern tip of the Preserve; so with the exception of providing educational programs about the importance of not approaching

active rookeries, protecting them from disturbance is beyond the scope of this plan.

### **Little Blue Heron**

Like the snowy egret, the little blue heron's (*Egretta caerulea*) decline is due to loss of freshwater wetlands and alteration of their natural hydroperiod. There is also some indication that pesticides and heavy metal contamination may affect this heron (Hipes et. al. 2000).

Daily beach cleaning and encouraging visitors to enjoy the birds from a distance will be the focus for management of this species.

### **Tricolored Heron**

Tricolored herons (*Egretta tricolor*) are also declining throughout Florida, due to the loss of freshwater wetlands and alteration of their natural hydroperiod (Hipes et. al 2000).

Once again, management strategies mentioned above will also benefit this species.

### **Reddish Egret**

Reddish egrets (*Egretta rufescens*) are the rarest species of heron in Florida (Hipes et. al 2000). Unlike other species, they are restricted to coastal habitats. This makes them quite vulnerable to coastal development and increased human disturbances, while both foraging and nesting.

Like the other species of wadingbirds, trash removal, maintaining the "no dogs" policy and encouraging visitors to enjoy the birds from a distance will all be beneficial to reddish egrets.

### **White Ibis**

Similar to the herons listed above, the white ibis (*Eudocimus albus*) is declining throughout its range, probably due to the reduction and degradation of wetlands as well as human disturbances of their rookeries (Hipes et. al 2000).

Management recommendations at SCBBBP will be the same as for the other wading birds listed above.

### **Roseate Spoonbill**

Roseate spoonbills (*Ajaia ajaja*) are declining for the same reasons as the other wading birds listed above (Hipes et. al 2000).

Management recommendations at SCBBBP listed for the other wading birds will benefit this species as well.

### **Wood Stork**

Wood storks (*Mycteria americana*) are very sensitive to water levels in freshwater wetlands, as they require high concentrations of fish in fairly shallow water for foraging. Unnaturally high water levels and extended droughts are both threats that wood storks face (Hipes et. al. 2000).

Management recommendations at SCBBBP will be the same as for other wading birds listed above.

### **Bald Eagle**

Bald eagle (*Haliaeetus leucocephalus*) numbers have steadily increased in Florida after a low of 120 active nests in 1973 (Hipes et.al. 2000). Still, loss of habitat and human disturbance due to development is a primary concern for this species.

Although SCBBBP is not utilized as a nesting site, keeping the area free of debris, especially monofilament line, will benefit the species.

### **Piping Plover**

The piping plover (*Charadrius melodus*) is federally threatened due to loss and degradation of habitat, shoreline erosion, human disturbance and predators including domestic animals (Hipes et. al 2000). Additionally SCBBBP has been designated as a critical habitat for this species (Appendix E) by the U.S. Fish & Wildlife Service. Critical habitats are defined as specific geographic areas that are essential for the conservation of a threatened or endangered species and that may require special management and protection. Piping plovers prefer sandflats adjacent to inlets or passes, sandy mudflats along prograding spits and overwash areas as foraging habitats (Hecht, 1996), which is what occurs at this Preserve. As a winter visitor to Florida, the primary concern is increased harassment by both people and pets while foraging (Hipes et. al. 2000). The U.S. Fish & Wildlife Service has discovered that the wintering sites in Florida currently face the greatest threats from human disturbance. Other concerns include inlet and shoreline stabilization, dredging of inlets, beach maintenance and renourishment and pollution (Hecht, 1996).

Managing the property in the best interest of this species is critical due to the USFWS designation. Since these birds "spend 55-80% of their lives in wintering areas, factors that affect their well-being on the wintering grounds can substantially affect their survival and recovery" (Hecht, 1996). County staff must work to educate visitors to SCBBBP about the importance of enjoying shorebirds, in general, from a safe distance as well as picking up their trash since garbage on the beach attracts predators which may also prey on plovers and other wildlife. Having staff on site during peak visiting times to talk to visitors who may be unintentionally disturbing these birds is important. An educational kiosk at the entrance to the beach will also help to educate visitors when staff is not present. Currently, staff has only occasionally observed feral animals, such as house cats, at the Preserve. To reduce the predator threats to piping plovers, as well as other wildlife species, staff will monitor for feral animals and live trap when necessary. This feral animal monitoring and removal program will be an ongoing responsibility for staff managing the property.

### **Snowy Plover**

Like the piping plover, snowy plovers (*Charadrius alexandrinus tenuirostris*) are declining due to loss of habitat and increased harassment by humans and pets (Hipes et. al 2000). This species does nest in Florida, including beaches on Sanibel, Little Estero and Marco Island, in fact Sanibel has the largest population of nesting snowy plovers south of the Florida panhandle. There are no reports of plovers nesting at SCBBBP, probably because the beaches of this Preserve are quite narrow at high tide, which makes them not conducive to ground nesting. However, both staff and Bird Patrol volunteers will monitor the beach for potential nesting activity and nesting areas will be posted if necessary.

Management suggestions for the piping plover will also benefit the snowy plover.

### **Wilson's Plover**

The Wilson's plover (*Charadrius wilsonia*) is also declining due to loss of habitat and human/pet disturbances (Hipes et. al 2000). This species has been found nesting in the coastal grassland area of SCBBBP.

Management suggestions for the other species of plovers will also benefit the Wilson's plover. Both staff and Bird Patrol volunteers will monitor the coastal grasslands and beach for potential nesting activity and nesting areas will be posted if necessary. During nesting season the coastal grassland area will not be open to the public and any staff project will be postponed until after the chicks have fledged.

## **American Oystercatcher**

American oystercatchers (*Haematopus palliatus*) also are declining due to loss of habitat and harassment from people and domestic animals (Hipes et. al 2000). They are known to nest on spoil islands owned by the U.S. Fish and Wildlife Service approximately 1 ½ miles northwest of the Preserve.

Management suggestions for plovers would also benefit this species.

## **Royal Tern**

Royal terns' (*Sterna maxima*) biggest conservation challenges concern their nesting colonies, where the high concentration of these birds makes them vulnerable to single disasters. Habitat destruction, human disturbance, pollution and predators also affect them (Hipes et. al 2000).

Royal terns are not known to nest in Lee County. Additionally, SCBBBP does not have suitable habitat as this species prefers to nest "in dry sand, well above high-tide levels, usually on small islands" (Hipes et. al. 2000). Management strategies for this species will include the same methods listed for the above referenced shorebird species.

## **Sandwich Tern**

Sandwich terns (*Sterna sandvicensis*) are known to nest in only 4-5 sites in Florida, none of which are in Lee County (Hipes et. al. 2000). They face the same survival challenges as the royal tern.

Management techniques for sandwich terns will be the same as for the above referenced shorebird species.

## **Least Tern**

Although still listed as "Threatened" by the state of Florida, the least tern (*Sterna antillarum*) appears to be increasing in numbers since the 1970's. The same factors that affect the other terns listed above also affect least terns. This species is known to regularly nest on natural sandy beaches as well as gravel rooftops throughout Florida including Lee County (Hipes et. al 2000).

Management techniques mentioned for shorebirds listed above will also benefit the least tern. The beaches of this Preserve are quite narrow at high tide, which makes them not conducive to ground nesting. However, in the coastal grassland areas of this Preserve, least terns have been observed nesting. Both staff and Bird Patrol volunteers will monitor the coastal



grasslands and beach for potential nesting activity and nesting areas will be posted if necessary. During nesting season the coastal grassland area will not be open to the public and any staff project will be postponed until after the chicks have fledged. Additionally, facilities built for the public at this Preserve should be constructed with gravel rooftops if feasible that may encourage terns to nest at SCBBBP. Also, when staff is notified of development plans on nearby properties, they will contact the developers to encourage them to also utilize flat gravel rooftops.

### **Black Skimmer**

Black skimmers (*Rynchops niger*) are in decline due to loss of habitat, human disturbance, predators (both wild and domestic) and flooding of their nesting areas (Hipes et. al. 2000).

The same management recommendations for the above referenced shorebirds found at SCBBBP will be beneficial for black skimmers.

### **Mangrove Cuckoo**

The mangrove cuckoo (*Coccyzus minor*) has only occasionally been seen at SCBBBP, but its secretive nature and the dense mangrove forest of SCBBBP make it likely to be overlooked. These birds are found in Lee County throughout the year, with their numbers increasing during the summer breeding season. Although little is known about the life history of this species, it is known that un-fragmented mangrove forests are essential for their survival (Hipes et. al 2000).

Proper management of SCBBBP will benefit this species.

### **West Indian Manatee**

The manatee (*Trichechus manatus*) has occasionally been documented by Parks & Recreation staff swimming off the shores of SCBBBP, but they certainly utilize San Carlos Bay. Increased boat traffic in the area is the main cause of concern for this species. So much so that the scars on their bodies often identify individuals who were hit by boats.

Since the water at SCBBBP is relatively shallow, it would be rare to have conflicts with boaters and manatees. The seagrass beds that lie off the coast of this Preserve do provide food for manatees. Staff is pursuing the possibility of designating the waters adjacent to the Preserve as a swimming area or idle/slow speed zone for all watercraft, for public safety reasons. If this is feasible, it will also benefit manatees swimming near the Preserve.

## Golden Leather Fern

Golden leather fern (*Acrostichum danaeifolium*) is found in mangrove swamps, saltwater and brackish marshes and coastal hammocks. Its range is restricted to the southern coastal regions of Florida. It has been documented in several portions of SCBBBP.

There appears to be a healthy population of this fern in the Preserve. During exotic plant removal or construction of any public use areas, staff will survey the area before work commences to look for and mark, if necessary, areas to avoid.

### e. Biological Diversity

Biodiversity at San Carlos Bay - Bunche Beach Preserve is quite high due to the variety of habitats. Many species of birds, reptiles, invertebrates, fish, and mammals inhabit this Preserve. At low tide the wading and shorebirds take advantage of the mud flats that are teeming with food. The mangroves provide roosting and nesting areas for birds. Also many species of fish frequent the protective mangroves to raise their young. The integrity and diversity of the SCBBBP and its associated waters must be protected when and where possible. Management staff will perform the following actions in this regard.

- Control of invasive exotic vegetation and annual follow-up maintenance will provide more suitable habitat for native aquatic and terrestrial species.
- Removal of any debris and prevention of future dumping on site will help improve and protect water quality.
- Removal of hazardous debris such as monofilament line and other potential entrapment debris will also contribute to the quality of surrounding waters and help to protect the species that utilize them.
- On-going species surveys conducted by volunteers and staff will help catalogue and monitor the diversity that is present.
- Provide educational opportunities for visitors through both interpretive signs and program.

## C. Cultural Resources

### a. Archaeology

In 1987, Piper Archaeological Research, Inc. conducted an archaeological site inventory of Lee County. They were able to identify 53 sites increasing the total number of known archaeological sites in Lee County to 204. They also created a site predictive model and archaeological sensitivity map for the county that highlighted potential areas likely to contain additional archaeological sites. SCBBBP, along with all coastline areas, lie in the study's "Sensitivity Level 2" area. The study defines this level as "areas that

contain known archaeological sites that have not been assessed for significance and/or conform to the site predictive model in such a way that there is a high likelihood that unrecorded sites of potential significance are present. If these areas are to be impacted, then they should be subjected to a cultural resource assessment survey by a qualified professional archaeologist in order to 1) determine the presence of any archaeological sites in the impact area and/or 2) assess the significance of these sites." (Austin 1987). Obviously a mangrove swamp would not be very conducive for habitation, but due to the rise in sea level over the past 10,000 years there may have been higher areas in the past utilized by humans.

Before any facilities or boardwalks are constructed on this Preserve, a professional archaeologist will be hired to conduct a survey of the areas to be impacted. If evidence of shell middens or other artifacts are found in the area, the Division of Historical Resources will be immediately contacted and protection procedures will comply with the provision of Chapter 267, Florida Statutes, Sections 267.061 2(a) and (b). Collection of artifacts and/or any disturbance of the archaeological site will be prohibited unless prior authorization has been obtained from the Department of State, Division of Historical Resources. Also, the site will be managed in coordination with recommendations of the Division of Historical Resources and, if necessary, the site will be kept confidential with periodic monitoring for impacts. If any significant archaeological resources are found and confidentially is not found to be necessary, they will be incorporated into the public educational program.

#### b. Land Use History

SCBBBP and the surrounding area has changed drastically since aerial photos were taken in 1944, 1953 and 1958 (Figures 7, 8 and 9). The aerials show the change in development and addition of roadways. According to historical aerials taken between the years of 1958 and 1966, Mosquito Control dug mosquito control ditches in the southwest area of the Preserve. These ditches were used frequently in Florida to drain wetlands and reduce mosquito breeding habitat. However, spoil piles were left and are now infested with Brazilian pepper that will be treated in place (see Management Action Plan for details on the control of invasive exotic vegetation).

Historically, Bunche Beach was designated as the African American beach in Lee County. In 1949, there was a dedication ceremony, barbecue, and festivities with over 3,000 in attendance from as far away as Tampa, Fl. It was officially dedicated and named Bunche Beach after Dr. Ralph Johnson Bunche, a famous Michigan-born black American who won the Nobel Peace Prize in 1950 while working for United Nations as a mediator in the Middle East. Lee County purchased the ½ acre, Bunche Beach Park, in January of 1950.

The Beach remained unchanged until 1974 when the county, under request from its citizens, built a restroom facility. Shortly after completion it was vandalized, repairs were made and the cycle continued several times until the county finally gave up and abandoned it. The restroom facility stood in a state of disrepair until it became hazardous, which led to it being condemned and demolished in 1987.

In the 1990's, Robert B. Troutman cleared a significant number of mangroves on the west side of John Morris Road. When the Florida Department of Environmental Protection discovered this, they halted the clearing and a conservation easement was established (for more details please refer to the Other Legal Constraints portion of this plan).

In August 2001 the Conservation 20/20 program acquired almost 704 acres of adjacent land and the renamed the Preserve San Carlos Bay-Bunche Beach Preserve. The Preserve is available for resource-based recreational uses only according to the Conservation Lands Program Ordinance 96-12.

The beach had remained relatively unchanged throughout this period until tropical storm Gabrielle hit in September 2001. After the storm, the majority of the invasive exotic vegetation along the coast of the Preserve was removed due to the many downed Australian pines.

Lands adjacent to the Preserve have succumbed to development pressures over the years. Directly east of the Preserve, a mobile home park was built in 1977. North of the Preserve, another mobile home park was built in 1981. Excavation of fill from borrow pits, located north of the Preserve, began in 1980 for the construction of Summerlin Rd., which began in 1981. The borrow pits are now used as lakes and retention areas in the Sanibel View and Mastique developments. In 2003 the Publix Shopping Center was opened, which includes a conservation easement, consisting of approximately 11 acres, adjacent to the northwest boundary of the Preserve.

Figure 7 – San Carlos Bay Bunche Beach Preserve Historical Aerial 1944



Figure 8 – San Carlos Bay Bunche Beach Preserve Historical Aerial 1953





Figure 9 – San Carlos Bay Bunche Beach Preserve Historical Aerial 1958



### c. Public Interest

Historically, the public has always been very interested in SCBBBP. The Preserve was purchased in 2001, however correspondence on the site indicates strong interest in the land being acquired for conservation for 4 years prior to the actual purchase. Letters were received from the City of Sanibel, Estero Bay Aquatic & State Buffer Preserves, J.N. "Ding" Darling National Wildlife Refuge and the Town of Ft. Myers Beach. Additionally, the Preserve is located within the boundaries of the Estero Bay Buffer Florida Forever Project.

The Preserve has always been a popular spot for fishing and other forms of recreation. In the past, SCBBBP was a popular beach for residents to bring their dogs. The Save Our Off-Leash Dog Area (SOODA) group would like a portion of the Preserve for off-leash dogs, however, two current Lee County ordinances prohibit dogs on county property with the exception of Dog Beach at New Pass and Barkingham at Buckingham Park. Lee County Parks and Recreation Ordinance 02-12 does not allow dogs on any park or preserve and the Conservation Lands Program Ordinance only allows passive recreation which is compatible with protecting the animals and native plant communities found at all preserves. Both the federally Threatened piping plover and the state Threatened snowy plover utilize this beach for feeding. Some of the banded birds regularly utilizing the Preserve hatched from nests on Sanibel Island, indicating that SCBBBP is possibly an important feeding area even though it does not provide nesting habitat. Lee County's Environmental Education program continues to use the site for elementary school field trips to explore marine life, as do Florida Gulf Coast University and Edison Community College students. The Preserve is also an essential site for visits by participants in both the Audubon Society's Christmas Bird Count and the Bird-A-Thon since the exposed mud flats and sand bars are often utilized by hundreds, even thousands, of waterbirds during low tide. See Appendix C for an extensive list of birds documented utilizing the Preserve.

County staff maintains a mailing list of private citizens that have requested to be notified of meetings concerning the property and an opportunity to review land stewardship plans.

## IV. Factors Influencing Management

### A. Natural Trends and Disturbances

Natural trends influencing stewardship include hurricanes, tidal flooding, the pattern of wet and dry seasons, bird migration and nesting, and the nesting patterns of sea turtles and diamondback terrapins. Construction of facilities will need to take into consideration the possibility of a tropical storm and



flooding. A significant storm could also damage the vegetation and/or wash out portions of the beach. It may be necessary to bring heavy equipment to remove vegetation after a storm. The plants in the coastal berm community are extremely sensitive to human impacts. An established footpath can damage the vegetation, which will allow the wind and water to begin eroding a larger gap. This gap can slowly creep inland, continuing to damage the plants and the plant communities become further disturbed. To reduce this problem, any trails created will consist of boardwalks and educational signs will be posted explaining the importance of not walking through the vegetation. The coastal grassland community depends on occasional saltwater flooding to keep it from transforming into a coastal strand or flatwoods community. The pattern of wet and dry seasons will be most influential with considering exotic plant removal to ensure that herbicide is not washed off during a typical summer thunderstorm. Also, herbicides used will need to take into consideration tidal flooding and submerged vegetation. Bird nesting and migration will need to be considered when work is conducted near the coast so to minimize disturbance to the foraging birds resting and feeding. As mentioned in the Designated Species section, the coastal grassland areas will be closed during the early summer nesting season. A final possible consideration would be if either diamondback terrapins or sea turtles were nesting at the Preserve. Construction or extensive stewardship activities may be delayed until the end of nesting season if it appears that such activities will disturb their normal behaviors. When any public use facilities are constructed, there will be some disturbance to the habitat. Necessary precautions will be taken to minimize damage to the environment, particularly when using heavy equipment.

## B. Internal Influences

There are a variety of human influences that impact SCBBBP from within. Ditches have been dug for both mosquito control and drainage. In the past visitors became accustomed to a lack of enforcement of county regulations such as no littering, motorized vehicles, nudity, pets and digging above the mean high tide. Additionally, lack of restrooms and trashcans for visitors has made it difficult for them to keep the beach areas clean. The following section will help to explain these issues further and specify stewardship measures to reduce or eliminate these problems.

Several mosquito ditches are located in the southeast portion of the Preserve. The associated berms and mounds have Brazilian pepper on them that will need to be treated in place. There are also a variety of invasive exotic plants growing along the sides of John Morris Road and in the more northern portions of the property (see management action plan, Table 2, Units 1-6). When applying any chemicals for invasive exotic plant removal land stewardship staff will ensure that the most appropriate, least toxic herbicides available at the time are utilized per label requirements to

ensure minimal non-target damage considering the sensitivity of the wetland habitats at the Preserve.

The ditch/canal along the east side of John Morris Road was created to serve as a stormwater outfall for the watershed north of Summerlin Road that includes the Kelly Greens and Cottage Point communities. In addition to removing exotic vegetation, it will be particularly important to keep this area clear of trash and debris to maintain the flood carrying capacity of this system (see management action plan, Table 2, Units 3 & 4). Additionally, any crossings of this canal will need to be designed to accommodate the current flow.

The coastal grassland community, especially in the northwest section, shows evidence of human disturbance. Since the property was purchased, a fence was installed in the right-of-way of Summerlin Road from the northeast corner of the Preserve extending west, that closed off vehicular access to the coastal grassland community. In addition, a Publix shopping center has been built to the east of this fence. These two activities have greatly reduced vehicular access and the tire tracks are slowly decreasing. There is also scattered trash spread in all portions of the coastal grassland community. Trash is also a problem along the beach, especially in the thick vegetation beyond the beach. Some of the trash is older items that probably washed up during storms, but most is from visitors to the Preserve. Since staff has been hired, trash is regularly picked up on the beach and debris throughout the Preserve will continue to decrease over time (see management action plan, Table 2, Units 1,2,4, & 5).

Water quality is another concern at the Preserve. Some of the past dumping in the coastal grassland community contained liquids such as oil and paint that could contaminate surface waters. Providing restroom facilities for visitors will reduce a source of pollution to surface water. Continual clean up of debris that washes up on the beach including containers of cleaning solutions, oil and paint before the pollutants leak into the waters will also improve water quality (see management action plan, Table 2, Units 1-6).

Fishing is allowed at SCBBBP, which could lead to a problem with monofilament line litter. Monofilament line can cause injury and death to birds and other wildlife when tangled or ingested. Working with the Monofilament Recovery and Recycling Program (<http://fishinglinerecycling.org/>) to organize volunteer clean-up days and set up recycling bins will help alleviate this problem (see management action plan, Table 2, Units 4-6).

Although the waters off SCBBBP are not ideal for swimming because of the extensive mudflats, some visitors do swim off the coast, as well as in tidal

creeks. For public safety, staff will pursue designating the waters adjacent to the Preserve as a swimming area or idle/slow speed zone.

Although Lee County has owned a portion of this beach since 1950, it has had minimal enforcement of the regulations that apply to all county parks and preserves, including the prohibited use of alcohol, littering, motorized vehicles, nudity and pets. It will take time for visitors to this Preserve to learn that these and other practices will no longer be tolerated and there will be a more regular staff presence to enforce these regulations.

Another past practice was for visitors to bring their dogs and often allow them to run off-leash. This practice will no longer be allowed at this Preserve for several reasons. It is against both Lee County Parks and Recreation and Conservation 20/20 ordinances. In the past, exceptions have been made to Lee County Parks and Recreation ordinance for off-leash dog areas. However, The Department of Parks and Recreation does not recommend this beach, since it is a preserve for wildlife, as an appropriate location for another exception. Several rare bird species have been documented both loafing and foraging along the coastline at this Preserve (Table 1). Over one third of the birds listed on Table 1 have shown to be in decline due to disturbances by both people and domestic animals. This includes the federally and state listed piping plover as well as state listed brown pelicans, reddish egrets, snowy plovers, American oystercatchers and black skimmers.

James A. Rodgers with Florida Fish and Wildlife Conservation Commission has done several studies to determine buffer zone distances to minimize human disturbance to waterbirds. He recommends a zone of about 100 meters as an adequate buffer zone for both loafing and foraging birds (1997). The beach at SCBBBP is quite narrow and it would be impractical for the Department to enforce this width, especially during high tide, with all the visitors to this Preserve. James Rodgers has not conducted a study on either loose or leashed dogs and their impacts on shorebirds and wading birds, but agrees that their presence is not in the interest of conserving the waterbirds at this Preserve due to its narrow width (per. comm.).

Kevin D. Lafferty of the United States Geological Survey has conducted several studies on disturbance to birds by both people and dogs. Each study concluded that the percentage of birds disturbed by people compared to those disturbed by unleashed dogs was significant. In one two year study, 10% of the people visiting the beach and 39% of unleashed dogs disturbed birds from their normal activities (Lafferty 2001). Leashed dogs disturbed the birds 11% of the time. Unfortunately, Lafferty and others have found that dog owner compliance of leash laws was minimal unless someone was actively enforcing the rules. Regular dog walkers required several contacts before complying with the laws without being asked and a

substantial proportion of them resented the change (Lafferty 2003). The Department has seen this same disregard for leash laws at Lee County's Barkingham Park. While walking on the "leashed" dog trails, visitors are often encountered letting their dogs run off-leash.

The US Fish and Wildlife Service (USFWS) has also researched dog disturbance while creating their piping plover recovery plan (Hecht 1996). Piping plovers are a federally Threatened species that has been documented regularly utilizing SCBBBP. USFWS found that "on the east coast, piping plovers react at twice the distance and are displaced twice as far by dogs as they are by pedestrians" (Lafferty 2001). Data collected by Lee County's Bird Patrol volunteers also shows an increase in the number of birds utilizing the Preserve since it's acquisition by Lee County and subsequent "no dogs" policy.

A final internal factor that needs further attention is the practice of digging up fiddler crabs (*Uca spp.*) for bait. In the past, visitors to the Preserve have collected fiddler crabs, often leaving numerous holes above the mean high water (MHW) mark. The holes created, and not the collecting of fiddler crabs, presents both safety and environmental concerns. Staff will address the issue through education of visitors by requesting that they either collect the crabs by hand without digging or keep any digging below the MHW. If this protection is not adequate to stop the problem signs will be posted and areas in the salt flats being accessed for digging may be blocked.

### C. External Influences

Before the property was acquired by Lee County, there was vehicular activity and dumping within the coastal grassland areas of the Preserve. To address this issue, the a small portion of the Preserve was fenced and gated along the West side of John Morris Rd and on the northern boundary along Summerlin Rd. This method has been fairly successful and vehicular trespassing has been greatly reduced (see management action plan, Table 2, Unit 1).

The Port Sanibel Marina along with the J. Scott Callan Trust and the U.S. Fish and Wildlife Service have plans to put in a boardwalk that would meander through the mangroves west of SCBBBP and exit at the beach, ownership of which is shared by the Roberts Development Corporation and Lee County. This could lead to more people using the western beach within the Preserve. Staff does not believe that this is a management concern, but the area will continue to be part of the quarterly site inspections for monitoring purposes. If the boardwalk is constructed, it will be important to ensure that visitors to this portion of the Preserve understand and follow the Parks and Recreation Ordinance 02-12. Staff should also pursue a partnership for exotic plant removal in this remote area.

The mobile home communities to the north and east of the Preserve are possible areas for horticultural dumping or encroachment concerns. The situation should be monitored and if necessary, the use of signage will be used to alleviate any problems (see management action plan, Table 2, Unit 2).

There is currently an extensive amount of undeveloped land surrounding the Preserve (Appendix F). The northeast corner contains the undeveloped Gulf City Subdivision, which consists of 479 lots, owned by several different individuals. The current property owners have owned the majority of these lots for at least 10 years, but John Morris Road LLC out of Atlanta purchased 87 lots in 8 different parcels in 2002. The majority of the land to the east of this Preserve, consisting mainly of mangroves, is a conservation easement with Florida Department of Environmental Protection for the expansion of Siesta Isles, which we may partner with for management. There is approximately 32 acres also adjacent to the southeast boundary of the Preserve which Department of Revenue (DOR) property classification code is "vacant residential" and was purchased in January 2003. The west boundary of the Preserve consists primarily of mangroves and has 2 adjacent landowners. The DOR code for the northern portion is "acreage not zoned ag" and the rest is considered "sewage disposal, waste lands

Another external factor to consider is the SOODA (Save Our Off-leash Dog Area) group that is lobbying Lee County Commissioners, CLASAC, and the Department of Parks and Recreation for a portion of the beach at SCBBBP to contain both an on-leash and off-leash dog areas that would comprise of more than 90% of the beach area contained within the Preserve (Appendix G). SCBBBP is an excellent area for wintering and resident shore birds and wading birds to forage for food and rest. See the Ecosystem Function and Internal Influences sections for additional details on the importance of the mud flats at SCBBBP for resident and wintering birds. Birds view dogs as predators and therefore having an off-leash dog area at SCBBBP is not compatible with protecting birds on an exposed mud flat. Signs have been installed at the beach indicating the no dog policy and staff monitors for compliance.

#### D. Legal Obligations and Constraints

##### a. Permitting and Mitigation Issues

SCBBBP is comprised mainly of wetland plant communities and the majority of the Preserve is under a conservation easement held by the Florida Department of Environmental Protection (see Other Legal Constraints). This will require permits to be obtained from various agencies, including the U. S. Army Corps of Engineers, Florida Department of Environmental Protection and the South Florida Water Management District before

construction of any of the planned public use facilities. A consultant will be hired to assist County staff with this process. Additionally, the Preserve and surrounding coastline has been designated as a Critical Habitat for the federally Threatened piping plover (Appendix E). This will require that USFWS be consulted before any federal permits are issued for the property. Florida Communities Trust will be notified once all required licenses and permits have been obtained prior to the initiation of any construction on the Preserve.

Stormwater facilities, necessary for permitting, will be designed to provide recreational open space and/or wildlife habitat.

The entire Preserve is located within the Coastal High Hazard Area (Appendix H). Unfortunately, avoiding construction within this coastal high hazard area is not feasible but the designing and permitting process will direct the best construction and placement of any public use facilities.

Lee County's Local Mitigation Strategy supports the efforts of the County to purchase environmentally sensitive areas in high hazard flood zones through Conservation 20/20 funds. It also supports natural resource protection activities that preserve or maintain natural areas through restoration and renourishment. The purchase and management of this Preserve implements this strategy.

#### b. Other Legal Constraints

A Conservation Easement over 500 acres of SCBBBP was granted to the Florida Department of Environmental Protection by Summerlin Sands Limited Partnership, previous owner, on 29 October, 1997. The complete Conservation Easement document and map is found in Appendix I.

The conservation easement was established to settle "unresolved issues and claims" in a suit between the Department of Environmental Regulation (now Department of Environmental Protection), plaintiff, and Robert B. Troutman, defendant; issues were dismissed and satisfied by the granting of the easement.

In general terms the conservation easement requires that the property owner, now Lee County, "maintain [the portion of the property under easement] in its restored and/or natural state". Prohibited activities on the conservation easement property are listed on pages 4-5 of the easement document.

The easement does allow for observation boardwalks and/or trails for non-consumptive uses such as hiking, photography and wildlife observations, so long as any plans for such facilities are "independently permitted as required

by law”. Staff will therefore conduct any management and planning of public use facilities on the conservation easement portion of SCBBBBP in accordance with the easement document.

c. Relationship to Other Plans

The Lee Plan, 2003 Codification, in general terms is used as a guide to a vision for the future. In the first chapter of the Lee Plan, entitled Lee County – A vision for 2020, the three broad purposes of the plan are listed:

“First of all, certain day-to-day public and private activities within each jurisdiction must be consistent with the goals, objectives, and policies in the adopted plan. Second, the plan is a source of authority for the local government’s land development regulations and for a wide range of official discretionary actions, including, but not limited to, the capital improvement program. Finally, the plan represents the community’s vision of what it will or should look like by the end of the planning horizon.”

The entire Lee Plan is found on the Internet at: <http://www.lee-county.com/dcd1/Leeplan/Leeplan.pdf>. The two chapters of the Lee Plan that affect the management of SCBBBBP are Chapter V Parks, Recreation and Open Space and Chapter VII Conservation and Coastal Management.

Under Chapter V, land stewardship staff ensure that any public use facilities constructed at SCBBBBP complies with Goal 60: Park Planning and Design. Staff will also work to provide, whenever staffing and funding permit, appropriate environmental programs to the public in order to meet Goal 61: Environmental and Historic Programs.

Under Chapter VII, and within Objective 74.1: Environmentally Critical Areas, Lee County land stewardship staff has the responsibility of managing to conserve and enhance the natural functions of environmentally critical lands such as the wetland habitats found at SCBBBBP.

Within Objective 76.1: Coastal High Hazard Area Expenditures, same chapter, Policy 76.1.1 describes the need to seek approval from the county commission for the use of public funds in a Coastal High Hazard Area, in which the entire SCBBBBP is located, for the development of public use facilities. This management plan, which outlines potential public use facilities for development at SCBBBBP, and future design plans will be taken to the county commission for their approval.

Within Objective 77.1, Policy 77.1.1 section 4.e. a management plan is required to be written for each site acquired through the county’s environmentally sensitive lands program, via which SCBBBBP was acquired.

The approval of this stewardship plan by the county commission will meet this policy.

Within Objective 77.10: Wood Stork, there are two policies, Policy 77.10.1 and Policy 77.10.2, which state the county will "maintain an inventory of documented feeding, roosting, and rooking areas for the wood stork . . ." and "The county will continue to require management plans for existing wood stork feeding, roosting, and rooking areas to utilize 'Habitat Management Guidelines for the Wood Stork in the Southeast Region' (USFWS, 1990)", respectively. Land stewardship staff will advise the appropriate department that woods storks do feed at SCBBBP and will consult the U.S. Fish and Wildlife Service's guidelines for the management of feeding areas for wood storks.

The future land use and zoning of the parcels comprising the Preserve will be changed to conservation lands during regular amendment changes. Lee County Parks and Recreation already has a procedure with the Lee County Environmental Services Department to periodically change the zoning and future land use designations as preserves are acquired.

#### E. Management Constraints and Coordination

The main constraints to management for this Preserve are funding and staffing. SCBBBP has already received grants for assistance with acquisition, construction of public use facilities and exotic plant removal from Florida Community Trust and Florida Department of Environmental Protection's Bureau of Invasive Plant Management. Bird Patrol Volunteers have provided tremendous help with compiling wildlife use data. Efforts to obtain funding through grants and other sources will continue. With the addition of two full time staff, opportunities will exist for them to assist with management.

Coordination with other agencies and adjacent landowners will also be an important part of managing the Preserve. There is a possibility that parcels adjacent to the Preserve could be purchased by the State and/or federal government to become part of Estero Bay State Buffer Preserve. Permission from Mastique, luxury condominiums being constructed on the east side of John Morris Road just north of the Preserve, has been granted that while a construction road on the north side of their property exists, county staff and exotic plant removal contractors may use the road to access the eastern portions of the property that contain invasive exotic plants.

As mentioned in the FCT Grant Application, SCBBBP is adjacent to both Bunche Beach Park and Bowditch Point Regional Preserve, existing county facilities. Bunche Beach Park was folded into the larger Preserve and is no



longer considered a separate facility. Bowditch Point is located across the San Carlos Bay and staff will coordinate activities that would affect that Preserve when necessary.

Professionals from the Department of Environmental Protection, U.S. Fish and Wildlife Service and the Sanibel-Captiva Conservation Foundation were provided with a draft copy of this management plan since they are adjacent landowners. Two scientists from the Florida Fish and Wildlife Conservation Commission were also provided a copy since numerous listed species utilize the Preserve.

#### F. Public Access and Resource Based Recreation

The public has utilized the beach portion of SCBBBP for at least 50 years with facilities available only for a short time. For more information on the historic uses of SCBBBP see the Land Use History section. Since Bunche Beach is located on the mainland, as opposed to all other beaches in Lee County that are located on barrier islands, it is more accessible to the general public and thus gets a lot of use especially on weekends and during the tourist season. There is presently no parking fee at SCBBBP due to the lack of facilities; this is another attractive feature to visitors.

Public use of this Preserve will always need to be monitored and controlled to ensure that it does not interfere with the health of the ecosystem or the wildlife that utilize it. Limited parking (depending on permitting and location of parking there will be between 20-50 spaces, including 1-2 handicapped) will place a cap on the number of visitors to the Preserve (see Conception Site Plan). Additionally, once public facilities are constructed a parking fee will be charged that is likely to slightly reduce the numbers of visitors to the Preserve. Providing trash cans and bathrooms will greatly reduce the amount of garbage on site and will contribute to improving water quality. There will be at least one staff person on site every day that will play a very important role with interacting with the public. Staff will make sure that the public is complying with Lee County Parks and Recreation's rules as well as educating visitors about the Preserve and what makes it such a unique and important area. The 24 environmental education programs that will be offered each year will also be important for educating visitors and instilling respect for the resources while enjoying the Preserve.

Cooperation with volunteer groups will also benefit management of SCBBBP. Lee County's volunteer coordinator works with individuals and groups for all the different parks and preserves. This coordinator currently has volunteers that help to clean up debris on the beach and in the creeks. Additionally, Bird Patrol volunteers document birds that utilize the Preserve, mainly on the beach and mud flats. The Ostego Bay Foundation has

formally adopted the beach through the County's Adopt a Beach Program, and has committed to clean a portion of it once a month.

This Preserve is also the trailhead for the Estero Bay portion of The Great Calusa Blueway, Lee County's paddling trail that provides an ecological tour of the bays, rivers, backwaters and shorelines of southwest Florida. Information on this canoe trail can be found at [www.thegreatcalusablueway.com](http://www.thegreatcalusablueway.com) and a map of the Estero Bay portion of this trail is located in Appendix J. County staff is working with the Florida Department of Environmental Protection, Lee Island Coast Visitor and Convention Bureau and other agencies managing lands adjacent to this trail.

The only existing improvement to the property is the paved John Morris Road down to the beach. At present the beach portion of the Preserve and the coastal waters beyond are used for sunbathing, bicycling, jogging, swimming, canoeing/kayaking, fishing, wind surfing and bird watching, in spite of the lack of any facilities such as improved parking, restrooms or canoe/kayak launch. Prior to Lee County acquiring SCBBBP the beach was also used as an off-leash dog area. The Parks and Recreation Ordinance, 02-12 ( <http://www.lee-county.com/ordinances/PDF/2002/02-12.pdf> ), and the Conservation Lands Program Ordinance, 96-12 ( <http://www.lee-county.com/ordinances/PDF/1996/96-12.pdf> ), prohibit domestic animals on park property. See the Factors Influencing Management section for more details on the no-dogs policy at SCBBBP. Under the protection of Ordinance 96-12, SCBBBP will only be available to the public for passive or resource-based recreational uses.

Between October 2001 and April 2002 two interns conducted a survey of the visitors at the beach to give Lee County Parks and Recreation staff an idea of who utilizes the beach most and what would they like to see at the Preserve for facilities. Surveyed visitors wanted restroom, parking and canoe/kayak launch facilities, in that priority order, and lastly a boat ramp. The latter is not part of the plans for public use facilities at SCBBBP due to the proximity of the Lee County owned and operated Frizzel-Kontinos Boat Ramp at Punta Rassa, which is 3 miles west of SCBBBP and the shallow waters of San Carlo Bay.

Lee County applied for a Florida Communities Trust Grant, which has been conceptually approved, for the reimbursement of 50% of the acquisition cost of SCBBBP. As part of the grant Lee County has agreed to provide certain public use facilities including parking, trashcans, bathrooms, canoe/kayak/small sailboat launching site, nature trail with interpretive signage, boardwalks and marked waterway trails. At the entrance to the public use facilities, a Preserve sign (minimum size of 2' x 3') will be installed that welcomes visitors to the Preserve, shows the shape of the Preserve and some of the plants and animals found on the property and

lists the general rules of the Preserve. Additionally, the sign will identify Florida Communities Trust as a partner in the funding of the project (including the FCT logo), and the acquisition year. Figure 10 is the Master Site Plan, which was included in the grant proposal, and it depicts where these facilities could be located at the Preserve. This plan is based on Lee County being successful in the acquisition of a one-acre spoil upland parcel located southwest of the Rock Creek Bridge. With this plan the present unimproved parking would be converted to a turn-around for vehicles and a bicycle rack and trash cans would be provided at this location.

In the event that Lee County is unsuccessful in the former attempt land stewardship staff proposes an alternate Plan B which would move the parking, trash cans, canoe/kayak launch and restroom facilities to the existing location of the unimproved parking area, which is approximately ½ acre in size. In this plan the launch site would be located northeast of the parking area into an open water area which connects to a canal to the north which runs along the east side of John Morris Road. The canal then connects to Rock Creek. Paddlers would then have access to the upstream and downstream portions of the creek and could make their way to San Carlos Bay and to the nearby Terrapin Creek to the west. The same type of facilities would be provided regardless of the plan adopted. Either site would have minimal impacts to the natural resources, as they are both disturbed areas.

Due to the constraints of the property, the size of the parking area and the number of spaces provided will be limited to the area where facilities can be constructed. The number of spaces will range between 20-50, with 1-2 being handicapped accessible. Physical barriers will be installed to contain cars in the parking areas.

Landscaping of the public use facility areas will be approximately ½ acre in size, or less depending on which plan is used. A diversity of native plants already occurs on the property and some recovery from the existing seed bank is expected. Additional plantings will consist of only native plants that are adapted to the harsh coastal conditions and are known to already occur at SCBBBP. They could include seaoats (*Uniola paniculata*), railroad vine (*Ipomoea pes-caprae*), narrowleaf yellowtop (*Flaveria linearis*), scorpionstail (*Heliotropium angiospermum*), seaside goldenrod (*Solidago sempervirens*), Christmasberry (*Lycium carolinianum*), yellow necklacepod (*Sophora tomentosa*) and seagrape (*Coccoloba uvifera*).

The design and construction of the public use facilities will follow a Green Building concept as closely as possible. This will include, but not limited to, considering recycled materials and a pervious parking surface, wherever feasible. Due to the proximity of future facilities, whether Plan A or B is selected, to the San Carlos Bay coast, a composting toilet system, such as

the Clivus Multrum, or port-a-potties will be necessary. The restroom facilities will be comprised of 2 stalls each for the men's and women's bathrooms, one of the stalls being handicapped accessible.

A bike path will lead from Summerlin Road, run adjacent to John Morris Road and will terminate at the public use facilities to promote an alternative to automobile transportation while providing for safe biking and pedestrian access to the Preserve. Additionally, staff is working with Lee County Department of Transportation to reduce the speed limit on John Morris Road once it enters the Preserve.

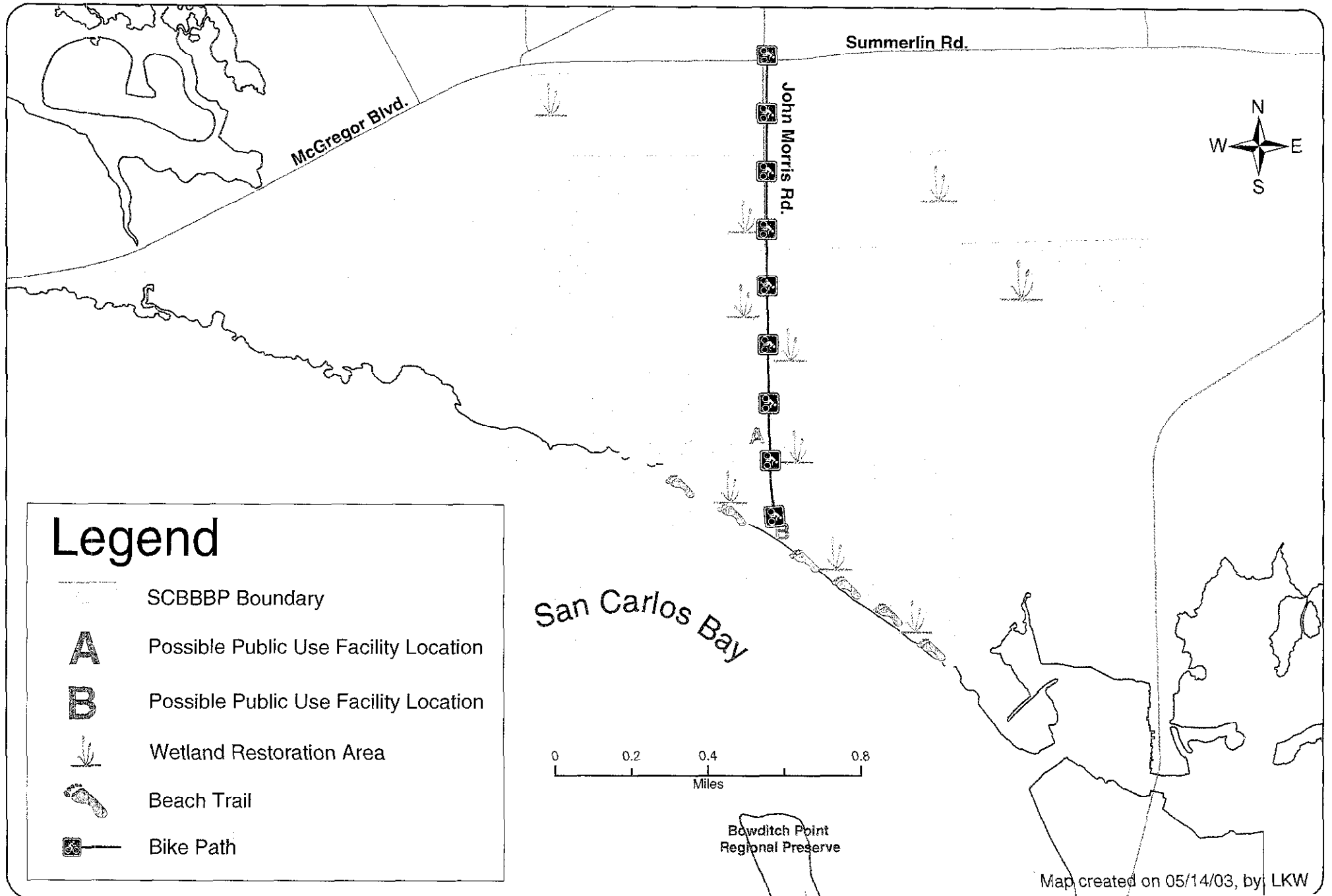
Alterations to this Stewardship Plan or to the physical features of the Preserve and any physical improvements not listed in this plan will be presented to FCT for review and approval.

Currently, there are no proposed easements, concessions or leases in place for the Preserve. However, in the future county staff may consider pursuing a canoe/kayak rental concession. If any future lease, concession, sale or management contract is considered, FCT will be provided with 60 day written notice for review of the document. No document will be executed without the prior written approval of FCT. Fees collected from these types of contracts will be placed in a segregated account solely for the upkeep and maintenance of SCBBBP.

All proposed support facilities will be designed and constructed to meet all applicable state and federal construction standards, including the Americans with Disabilities Act.

The challenge of providing a positive experience for visitors, while protecting the fragile ecosystem of the Preserve, will always be a large focus for county staff. Many of these features, such as trash cans, bathrooms, on-site staff, educational programs and displays, designated parking and organized volunteer support will keep the Preserve cleaner and safer for both visitors and wildlife. By having a set number of parking spaces, the number of people visiting the Preserve will be controlled better than the current practice of haphazard parking at the end of John Morris Road, as well as along the road itself. Other proposed improvements, such as marked trails and waterway, bike path and canoe/kayak launch will help concentrate visitors in designated areas as well as improve their experience while visiting SCBBBP, hopefully increasing their appreciation for the importance of the fragile coastal ecosystems found in southwest Florida.

Figure 7 - SCBBBP Master Site Plan



County negotiating on possibility of implementing Plan A.

Space for Plan B

## G. Historical and Future Acquisition

Prior to the 1970's, the property was owned by the Kennedys and the Rockefellers. The property was then purchased by Robert B. Troutman and was at the center of a development rights battle that went all the way to the Florida Supreme Court. In the end, the planned development called the Estuaries was denied development rights due to several proposed environmental impacts. Also, a conservation easement over 500 acres of the property was established by a settlement due to illegal clearing done by Mr. Troutman.

The property was then purchased by the Summerlin Sands Limited Partnership in 1995 for \$101,000 and was planned for another development. The proposed project included a retail zone, 700 residential units, a private beach club, 30 units of beachfront rental casitas, environmental center with parking area, and a beach shuttle.

The owner contacted the Florida Department of Environmental Protection to advise that they were a willing seller for potential acquisition through the Conservation and Recreation Lands Program (CARL). Two factors influenced the state to not acquire the land. The first being that the two appraisals varied by a significant amount, and the second was that the asking price was significantly higher than the appraisals. Because of these inconsistencies, the state decided not to acquire the SCBBBP property.

When the state was unsuccessful with the acquisition, Lee County pursued the property through the Conservation 20/20 program. The county already owned a half acre on the beach and purchased the remainder of the Summerlin Sands property in August of 2001 for \$6.38 million.

In the future, adjacent lands will be looked at for a potential addition to the Preserve, especially in cases where the property is surrounded by the Preserve.

## V. Management Action Plan

The SCBBBP has been divided into management units to better organize and achieve management goals. Figure 11 delineates the 6 management units, which were created based on habitat type, management and restoration required. Management unit #1 is located in the northwest portion of the Preserve, consisting of the entire coastal grassland community extending north and west to the boundary lines and east to John Morris Rd. Management unit #2 is east of the Mastique development and extends north and east to boundary lines. It is comprised of coastal grasslands and mangroves. Management unit



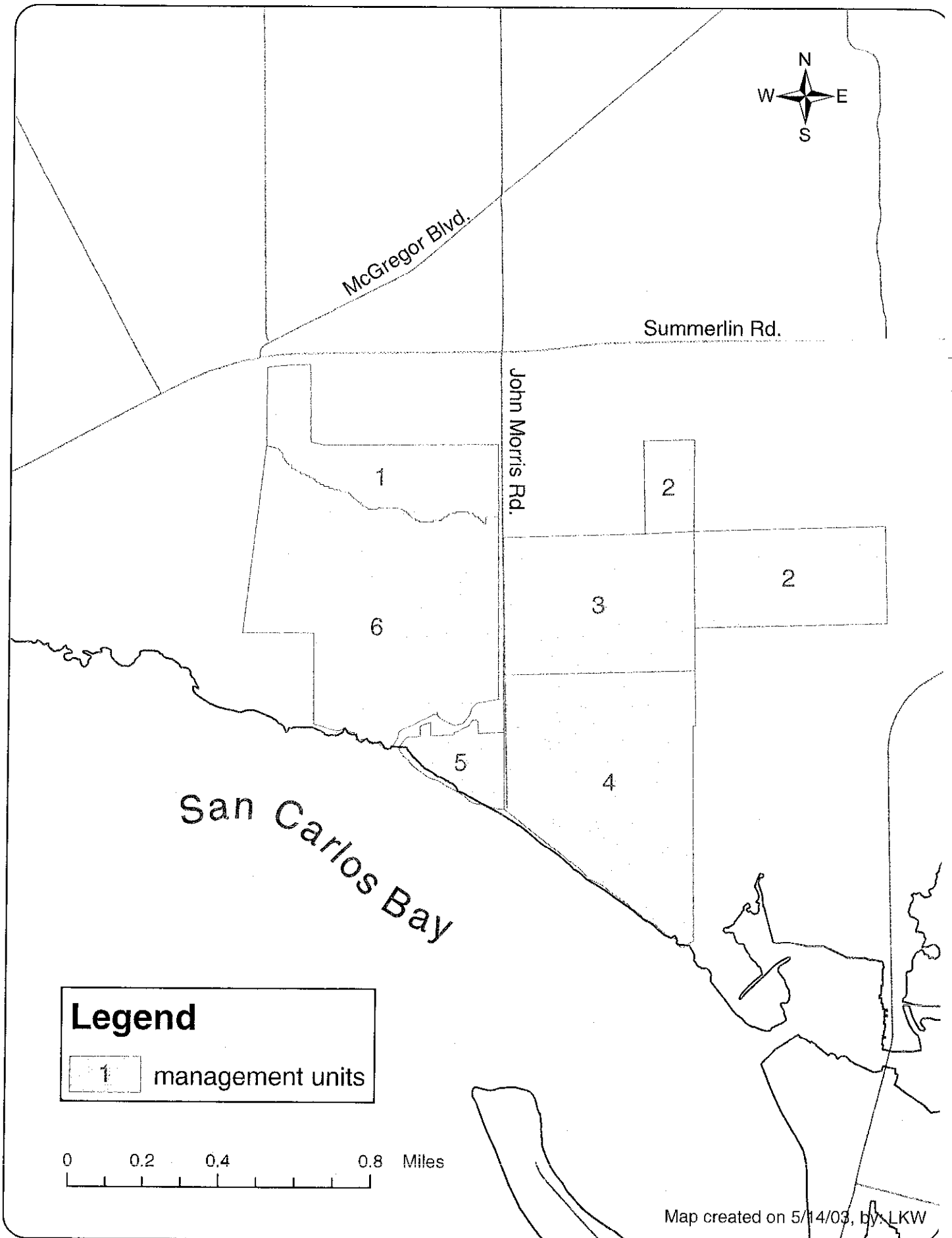
#3 is located south of Mastique and is entirely a mangrove forest. Management unit #4 consists of the southeast corner of SCBBBP south of unit #3 and east of John Morris Rd. It is predominately mangroves but includes most of the Preserve's coastal berm and beach areas. Management unit #5 is located west of John Morris Rd. and south of Rock Creek. It is mangrove forest with the remainder of the Preserve's coastal berm and beach. Management unit #6 is north of Rock Creek and San Carlos Bay, west of John Morris Rd. and extends to the western Preserve boundary and north to management unit #1.

The SCBBBP is part of a countywide quarterly site inspection program for all Conservation 20/20 preserves. A copy of the site inspection form is available in the Land Stewardship Operations Manual (under review). The inspection allows staff to monitor for any impacts and/or changes to each preserve and includes listing all animal sightings and new plants found. If during these inspections at SCBBBP staff finds FNAI listed species, staff will report those findings to FNAI using the appropriate form located in Appendix K and L.

The Florida Exotic Pest Plant Council's List of Invasive Species (Appendix M) will be consulted in determining the invasive exotic plants to be controlled in every management unit. The invasive exotic plant control will be conducted with the least amount of impact to the preserve possible and with aquatic labeled herbicide (as per the Land Stewardship Operations Manual). Prescribed burning may be an option for the future in the coastal grasslands area to keep the vegetation in the earlier successional stage.

As part of complying with the Florida Communities Trust grant contract for SCBBBP, land stewardship staff will be responsible for preparing an Annual Stewardship Report, due on January 30 of each year, which evaluates the implementation of the Land Stewardship Plan. Land stewardship staff will seek FCT's approval for any proposed modification to the Land Stewardship Plan and/or prior to undertaking any site alterations or physical improvements that are not addressed in this approved Land Stewardship Plan.

Figure 8: SCBBBP Management Units Map



## A. Goals, Strategies and Projected Timetable for Implementation

The table below outlines the goals and strategies for achieving the goals for each management unit.

Table 2: Goals, Strategies, Implementation Timetable and Standards for Success for all Management Units in the SCBBBBP.

<b>Management Unit</b>	<b>Goals</b>	<b>Strategies</b>	<b>Projected Timetable for Implementation</b>	<b>Standards by which to judge achievement of goals</b>
ALL	1. Pursue designation as a Critical Wildlife Area and/or Important Bird Area	– Contact scientists from the Florida Fish & Wildlife Conservation Commission and National Audubon Society to determine whether or not SCBBBBP qualifies for designation.	– If possible, designation will be obtained by August 31, 2006.	– Preserve will be designated as a Critical Wildlife Area and/or Important Bird Area.
U1 71 acres	1. Invasive exotic plant control, keep unit at maintenance level	– Heavy equipment to be used in the northwest section followed by a cut-stump and/or foliar follow-up treatment, with appropriate herbicide mix. Remainder of unit to be hand-cleared using appropriate method and herbicide mix for each exotic plant species.	– The project will be conducted with a grant from the FL DEP BIPM <sup>1</sup> and will be completed by August 31, 2003.	– All target invasive exotic vegetation removed and/or treated. Seed sprouts and re-sprouts will be treated annually.
	2. Planting native plants in restoration areas	– If necessary, appropriate native plants, from the coastal berm and grassland communities, will be selected to re-vegetate the restoration area.	– Plantings will be installed by Aug. 31, 2004.	– Natural recruitment of native plants has occurred and plantings achieved a 90% survival rate.
	3. Protect from vehicular access	– Monitor and maintain the existing fencing and gates along Summerlin Rd. with the assistance of Parks & Recreation Rangers.	– Ongoing project. Rangers regularly monitor SCBBBBP and land stewardship staff monitors quarterly.	– Fencing and gates are kept in good repair. Coastal grassland community continues to recover from tire ruts.
	4. Monitor for changes in the coastal grassland community	– Establish a photo point to assist in recording changes in the vegetation of the coastal grassland community.	– Ongoing project. Photo point will be monitored on a biannual basis.	– Photos taken will assist staff in observing changes, if and when they occur, and could also be used to make management decisions.
	5. Monitor for bird activity, including shorebird nesting	– Add U1 to the volunteer Bird Patrol group route for SCBBBBP.	– Coastal grasslands offer nesting habitat for certain shorebird species, thus U1 will be monitored periodically during nesting season.	– Information will be gathered on the use of U1 for shorebird nesting and management decisions made accordingly.
U2 103 acres	1. Invasive exotic plant control, keep unit at maintenance level	– Heavy equipment to be used in the north section followed by a cut-stump and/or foliar follow-up treatment, with appropriate herbicide mix. Remainder of unit to be hand-cleared using appropriate method and herbicide mix for each exotic plant species.	– The heavy equipment portion of the project will be completed by August 31, 2003. – The hand cleared portion of U2 will be completed by June 1, 2004, unless mitigation needed for other on-site development project.	– All target invasive exotic vegetation removed and/or treated. Seed sprouts and re-sprouts will be treated annually.

<sup>1</sup> FL DEP BIPM – Florida Department of Environmental Protection, Bureau of Invasive Plant Management.

Table 2: Goals, Strategies, Implementation Timetable and Standards for Success for all Management Units in the SCBBBP, continued.

<b>Management Unit</b>	<b>Goals</b>	<b>Strategies</b>	<b>Projected Timetable for Implementation</b>	<b>Standards by which to judge achievement of goals</b>
U2	3. Contact adjacent landowners about controlling invasive exotic vegetation	– If conservation easements exist, work with appropriate entities to control invasive exotic vegetation that is a seed source to U2.	– Ongoing project.	– If feasible, staff will work with appropriate entity to control these off-site invasive exotic plant seed sources.
U3 118 acres	1. Invasive exotic plant control, keep unit at maintenance level	– Present level of invasive exotic vegetation is low. Monitor areas of U3 prone to infestations, northeast corner and berm along John Morris Rd.	– Ongoing project. Areas prone to infestations will be monitored and treated, using an appropriate method and herbicide mix for each exotic plant species.	– All target invasive exotic vegetation removed and/or treated. Seed sprouts and re-sprouts will be treated annually.
	2. West boundary of U3 along John Morris Rd. kept free of debris	– Work with volunteer groups, such as the Ostego Bay Foundation who adopted SCBBBP, and Annual Coast Clean-Up days to keep this area debris free.	– Ongoing project. Staff will work with volunteer groups to keep the area clean on a monthly basis or as needed.	– U3 along John Morris Rd. will be kept free of debris.
U4 177 acres	1. Invasive exotic plant control, keep unit at maintenance level	– Brazilian pepper occurs on spoil piles from historic mosquito ditching. 1966 aerials will be used to locate all spoil piles. Peppers treated in place with appropriate herbicide mix.	– Initial treatment of all Brazilian peppers on spoil piles will be completed by June 1, 2004, unless mitigation needed for other on-site development project.	– All target invasive exotic vegetation treated. Seed sprouts and re-sprouts will be treated annually.
	2. Prevent digging of large holes above Mean High Water	– Staff assigned to SCBBBP and Rangers will patrol for digging activity. Signage already in place.	– Ongoing project.	– Ideally no digging will occur.
	3. Keep beach portion of U4 free of debris	– Work with volunteer groups, such as the Ostego Bay Foundation who adopted SCBBBP, and Annual Coast Clean-Up days to keep this area debris free.	– Ongoing project. Staff will work with volunteer groups to keep the area clean on a monthly basis or as needed.	– The beach portion of U4 will be kept free of debris.
	4. Monitor changes in the coastal berm/beach community	– A panoramic photo of the beach will be taken from the water at a designated time of year and at low tide.	– The photo will be taken annually under similar conditions. GPS location recorder to assure consistency.	– Photos will provide staff with visual documentation of beach erosion or accretion, and impacts from storms.
	5. Protect sea turtle and diamondback terrapin nests <sup>2</sup>	– During nesting season, staff will patrol the beach in the early morning for signs of nesting and post nests. The assistance of Rangers and volunteer groups will be sought.	– Ongoing project.	– Turtle nests found will be protected from human disturbance and when possible from predators.
	6. Provide turtle-safe lighting at public use facilities	– Turtle-safe lighting will be installed whether public use facilities are built according to Plan A or B.	– Lighting will be installed with the completion of the public use facilities by December 2006.	– No lighting will be installed at SCBBBP that could impact turtle nesting activity.

<sup>2</sup> The beach portion of SCBBBP is not likely to be used by sea turtles due to the beach's location behind barrier islands, but sea turtle nests have been found in the past (Haverfield, per. comm.).

Table 2: Goals, Strategies, Implementation Timetable and Standards for Success for all Management Units in the SCBBBP, continued.

<b>Management Unit</b>	<b>Goals</b>	<b>Strategies</b>	<b>Projected Timetable for Implementation</b>	<b>Standards by which to judge achievement of goals</b>
U4	7. Continue bird monitoring on beach and mud flats	– Bird Patrol volunteers presently monitor birds on the beach and mud flats. Staff will assure the continuation of this activity.	– Ongoing project. With volunteer time permitting area will be monitored twice per month, all year.	– Bimonthly counts will provide staff with information on presence/absence of bird species seasonally and annually.
	8. Design and construction of public use facilities	– The design and construction of public use facilities at SCBBBP are outlined in the Public Use section of this plan.	– The completion of public use facilities will be by December 2006.	– Public use facilities outlined in this plan will be available to the public by December 2006.
	9. Development and implementation of 24 environmental education programs, per year	– Staff will work with various entities including, but not limited to, SCCF, ASWF, EE, FGCU, ECC <sup>3</sup> , on site staff and Rangers to provide environmental education programs at SCBBBP.	– Ongoing project.	– Each year 24 environmental education programs, ranging from bird walks to seining for marine life in the Bay, will be available to the public and target different age groups.
	10. Possible swimming area designated	– Staff will pursue the possibility of designating the waters adjacent to the Preserve as a swimming area or idle/slow speed zone for all watercraft, for public safety reasons.	– By December 2004 staff will know whether this goal is accomplishable.	– If this goal is accomplishable there will be a designated swimming area in the waters adjacent to the Preserve.
U5 26 acres	1. Invasive exotic plant control, keep unit at maintenance level	– Brazilian pepper occurs on spoil piles from historic mosquito ditching. 1966 aerials will be used to locate all spoil piles. Peppers treated in place with appropriate herbicide mix.	– Initial treatment of all Brazilian peppers on spoil piles will be completed by June 1, 2004, unless mitigation needed for on-site development projects.	– All target invasive exotic vegetation treated. Seed sprouts and re-sprouts will be treated semiannually.
	2. Goals #2,3,4,5 and 7 for U4 also apply to U5	N/A	N/A	N/A
U6 226 acres	1. Invasive exotic plant control, remove Australian Pines at west side and keep unit at maintenance level	– Control Australian pines on the west side of Rock Creek. Monitor areas of U6 prone to infestations, berm along John Morris Rd.	– Initial treatment of all Australian pines will be completed by June 1, 2004, unless mitigation needed for on-site development project. Areas prone to infestations will be monitored and treated, using an appropriate method and herbicide mix for each exotic plant species.	– All target invasive exotic vegetation removed and/or treated. Seed sprouts and re-sprouts will be treated semiannually.
	2. East boundary of U6 along John Morris Rd. kept free of debris	– Work with volunteer groups, such as the Ostego Bay Foundation who adopted SCBBBP, and Annual Coast Clean-Up days to keep this area debris free.	– Ongoing project. Staff will work with volunteer groups to keep the area clean on a monthly basis or as needed.	– U6 along John Morris Rd. will be kept free of debris.
	3. Monitor changes in the coastal berm/beach community	– A panoramic photo of the beach will be taken from the water at a designated time of year and at low tide.	– The photo will be taken annually under similar conditions. GPS location recorder to assure consistency.	– Photos will provide staff with visual documentation of beach erosion or accretion, and impacts from storms.

<sup>3</sup> SCCF – Sanibel-Captiva Conservation Foundation, ASWF – Audubon of Southwest Florida, EE – Lee County School District Environmental Education, FGCU – Florida Gulf Coast University, ECC – Edison Community College.

Table 2: Goals, Strategies, Implementation Timetable and Standards for Success for all Management Units in the SCBBBP, continued.

<b>Management Unit</b>	<b>Goals</b>	<b>Strategies</b>	<b>Projected Timetable for Implementation</b>	<b>Standards by which to judge achievement of goals</b>
U6	4. Protect sea turtle and diamondback terrapin nests	– Presently this beach is only water accessible; there are plans (see External Influences section) to build a boardwalk that will provide pedestrian access to the beach portion of U6. When this occurs staff will follow the strategy outlined for U4 & U5 for turtle nest monitoring.	– Ongoing project.	– Turtle nests found will be protected from human disturbance and when possible from predators.

Table 3: Timetable for all Management Units.

SITE IMPROVEMENT SCHEDULE																					
	2003				2004				2005				2006				2007				
SEASON	Spring	Summer	Fall	Winter	Spring	Summer	Fall	Winter	Spring	Summer	Fall	Winter	Spring	Summer	Fall	Winter	Spring	Summer	Fall	Winter	
Management Plan Complete		X																			
<b>Facility Development Projects</b>																					
Design				X																	
Permitting					X			X													
Bathrooms																			X		
Parking																			X		
Fencing and/or Gates																			X		
Signage																			X		
Trails/Boardwalk																			X		
Canoe/Kayak Launch																			X		
Bike Path/Bike Racks																			X		
Designate Swimming Area								X													
Interpretive Signs																			X		
Environmental Education Programs																					
<b>Habitat Enhancement Projects</b>																					
Establish Permanent Photo Points		X																			
Photo Point Pictures Taken		X		X		X		X		X		X		X		X		X		X	
Bird Monitoring	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Bird Nesting Monitoring	X	X			X	X			X	X			X	X			X	X			
Turtle Nest Monitoring	X	X			X	X			X	X			X	X			X	X			
Remove Trash																					
Feral Animal Removal																					
Prevent Digging Above MHW																					
Boundary Inspection for Vehicular/Encroachment																					
Exotic Species Removal (Mechanical)		X																			
Exotic Species Removal (Hand Crews)						X*															
Exotic Species Maintenance				X		X		X		X		X		X		X		X		X	
Exotic Species Coordination with Adjacent Landowners																					
Native Planting (if Necessary)						X															
Archaeological Survey				X																	
* = If it is determined that exotic plant removal will not be used for on-site mitigation																					

## VI. Financial Considerations

There is a management fund established in perpetuity for all Conservation 20/20 preserves. Monies from this fund will be available for all aspects of designing and constructing the public use facilities, as well as for planned restoration projects, at SCBBBP. Monies will be supplemented through pursuing appropriate grants or other sources of funding, such as but not limited to; grants from the Florida Department of Environmental Protection Bureau of Invasive Plant Management for the exotic control projects, Tourist Development Council funds may be available to assist with the development of public use facilities, a Capital Improvement Project fund will be established and/or a grant from the Florida Recreation Development Assistance Program (FRDAP) or Land and Water Conservation Fund could be sought for the public use facilities. Projected costs and funding sources are listed in Appendix N.

### A. Staffing

Maintenance of the SCBBBP is divided into operations and land stewardship, both of which are located in the Department of Parks and Recreation. The land stewardship group responsible for the management of all Conservation 20/20 preserves, including SCBBBP, consists of a supervisor and two coordinators, all trained as biologists, and a contracts coordinator/field technician. Other land stewardship staff from Parks and Recreation is also available to assist with management from time to time.

Two maintenance specialists have been assigned to SCBBBP as of April 1, 2003. They perform tasks as outlined in the Management Action Plan section. Once public use facilities are in place they will also be responsible for their upkeep.

Parks and Recreation Rangers also provide considerable assistance in patrolling the Preserve for unauthorized uses and securing boundaries and they help educate the public on allowable uses of the Preserve. They perform other duties as outlined in the Management Action Plan section.

### B. Maintenance and Security

Maintenance of the Preserve will include land stewardship activities and facility upkeep. All land stewardship activities for the Preserve are outlined in the Management Action Plan. Once facilities are constructed at the Preserve it will be important for maintenance staff to follow a regular maintenance schedule to assure cleanliness and proper function of all facilities.

Protection of the Preserve's natural resources will be achieved with appropriate boundary signage, fencing and gates where necessary, educating visitors, and patrolling by the Rangers. Facility and grounds security will be achieved through a similar approach of appropriate signage, gates, fencing, lighting and patrolling.



## VII. Literature Cited

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## Appendices

- A. FCT Grant Contract
- B. Plant Species List
- C. Bird Species List
- D. Animal Species List
- E. USFWS Critical Habitat Map
- F. Surrounding Land Use Map
- G. S.O.O.D.A. Proposal
- H. Coastal High Hazard Area
- I. Conservation Easement Document and Map
- J. The Great Calusa Blueway Map
- K. FNAI Field Report Form for Rare Animals
- L. FNAI Field Report Form for Rare Plants
- M. Florida Exotic Pest Plant Council's 2001 List of Invasive Species
- N. Projected Costs and Funding Sources Table

Appendix A.  
FCT Grant Contract

FCT Contract Number 03-CT-7E-02-F2-A1-072  
FLORIDA COMMUNITIES TRUST  
02-072-FF2  
SAN CARLOS BAY - BUNCHE BEACH PRESERVE  
CSFA# - 52002

**GRANT CONTRACT**

THIS AGREEMENT is entered into on February 4, 2003 the date the last party executes this Agreement, by and between the FLORIDA COMMUNITIES TRUST (FCT), a nonregulatory agency within the State of Florida Department of Community Affairs, and LEE COUNTY, a local government of the State of Florida (Recipient). The intent of this Agreement is to impose terms and conditions on the use of the proceeds of certain bonds, hereinafter described, and the lands acquired with such proceeds (Project Site), that are necessary to ensure compliance with applicable Florida law and federal income tax law and to otherwise implement provisions of Sections 259.105, 259.1051, and Chapter 380, Part III, Florida Statutes (F.S.).

\* \* \* \* \*

WHEREAS; Chapter 380, Part III, F.S., the Florida Communities Trust Act, creates a nonregulatory agency within the Department of Community Affairs (Department) that will assist local governments in bringing local comprehensive plans into compliance and implementing the goals, objectives, and policies of the conservation, recreation and open space, and coastal management elements of local comprehensive plans, or in conserving natural resources and resolving land use conflicts by providing financial assistance to local governments and nonprofit environmental organizations to carry out projects and activities authorized by the Florida Communities Trust Act;

WHEREAS, Section 259.105(3)(c), F.S., of the Florida Forever Act provides for the distribution of twenty-two percent (22%) less certain reductions of the net Florida Forever Revenue Bond proceeds to the Department to provide land acquisition grants to local governments and nonprofit environmental organizations through the FCT for acquisition of community-based projects, urban open spaces, natural resource conservation areas, parks, greenways and outdoor recreation areas to implement local comprehensive plans;

WHEREAS, the Bonds are issued as tax-exempt bonds, meaning that the interest on the Bonds is excluded from the gross income of bondholders for federal income tax purposes;

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12/20/2002  
Preacquisition

the Agreements, retain one original copy and return all other copies that have been executed to the Recipient.

2. This Agreement between the parties sets forth the requirements and responsibilities for cost reimbursement and management of the Project Site, described in the application that was submitted and selected for funding by FCT (Application).

3. Approval for funding shall be until May 15, 2003 (Expiration Date). In the event that the Project Plan described in Section V. below has not been approved by the Expiration Date, this Agreement shall be terminated. The FCT may extend this Agreement beyond the Expiration Date if the Recipient demonstrates that significant progress is being made toward Project Plan approval or that extenuating circumstances warrant an extension of time. A request for an extension must be made in writing to FCT, fully explaining the reason for the delay and why the extension is necessary. If the Recipient does not request an extension, or if an extension is not granted to the Recipient by the FCT, the Florida Forever award granted to the Recipient shall terminate and all obligations hereunder shall cease.

4. This Agreement may be terminated before its Expiration Date at the written request of the Recipient. Such a request shall fully describe the circumstances that compel the Recipient to terminate the project. A request for termination should be mailed to the FCT at the address given in paragraph 1 above.

5. This Agreement may be terminated before its Expiration Date by the FCT if it is determined by the FCT that no significant progress is being made toward Project Plan approval, non-performance by the Recipient of the requirements listed or that other circumstances are present that would, in all likelihood, preclude or prevent the successful reimbursement for the acquisition costs for the Project Site within the established time frame. Prior to termination, notice of the proposed termination shall be mailed to the Recipient at the address given in paragraph 13 below.

6. Recipient agrees to submit the documentation to FCT that is required in this Agreement as soon as possible so that the Project Site acquisition costs may be reimbursed in an expeditious manner. Deadlines stated in this Agreement, as well as deadlines associated with any FCT activity relating to the project, are strictly enforced. Failure to adhere to deadlines may result in delays in the project, may result in allocation of time or resources to other recipients that responded timely, and may result in this Agreement being terminated by FCT.

It is the responsibility of the Recipient and its representatives to know all project deadlines, to devise a method of monitoring the project, and to adhere to all deadlines. The Recipient shall provide a monthly status report to FCT of progress towards reimbursement of the acquisition project costs.

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12/20/2002  
Preacquisition

11. The Recipient's local match, if any is required, shall be delivered either in the form of eligible project costs prepaid to vendors by the Recipient; purchase price paid to Seller; or eligible documented donation by Seller of land value. The funds expended by the Recipient for eligible project costs incurred by the Recipient will be recognized as part of the local match, if any is required, on the grant reconciliation statement prepared pursuant to paragraph 10 above.

In the event that preacquired land or donated land value is the source of local match, if any is required, the value attributed to the local match shall be determined after an appraisal report(s) that complies with the procedures and requirements set forth in Rule 9K-8.007, F.A.C. is reviewed and approved by FCT prior to FCT funds being delivered for the project.

12. The Recipient shall provide the required appraisal(s) for review by a date not to exceed 90 days after execution of this Agreement. FCT will review the appraisals and, upon approval, will determine the Maximum Approved Purchase Price as provided in Rule 9K-8.007(5) and (6), F.A.C., for FCT reimbursement.

13. Recipient hereby notifies the FCT that the following administrator, officer, or employee is the authorized key contact, or project manager, on behalf of the Recipient for purposes of coordinating project activities for the duration of the project:

Name: Roger Clark

Title: Land Stewardship Manager

Address: 3410 Palm Beach Blvd Ft Myers Fl. 33916

Phone: (239) 461-7453 Fax: (239) 461-7460

Email: roger@leegov.com

All contact and correspondence from FCT to the Recipient will be through the key contact. The Recipient must notify the FCT as to any change in the authorization of the key contact on behalf of the Recipient named above. This notification must be made in writing to the Executive Director and signed by the appropriate authorized administrator, officer, or employee or named in paragraph III.4. below.

14. This Agreement may be amended at any time and must be set forth in a written instrument and agreed to by both the FCT and the Recipient. Such amendments shall become a part of this Agreement.

- c. The complete financial audit report, including all items specified in (d) below, shall be sent directly to:

Department of Community Affairs  
Office of Audit Services  
2555 Shumard Oak Boulevard  
Tallahassee, Florida 32399-2100  
and  
State of Florida Auditor General  
Room 401 574, Claude Pepper Building  
111 West Madison Street  
Tallahassee, Florida 32302-1450

- d. In connection with the audit requirements addressed above, the Recipient shall ensure that the audit complies with the requirements of Section 215.97(7), Florida Statutes. This includes submission of a reporting package as defined by Section 215.97(2)(d), Florida Statutes, and Chapter 10.550 and 10.650, Rules of the Auditor General.
- e. If the Recipient expends less than \$300,000 in State financial assistance in its fiscal year, an audit conducted in accordance with the provisions of Section 215.97, Florida Statutes, is not required. In the event that the Recipient expends less than \$300,000 in State financial assistance in its fiscal year and elects to have an audit conducted in accordance with the provisions of Section 215.97, Florida Statutes, the cost of the audit must be paid from non-State funds (i.e., the cost of such an audit must be paid from recipient funds obtained from other than State entities).

5. In the event the audit shows that the entire funds disbursed hereunder, or any portion thereof, were not spent in accordance with the conditions of this Agreement, the Recipient shall be held liable for reimbursement to FCT of all funds not spent in accordance with these applicable regulations and Agreement provisions within thirty (30) days after FCT has notified the Recipient of such non-compliance.

6. The Recipient shall retain all financial records, supporting documents statistical records, and any other documents pertinent to this contract for a period of five years after the date of submission of the final expenditures report. However, if litigation or an audit has been initiated prior to the expiration of the five-year period, the records shall be retained until the litigation or audit findings have been resolved.



#### **IV. MANAGEMENT PLAN APPROVAL**

1. Prior to approval of the Project Plan (described in Section V below), and final disbursement of award funds by FCT, the Recipient must prepare a Management Plan that complies with Rule Chapter 9K-7.011, F.A.C., and addresses the criteria and conditions set forth in Sections IV, VI, VII, VIII, and IX herein. Recipient is strongly urged to coordinate with the FCT staff in order to ensure that the FCT approval of the Management Plan occurs prior to the closing date of the real estate transaction(s) associated with the project and delivery of FCT funds.

2. The Management Plan, which is intended to explain how the Project Site will be managed to further the purposes of the project and meet the terms and conditions of this Agreement, shall include the following:

- a. An introduction containing the project name, location and other background information relevant to management.
- b. The stated purpose for acquiring the Project Site as proposed in the Application and a prioritized list of management objectives.
- c. The identification of known natural resources including natural communities, listed plant and animal species, soil types, surface and groundwater characteristics.
- d. A detailed description of all proposed uses including existing and proposed physical improvements and the impact on natural resources.
- e. A detailed description of proposed restoration or enhancement activities, if any, including the objective of the effort and the techniques to be used.
- f. A scaled site plan drawing showing the project site boundary, existing and proposed physical improvements and any natural resource restoration or enhancement areas.
- g. The identification and protection of known cultural or historical resources and a commitment to conduct surveys prior to any ground disturbing activity, if applicable.
- h. A description of how the management will be coordinated with other agencies and public lands, if applicable.

The Project Plan shall include, and shall not be considered by FCT unless it includes all of the following documents, to be reviewed and approved by FCT to ensure that the interest of the State of Florida will be protected:

- a. The following closing documents associated with the parcel(s):
  - (1) A copy of the Purchase Agreement(s) for sale and purchase of the parcel(s) between Recipient and Summerlin Sands Ltd.  
(Insert name[s] of Seller[s]).
  - (2) A copy of closing statements from Buyer(s) and Seller(s) for the purchase of the parcels.
  - (3) A copy of the recorded deed(s) evidencing conveyance of title to the parcel(s) to the Recipient.
  - (4) Certified survey(s) of the parcel(s) that meets the requirements of Rule 9K-8.006, F.A.C., and dated within 90 days of the date of acquisition of the parcel(s) by Recipient.
  - (5) A copy of the title insurance policy(s) evidencing marketable title in Recipient to the parcel(s) and effective the date of acquisition of the parcel(s) by the Recipient, including a statement from the title insurer as to the minimum promulgated rate if premium was paid by Recipient, and all documents referenced in the title policy(s).
  - (6) Environmental site assessment(s) of the parcel(s) certified to the Recipient, which meets the standards and requirements of ASTM Practice E 1527, and with a date of certification within 45 days of the date of acquisition of the parcel(s) by Recipient, together with the statement required by Rule 9K-8.012(4), F.A.C.
- b. A letter from FCT indicating approval of the Management Plan written according to Rule Chapter 9K-7.011, F.A.C., and as described in Section IV above.
- c. A statement of the total Project Cost as defined in Rule Chapter 9K-7.002(29), F.A.C.
- d. A statement of the amount of the award being requested from the FCT.

conveyance of title to the Project Site in the Board of Trustees of the Internal Improvement Trust Fund or another local government or non-profit organization upon failure to use the Project Site conveyed thereby for such purposes.

4. A Grant Award Agreement containing such covenants and restrictions as referenced in paragraph 3 above and describing the real property subject to the Agreement shall be executed by the FCT and Recipient at the time of the reimbursement for the Project Site and shall be recorded in the county in which the Project Site is located. The Grant Award Agreement shall restate the conditions that were placed on the Project Site at the time of project selection and initial grant approval. All statements contained in the Grant Award Agreement are contained in this Agreement, with the exception of statements that do not survive the reimbursement for costs for the acquisition of the Project Site.

5. If any essential term or condition of the Grant Award Agreement is violated, and the Recipient does not correct the violation within 30 days of written notice of violation, title to all interest in the Project Site shall be conveyed to the Board of Trustees of the Internal Improvement Trust Fund. The deed transferring title to the Project Site to the Recipient shall set forth the executory interest of the Board of Trustees of the Internal Improvement Trust Fund.

6. The interest acquired by the Recipient in the Project Site shall not serve as security for any debt of the Recipient.

7. If the existence of the Recipient terminates for any reason, title to the Project Site shall be conveyed to the Board of Trustees of the Internal Improvement Trust Fund, unless FCT negotiates an agreement with another local government or nonprofit organization which agrees to accept title and to manage the Project Site.

## **VII. OBLIGATIONS OF THE FCT RECIPIENT AS A CONDITION OF PROJECT FUNDING**

1. Following the reimbursement for costs of the Project Site, the Recipient shall ensure that the future land use designation assigned to the Project Site is for a category dedicated to open space, conservation, or outdoor recreation uses as appropriate. If an amendment to the applicable comprehensive plan is required, the amendment shall be proposed at the next comprehensive plan amendment cycle available to the Recipient subsequent to the reimbursement for costs for the acquisition of the Project Site.

2. Recipient shall ensure, and provide evidence thereof to FCT, that all activities under this Agreement comply with all applicable local, state, regional and federal laws and regulations, including zoning ordinances and the applicable adopted and approved comprehensive plan.

- e. any change in the character or use of the Project Site from that use expected at the date of the issuance of any series of Bonds from which the disbursement is to be made;
- f. a management contract of the Project Site with any person or organization;  
or
- g. such other activity or interest as may be specified from time to time in writing by FCT to the Recipient.

3. If the Project Site, after its acquisition by the Recipient and/or the Trustees, is to remain subject to any of the "disallowable activities", the Recipient shall provide to FCT at least 60 calendar days advance written notice of any such transactions, events, and circumstances, and shall provide to FCT such information as FCT reasonably requests in order to evaluate the legal and tax consequences of such activity or interest for FCT approval.

4. In the event that FCT determines at any time that the Recipient is engaging or allowing others to engage in disallowable activities on the Project Site, the Recipient agrees to immediately cease or cause the cessation of the disallowable activity upon receipt of written notice from the FCT. In addition to all other rights and remedies at law or in equity, FCT shall have the right to seek temporary and permanent injunctions against Recipient for any disallowable activity on the Project Site.

DELEGATIONS AND CONTRACTUAL ARRANGEMENTS BETWEEN THE RECIPIENT AND OTHER GOVERNMENTAL BODIES, NONPROFIT ENTITIES, OR NON GOVERNMENTAL PERSONS FOR USE OR MANAGEMENT OF THE PROJECT SITE WILL IN NO WAY RELIEVE THE RECIPIENT OF THE RESPONSIBILITY TO ENSURE THAT THE CONDITIONS IMPOSED HEREIN ON THE PROJECT SITE AS A RESULT OF UTILIZING BOND PROCEEDS TO ACQUIRE THE PROJECT SITE ARE FULLY COMPLIED WITH BY THE CONTRACTING PARTY.

#### **IX. CONDITIONS PARTICULAR TO THE PROJECT SITE THAT MUST BE ADDRESSED IN THE MANAGEMENT PLAN**

The Management Plan for the Project Site is mentioned throughout this Agreement, and is particularly described in Section IV. above. In addition to the various conditions already described in this Agreement, which apply to all sites acquired with FCT funds, the Management Plan shall address the following conditions that are particular to the Project Site and result from either commitments made in the application that received scoring points or observations made by the FCT staff during the site visit described in Rule 9K-7.009(1), F.A.C.:

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12/20/2002  
Preacquisition

11. An ongoing monitoring and control program for invasive vegetation including exotic (non-native) and nuisance native plant species shall be implemented at the Project Site. The objective of the control program shall be the elimination of invasive exotic plant species and the maintenance of a diverse association of native vegetation. The Management Plan shall reference the Exotic Pest Plant Council's List of Florida's Most Invasive Species to assist in identifying invasive exotics on the Project Site.

12. A feral animal removal program shall be developed and implemented, as necessary, for dogs, cats, ducks, hogs, and other non-native wildlife that may be found on the Project Site.

13. Management of the Project Site shall be coordinated with the land managers of other conservation and preservation lands in the project area, including the National Wildlife Refuge.

14. Prior to the commencement of any proposed development activities, measures shall be taken to determine the presence of any archaeological sites. All planned activities involving known archaeological sites or potential site areas shall be closely coordinated with the Department of State, Division of Historic Resources, in order to prevent the disturbance of significant sites.

15. The location and design of the parking and other site improvements shall have minimal impact on natural resources.

16. The parking area shall incorporate pervious material wherever feasible.

17. The Project Site shall be managed as an addition to the Bunche Beach Park.

18. The Project Site shall be developed and managed as a support parcel of the Great Calusa Blueway paddling trail system and include trailhead facilities.

19. Proposed site improvements shall be designed and located to minimize or eliminate the long term risk of storm damage or flooding in conjunction with appropriate hazard mitigation agencies or experts.

20. The requirements imposed by other grant program funds that may be sought for activities associated with the Project Site shall not conflict with the terms and conditions of this Agreement.

This Agreement including Exhibit "A", if required, embodies the entire agreement between the parties.

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Preacquisition

Appendix B.  
Plant Species List

## Appendix B

### Plant Species for SCB-BBP

Common and scientific names for this list were obtained from Wunderlin, 1998.

		Habitat	Native Status
<b>Family: Pteridaceae (brake fern)</b>			
<i>Acrostichum aureum</i>	golden leather fern	CG	native
<b>Family: Poaceae (grass)</b>			
<i>Cenchrus ssp</i>	Sandbur	CB	depends on species
<i>Dactyloctenium aegyptium</i>	crowfootgrass	CB	exotic
<i>Distichlis spicata</i>	saltgrass	CB, CG	native
<i>Eustachys petraea</i>	pinewoods fingergrass	CB	native
<i>Monanthochloe littoralis</i>	shoregrass, keygrass	CG	native
<i>Muhlenbergia capillaris var. filipes</i>	gulf hairawn muhly	CB	native
<i>Panicum amarum</i>	bitter panicgrass	CB, CG	native
<i>Panicum maximum</i>	Guineagrass	CB	exotic
<i>Paspalum vaginatum</i>	seashore paspalum	CB	native
<i>Spartina bakeri</i>	sand cordgrass	CG	native
<i>Spartina patens</i>	saltmeadow cordgrass	CB	native
<i>Sporobolus virginicus</i>	seashore dropseed	CB	native
<i>Stenotaphrum secundatum</i>	St. Augustinegrass	CB	native
<i>Uniola paniculata</i>	sea oats	CB	native
<b>Family: Cyperaceae (sedge)</b>			
<i>Cyperus ligularis</i>	swamp flatsedge	CB, CG	native
<i>Fimbristylis cymosa</i>	hurricane grass	CB, CG	native
<i>Fimbristylis spadicea</i>	marsh fimbry	CB, CG	native
<b>Family: Arecaceae (palm)</b>			
<i>Sabal palmetto</i>	cabbage palm	CB, CG	native
<b>Family: Bromeliaceae (pineapple)</b>			
<i>Tillandsia fasciculata</i>	stiff-leaved wild pine	CG	native
<i>Tillandsia recurvata</i>	ball moss	CG	native
<b>Family: Commelinaceae (spiderwort)</b>			
<i>Commelina communis</i>	Asiatic dayflower	CB	exotic
<b>Family: Agavaceae (agave)</b>			
<i>Yucca aloifolia</i>	Spanish bayonet	CB	exotic
<b>Family: Dioscoreaceae (yam)</b>			
<i>Dioscorea bulbifera</i>	air-potato	CB	exotic
<b>Family: Casuarinaceae (sheoak)</b>			
<i>Casuarina equisetifolia</i>	Australian-pine	CB, CG	exotic
<b>Family: Fagaceae (beech)</b>			
<i>Quercus virginiana</i>	Virginia live oak	CG	native
<b>Family: Moraceae (mulberry)</b>			
<i>Ficus aurea</i>	strangler fig	CB, CG	native
<i>Ficus benghalensis</i>	banyan tree	CB	exotic
<i>Ficus microcarpa</i>	Indian laurel	CB	exotic
<b>Family: Polygonaceae (buckwheat)</b>			
<i>Coccoloba uvifera</i>	seagrape	CB, CG, TS	native
<b>Family: Chenopodiaceae (goosefoot)</b>			
<i>Salicornia perennis</i>	perennial glasswort	CG	native
<i>Suaeda linearis</i>	sea blite	CB, CG	native
<b>Family: Amaranthaceae (amaranth)</b>			
<i>Blutaparon vermiculare</i>	samphire	CB, CG	native
<i>Iresine diffusa</i>	juba's bush	CB	native
<b>Family: Bataceae (saltwort)</b>			
<i>Batis maritima</i>	saltwort	CB, CG	native
<b>Family: Aizoaceae (mesembryanthemum)</b>			
<i>Sesuvium portulacastrum</i>	shoreline seapurslane	CB, CG	native

**Plant Species for SCB-BBP**

<b>Family: Annonaceae (custard-apple)</b>			
<i>Annona glabra</i>	pond apple	CB	native
<b>Family: Fabaceae (pea)</b>			
<i>Acacia auriculiformis</i>	earleaf acacia	CG	exotic
<i>Canavalia rosea</i>	baybean	CB	native
<i>Crotalaria ssp.</i>	rattlebox	CB	depends on species
<i>Desmodium ssp.</i>	ticktrefoil	CB	depends on species
<b>Family: Anacardiaceae (cashew)</b>			
<i>Schinus terebinthifolius</i>	Brazilian pepper	CB, CG, TS	exotic
<i>Toxicodendron radicans</i>	eastern poison ivy	CB	native
<b>Family: Sapindaceae (soapberry)</b>			
<i>Cupaniopsis anacardioides</i>	carrotwood	CB	exotic
<b>Family: Malvaceae (mallow)</b>			
<i>Hibiscus tiliaceus</i>	sea hibiscus; mahoe	CB, CG	exotic
<i>Thespesia populnea</i>	seaside mahoe	CB	exotic
<b>Family: Combretaceae (combretum)</b>			
<i>Conocarpus erectus</i>	buttonwood	CG, TS	native
<i>Laguncularia racemosa</i>	white mangrove	TS	native
<b>Family: Myrtaceae (myrtle)</b>			
<i>Melaleuca quinquenervia</i>	punktree	CG	exotic
<b>Family: Plumbaginaceae (leadwort)</b>			
<i>Limonium carolinianum</i>	Carolina sealavender	CG	native
<b>Family: Convolvulaceae (morningglory)</b>			
<i>Ipomoea alba</i>	moonflowers	CB	native
<i>Ipomoea pes-caprae</i>	railroad vine	CB	native
<b>Family: Boraginaceae (borage)</b>			
<i>Heliotropium angiospermum</i>	scorpionstail	CB	native
<b>Family: Verbenaceae (vervain)</b>			
<i>Lantana camara</i>	lantana	CB	exotic
<i>Phyla nodiflora</i>	capeweed	CB	native
<b>Family: Avicenniaceae (black mangrove)</b>			
<i>Avicennia germinans</i>	black mangrove	TS	native
<b>Family: Lamiaceae (mint)</b>			
<i>Monarda punctata</i>	spotted beebalm	CB	native
<b>Family: Solanaceae (nightshade)</b>			
<i>Lycium carolinianum</i>	christmasberry	CG, TS	native
<i>Physalis walteri</i>	Walter's groundcherry	CB	native
<b>Family: Scrophulariaceae (figwort)</b>			
<i>Agalinis maritima</i>	saltmarsh false foxglove	CG	native
<b>Family: Cucurbitaceae (gourd)</b>			
<i>Momordica charantia</i>	balsampear	CB	exotic
<b>Family: Goodeniaceae (goodenia)</b>			
<i>Scaevola plumieri</i>	beachberry	CB	native
<i>Scaevola sericea</i>	beach naupaka	CB	exotic
<b>Family: Asteraceae (aster)</b>			
<i>Bidens alba</i>	beggarticks	CB	native
<i>Coreopsis leavenworthii lewtonii</i>	Leavenworth's tickseed	CB	native
<i>Flaveria linearis</i>	narrowleaf yellowtop	CB	native
<i>Rayjacksonia phyllocephala</i>	camphor daisy	CB	native
<i>Solidago sempervirens</i>	seaside goldenrod	CB	native

**Key**

CB: coastal berm

CG: coastal grassland

TS: tidal swamp



Appendix C.  
Bird Species List

Appendix C

Bird Species Sighted at SCBBBP

		Listed species Designated status		Occurance status
		FWC	FWS	
<b>Family: Gaviidae</b>				
<i>Gavia immer</i>	common loon			m
<b>Family: Pelecanidae</b>				
<i>Pelecanus occidentalis</i>	brown pelican	SSC		b
<i>Pelecanus erythrorhynchos</i>	American white pelican			m
<b>Family: Phalacrocoracidae</b>				
<i>Phalacrocorax auritus</i>	double-crested cormorant			b
<b>Family: Anhingidae</b>				
<i>Anhinga anhinga</i>	anhinga			b
<b>Family: Fregatidae</b>				
<i>Fregata magnificens</i>	magnificent frigatebird			b
<b>Family: Ardeidae</b>				
<i>Ardea herodias</i>	great blue heron (including white color morph)			b
<i>Ardea alba</i>	great egret			b
<i>Egretta thula</i>	snowy egret	SSC		b
<i>Bubulcus ibis</i>	cattle egret			b
<i>Egretta caerulea</i>	little blue heron	SSC		b
<i>Egretta tricolor</i>	tricolored heron	SSC		b
<i>Egretta rufescens</i>	reddish egret	SSC		b
<i>Butorides striatus</i>	green heron			b
<i>Nycticorax nycticorax</i>	black-crowned night-heron			b
<i>Nyctanassa violacea</i>	yellow-crowned night-heron			b
<b>Family: Threskiornithidae</b>				
<i>Eudocimus albus</i>	white ibis	SSC		b
<i>Plegadis falcinellus</i>	glossy ibis			b
<i>Eudocimus ruber</i>	scarlet ibis			b
<i>Ajaia ajaja</i>	roseate spoonbill	SSC		b
<b>Family: Ciconiidae</b>				
<i>Mycteria americana</i>	wood stork	E	E	b
<b>Family: Cathartidae</b>				
<i>Cathartes aura</i>	turkey vulture			b
<i>Coragyps atratus</i>	black vulture			b

19  
2  
5  
+ 1  
37

**Bird Species Sighted at SCBBBP**

<b>Family: Anatidae</b>				
Subfamily: Anatinae				
<i>Anas fulvigula</i>	mottled duck			b
<i>Anas discors</i>	blue-winged teal			b
Subfamily: Aythyinae				
<i>Melanitta perspicillata</i>	surf scoter			m
<i>Aythya affinis</i>	lesser scaup			
Subfamily: Merginae				
<i>Mergus serrator</i>	red-breasted merganser			m
<b>Family: Pandioninae</b>				
<i>Pandion haliaetus</i>	osprey	SSC		b
<b>Family: Accipitridae</b>				
Subfamily: Buteoninae				
<i>Haliaeetus leucocephalus</i>	bald eagle	T	T	b
<i>Buteo lineatus</i>	red-shouldered hawk			b
<b>Family: Falconidae</b>				
<i>Falco sparverius</i>	American kestrel			m
<i>Falco columbarius</i>	merlin			m
<i>Falco peregrinus</i>	peregrine falcon			m
<b>Family: Rallidae</b>				
<i>Gallinula chloropus</i>	common moorhen			b
<i>Rallus longirostris</i>	clapper rail			b
<b>Family: Charadriidae</b>				
<i>Pluvialis squatarola</i>	black-bellied plover			m
<i>Charadrius melodus</i>	piping plover	T	T	m
<i>Charadrius semipalmatus</i>	semipalmated plover			m
<i>Charadrius alexandrinus</i>	snowy plover	T		b
<i>Charadrius wilsonia</i>	Wilson's plover			b
<i>Charadrius wilsonia</i>	killdeer			b
<b>Family: Haematopodidae</b>				
<i>Haematopus palliatus</i>	American oystercatcher	SSC		b
<b>Family: Recurvirostridae</b>				
<i>Himantopus mexicanus</i>	black-necked stilt			b
<i>Recurvirostra americana</i>	American avocet			m

**Bird Species Sighted at SCBBBP**

<b>Family: Scolopacidae</b>				
<i>Limnodromus griseus</i>	short-billed dowitcher			m
<i>Limnodromus scolopaceus</i>	long-billed dowitcher			m
<i>Limosa fedoa</i>	marbled godwit			m
<i>Numenius americanus</i>	long-billed curlew			m
<i>Numenius phaeopus</i>	whimbrel			m
<i>Catoptrophorus semipalmatus</i>	willet			b
<i>Calidris canutus</i>	red knot			m
<i>Arenaria interpres</i>	ruddy turnstone			m
<i>Calidris alba</i>	sanderling			m
<i>Calidris minutilla</i>	least sandpiper			m
<i>Calidris mauri</i>	western sandpiper			m
<i>Actitis macularia</i>	spotted sandpiper			m
<i>Calidris alpina</i>	dunlin			m
<i>Tringa melanoleuco</i>	greater yellowlegs			m
<i>Tringa flavipes</i>	lesser yellowlegs			m
<i>Calidris himantopus</i>	stilt sandpiper			m
<i>Calidris melanotos</i>	pectoral sandpiper			m
<b>Family: Laridae</b>				
Subfamily: Larinae				
<i>Larus atricilla</i>	laughing gull			b
<i>Larus marinus</i>	great black-backed gull			m
<i>Larus fuscus</i>	lesser black-backed gull			m
<i>Larus argentatus</i>	herring gull			m
<i>Larus delawarensis</i>	ring-billed gull			m
<i>Larus philadelphia</i>	Bonaparte's gull			m
Subfamily: Sterninae				
<i>Sterna sandvicensis</i>	sandwich tern			m
<i>Sterna forsteri</i>	Forster's tern			m
<i>Chlidonias niger</i>	black tern			m
<i>Sterna caspia</i>	Caspian tern			m
<i>Sterna antillarum</i>	least tern	T		b
<i>Sterna maxima</i>	royal tern			b
Subfamily: Rynchopinae				
<i>Rynchops niger</i>	black skimmer	SSC		b
<b>Family: Columbidae</b>				
<i>Streptopelia decaocto</i>	Eurasian collared-dove			b
<i>Zenaida macroura</i>	mourning dove			b
<i>Columbina passerina</i>	common ground-dove			b
<i>Columba livia</i>	rock dove			b
<b>Family: Cuculidae</b>				
<i>Coccyzus minor</i>	mangrove cuckoo			b

**Bird Species Sighted at SCBBBP**

<b>Family: Strigidae</b>				
<i>Bubo virginianus</i>	great horned owl			b
<b>Family: Caprimulgidae</b>				
<i>Chordeiles minor</i>	common nighthawk			m
<b>Family: Alcedinidae</b>				
<i>Ceryle alcyon</i>	belted kingfisher			m
<b>Family: Picidae</b>				
<i>Dryocopus pileatus</i>	pileated woodpecker			b
<i>Melanerpes carolinus</i>	red-bellied woodpecker			b
<i>Colaptes auratus</i>	northern flicker			b
<b>Family: Tyrannidae</b>				
<i>Tyrannus tyrannus</i>	eastern kingbird			m
<i>Tyrannus dominicensis</i>	gray kingbird			b
<i>Sayornis phoebe</i>	eastern phoebe			m
<b>Family: Laniidae</b>				
<i>Lanius ludovicianus</i>	loggerhead shrike			b
<b>Family: Vireonidae</b>				
<i>Vireo altiloquus</i>	black-whiskered vireo			b
<i>Vireo griseus</i>	white-eyed vireo			b
<i>Vireo solitarius</i>	blue-headed vireo			b
<b>Family: Corvidae</b>				
<i>Cyanocitta cristata</i>	blue jay			b
<i>Corvus ossifragus</i>	fish crow			b
<b>Family: Hirundinidae</b>				
<i>Hirundo rustica</i>	barn swallow			m
<i>Tachycineta bicolor</i>	tree swallow			m
<i>Stelgidopteryx serripennis</i>	northern rough-winged swallow			m
<b>Family: Sylviidae</b>				
Subfamily: Polioptilinae				
<i>Polioptila caerulea</i>	blue-gray gnatcatcher			b
<b>Family: Mimidae</b>				
<i>Dumetella carolinensis</i>	gray catbird			m
<i>Mimus polyglottos</i>	northern mockingbird			b
<b>Family: Sturnidae</b>				
<i>Sturnus vulgaris</i>	European starling			b

**Bird Species Sighted at SCBBBP**

<b>Family: Parulidae</b>				
<i>Parula americana</i>	northern parula			b
<i>Dendroica pinus</i>	pine warbler			b
<i>Dendroica discolor</i>	prairie warbler			b
<i>Dendroica palmarum</i>	palm warbler			m
<i>Geothlypis trichas</i>	common yellowthroat			b
<i>Dendroica coronata</i>	yellow-rumped warbler			m
<i>Seiurus aurocapillus</i>	ovenbird			m
<i>Setophaga ruticilla</i>	American redstart			m
<b>Family: Cardinalidae</b>				
<i>Cardinalis cardinalis</i>	northern cardinal			b
<b>Family: Icteridae</b>				
<i>Quiscalus quiscula</i>	common grackle			b
<i>Quiscalus major</i>	boat-tailed grackle			b
<i>Agelaius phoeniceus</i>	red-winged blackbird			b
<i>Sturnella magna</i>	eastern meadowlark			b

**Key**

- 
- E: Endangered
  - T: Threatened
  - SSC: Species of Special Concern
  - FWC: Florida Fish and Wildlife Conservation Commission
  - FWS: U.S. Fish and Wildlife Service
  - m: migrant bird, passing through only
  - b: breeder, may or may not be migratory but breeds within the region

Appendix D.  
Animal Species List

Appendix D

Wildlife sightings at SCBBBP

		Designated Status		Confirmed Sighting
		FWC	FWS	
<b>Invertebrates</b>				
Group: <i>Actinarians</i>	sea anemones			X
<i>Busycon contrarium</i>	lightning whelk			X
<i>Callinectes sapidus</i>	blue crab			X
<i>Chthamalus dalli</i>	barnacles			X
<i>Crassostrea virginica</i>	oyster			X
<i>Penaeus duorarum</i>	pink shrimp			X
<i>Echinarachnius parma</i>	sand dollar			X
<i>Facsiolaria hunteria</i>	tulip snail			X
<i>Hippocampus ssp.</i>	sea horse			X
Family: <i>Holothuroidea</i>	sea cucumber			X
<i>Libinia emarginata</i>	spider crab			X
<i>Limulus polyphemus</i>	horseshoe crab			X
<i>Littorina ssp.</i>	periwinkle snail			X
Family: <i>Ophiuroidea</i>	brittle star			X
Family: <i>Paguridae</i>	hermit crabs			X
<i>Pleurobranchaea californica</i>	sea slug			X
<i>Uca ssp.</i>	fiddler crab			X
<b>Fish</b>				
<i>Acipenser oxyrinchus desotoi</i>	gulf sturgeon	SSC	T	
<i>Albula vulpes</i>	bonefish			x-RT
<i>Ammodytes hexapterus</i>	American sand lance			x-RT
<i>Archosaurus probatocephalus</i>	sheepshead			X
<i>Arius felis</i>	hardhead catfish			x-RT
<i>Bagre marinus</i>	gafftopsail catfish			x-RT
<i>Carcharhinus limbatus</i>	blacktip shark			X
<i>Centropomus undecimalis</i>	common snook			X
<i>Chaeotodipterus faber</i>	Atlantic spadefish			x-RT
<i>Chilomycterus schoepfi</i>	striped burrfish			x-RT
<i>Cynoscion nebulosus</i>	spotted seatrout			X
<i>Cynoscion nothus</i>	silver seatrout			x-RT
Family: <i>Cyprinodontidae</i>	killifish			X
<i>Dasyatis americana</i>	southern stingray			X
<i>Diodon holocanthus</i>	tongue fish			X
<i>Elops saurus</i>	ladyfish			X
<i>Epinephelus itajara</i>	goliath grouper			x-RT
<i>Epinephelus morio</i>	red grouper			x-RT
Family: <i>Gerreidae</i>	mojarra			x-RT
<i>Lactophrys ssp.</i>	cowfish			x-RT
<i>Lagodon rhomboides</i>	pin fish			X
<i>Lutjanus griseus</i>	mangrove snapper			X
<i>Megalops atlanticus</i>	tarpon			X
<i>Mugil cephalus</i>	striped mullet			X
<i>Mycteroperca bonaci</i>	black grouper			X
Family: <i>Ogcocephalidae</i>	batfish			x-RT
<i>Opsanus ssp.</i>	toadfish			x-RT



**Wildlife sightings at SCBBBP**

**Fish, continued**

<i>Paralichthys ssp.</i>	flounder			x
<i>Rhinoptera bonasus</i>	cow nose ray			x-RT
<i>Sardinella aurita</i>	Spanish sardine			x-RT
<i>Sciaenops ocellatus</i>	redfish			x
<i>Scomberomorus macubutus</i>	Spanish mackerel			x-RT
<i>Sphoeroides nephelus</i>	southern puffer fish			x
Family: <i>Syngnathidae</i>	pipe fish			x
<i>Synodus foetens</i>	inshore lizard fish			x
<b>Reptiles</b>				
<i>Crocodylus acutus</i>	American crocodile	E	E	
<i>Malaclemys terrapin macrospilota</i>	ornate diamondback terrapin			x
<i>Chelonia mydas</i>	green turtle	E	E	
<i>Eretmochelys imbricata</i>	Atlantic hawksbill	E	E	
<i>Caretta caretta</i>	loggerhead	T	T	x
<i>Lepidochelys kempii</i>	Kemp's ridley	E	E	
<i>Dermochelys coriacea</i>	leatherback	E	E	
<i>Anolis carolinensis</i>	green anole			x
<i>Anolis sagrei</i>	brown anole			x
<i>Nerodia fasciata compressicauda</i>	mangrove saltmarsh snake			x
<i>Coluber constrictor priapus</i>	southern black racer			x
<i>Drymarchon corais couperi</i>	eastern indigo	T	T	
<b>Mammals</b>				
<i>Procyon lotor</i>	raccoon			x
<i>Lynx rufus</i>	bobcat			x
<i>Trichechus manatus</i>	West Indian manatee	E	E	x
<i>Tursiops truncatus</i>	bottle-nosed dolphin			x
<i>Sylvilagus palustris</i>	marsh rabbit			x

**Key**

FWC = Florida Fish & Wildlife Conservation Commission

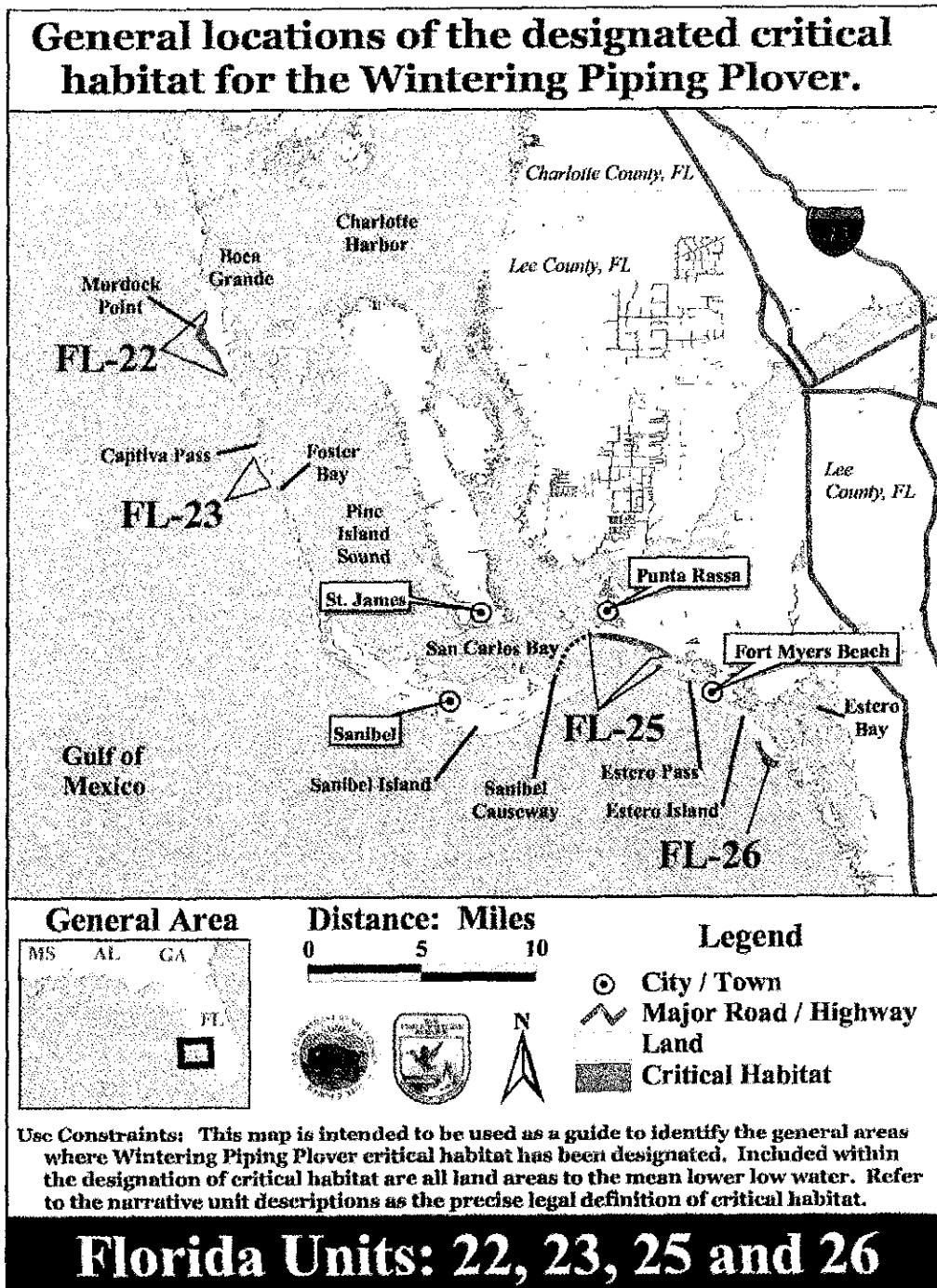
FWS = U.S. Fish & Wildlife Service

x-RT = only sighted after washing up on beach during a red tide

Appendix E.

USFWS Critical Habitat Map

Appendix E: USFWS Critical Habitat Map

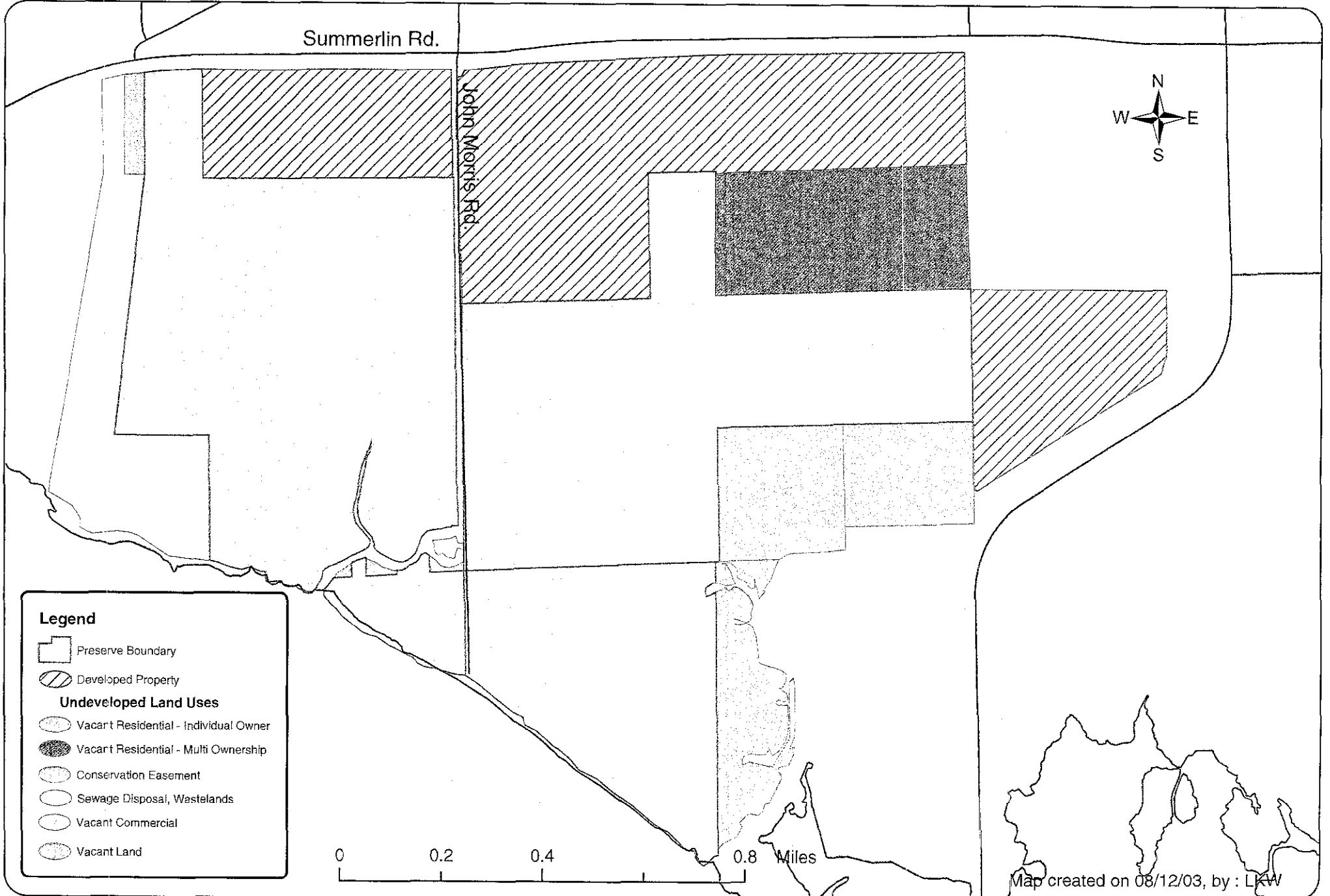


Some locations have been slightly enlarged for display purposes only.

Appendix F.

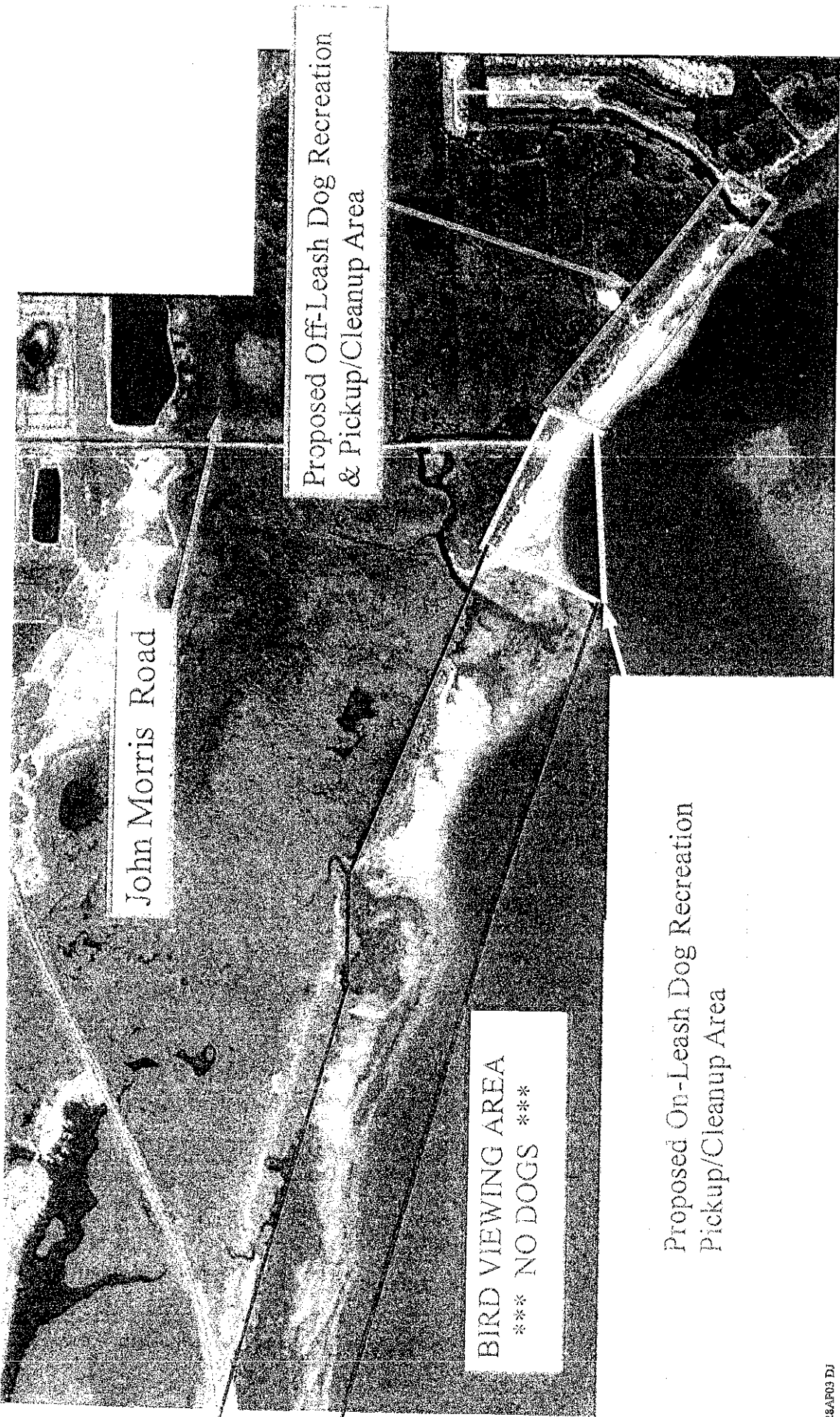
Surrounding Land Use Map

# Appendix F - Surrounding Land Use According to Department of Revenue Property Classification Codes



Appendix G.

S.O.O.D.A. Proposal



John Morris Road

Proposed Off-Leash Dog Recreation  
& Pickup/Cleanup Area

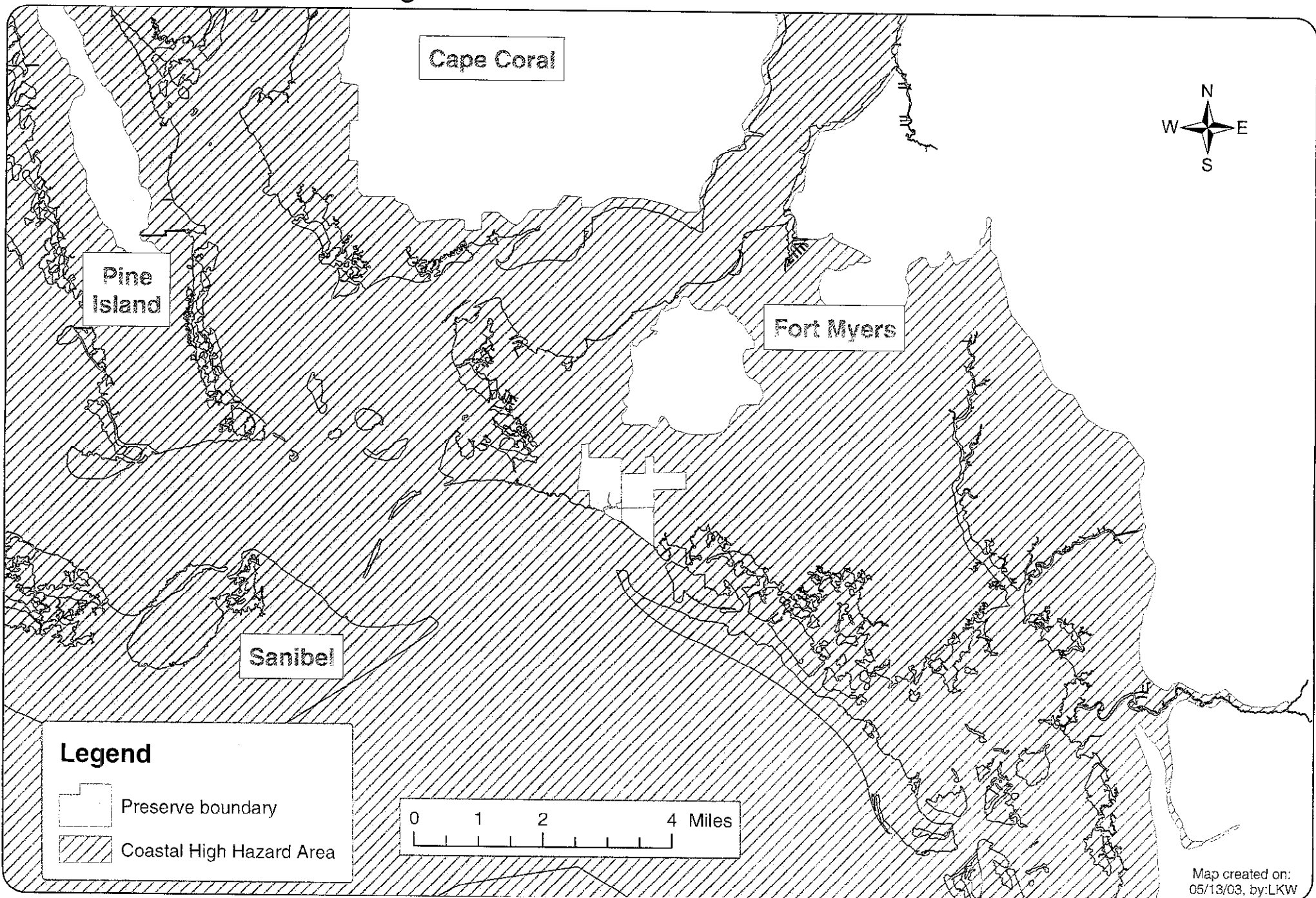
BIRD VIEWING AREA  
\*\*\* NO DOGS \*\*\*

Proposed On-Leash Dog Recreation  
Pickup/Cleanup Area

Appendix H.  
Coastal High Hazard Area



# Appendix H : Coastal High Hazard Area



Appendix I.

Conservation Easement Document and Map

Prepared by and return to:  
John K. Aurell  
Ausley & McMullen  
227 South Calhoun Street  
Tallahassee, Florida 32301

4285130

DR2894 P63892

10D  
CONSERVATION EASEMENT

This Deed of Conservation Easement ("Conservation Easement") is given this 29 day of October, 1997 by Summerlin Sands Limited Partnership, a Georgia Limited Partnership, whose address is 1000 Abernathy Road, N.E., Suite 1800, Atlanta, GA 30328 (hereinafter referred to as "Grantor" or "Summerlin") to the State of Florida Department of Environmental Protection whose address is Twin Towers Office Building, 2600 Blair Stone Road, Tallahassee, Florida 32399, its successors and assigns (hereinafter referred to as "Grantee").

WITNESSETH

WHEREAS, Summerlin is the owner of certain lands situated in Lee County, Florida and more specifically described in Exhibit "A" attached hereto and by this reference made a part hereof, and

WHEREAS, Summerlin and Grantee have entered into a certain Settlement Agreement dated the 22nd day of September, 1997, wherein Summerlin as Grantor and the Grantee did agree that in consideration of this Conservation Easement and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, all outstanding and unresolved issues and claims still pending and open under that certain consent Final Judgment dated September 1, 1988, in the case of Department of Environmental

By *[Signature]*  
JANIS GALEN, CLERK, LEE COUNTY  
Deputy Clerk

heirs, successors and assigns and the same shall remain in full force and effect forever; said Conservation Easement lands being described on Exhibit "B" attached hereto and by this reference made a part hereof ("the Conservation Property").

OR28914 PG38914

The scope, nature and character of this Conservation Easement shall be as follows:

1. It is the purpose of this Conservation Easement to retain the land and water areas of the Conservation Property in their restored and/or natural state in order that such areas be preserved as natural, scenic and open areas suitable as mangrove dominated wetland habitat for fish, plants and wildlife and to assure that the Conservation Property will be retained and maintained forever in its restored and/or natural state such that the vegetative and hydrologic conditions presently in existence on the Conservation Property shall be maintained and preserved forever.

To carry out this purpose, the following rights are conveyed to Grantee by this Conservation Easement:

(a) To enter upon the Conservation Property in a reasonable manner and at reasonable times to ensure compliance with and to enforce the rights granted herein.

(b) To enjoin any activity on or use of the Conservation Property that is inconsistent with this Conservation Easement and to enforce the restoration of such areas or features of the

OR2894 Pg3896

maintenance of land and water areas within the Conservation Property; and

(h) Acts or uses detrimental to the preservation of any features or aspect of the Conservation Property having historical, archeological or cultural significance.

3. Summerlin and Grantee recognize, understand and agree that within a portion of the Conservation Property described on Exhibit "B" Summerlin may apply for a permit to develop and construct a system of observation boardwalks and/or trails to be accessible by the general public for nonconsumptive uses, including but not limited to, photography, wildlife observation, hiking and the like. To the extent Summerlin determines to develop and construct the same, the plans, specifications, location, maintenance and operational parameters of the observation boardwalk and/or trails shall be subject to independent review, approval and permitting of the Grantee and/or other appropriate governmental authorities and as such Summerlin will be subject to the terms and conditions of such permits as will be required for the construction and operation of such observation boardwalks and trails. Nothing contained in this Conservation Easement shall be construed to prohibit the construction and operation of such observation boardwalks and trails provided the same are independently permitted as required by law.

4. Summerlin and Grantee recognize, understand and agree

DR2894 P63898

Easement; provided however, the Grantee may, without the consent of Summerlin, allow controlled access to the Conservation Property for the purpose of educational or scientific inquiry or for managed recreational uses when administered by the State of Florida, Lee County, or qualified and approved designee of either, such as The Nature Conservancy.

6. Summerlin reserves all rights as owner of the Conservation Property that are not specifically prohibited herein.

7. Summerlin shall assume and be responsible for any costs or liabilities related to the operation, upkeep and maintenance of the Conservation Property where, subsequent to the delivery, acceptance and recordation of this Conservation Easement, activities undertaken by Summerlin have given rise to a need for maintenance and upkeep. The obligations and liabilities of the Grantor shall run with the land and as such shall exist as to the Grantor only so long as the Grantor owns the underlying fee simple title to the Conservation Property.

8. Summerlin shall, to the extent required by law, pay any and all real property taxes and assessments levied on the Conservation Property.

9. The terms and conditions of this Conservation Easement may be enforced by the Grantee by injunctive relief and other

OR2894 PG3900

attendant vegetative mix and hydrology shall run with the land and shall be binding upon the successors and assigns of Summerlin and shall inure to the benefit of the Grantee and its successors and assigns.

13. If any provision of this Conservation Easement or the application thereof to any person or circumstance is found to be invalid, the remainder of the provisions of this Conservation Easement shall not be affected thereby, as long as the purpose of the Conservation Easement is preserved.

14. All notices, consents, approvals or other communications hereunder shall be in writing and shall be deemed properly given if sent by United States certified mail, return receipt requested, addressed to the appropriate party or its successor-in-interest. As of the date of this Conservation Easement, notices shall be sent to the following:

Summerlin Sands Limited Partnership  
Attention: Hilburn O. Hillestad, Ph.D.  
Jacoby Development Corporation  
1000 Abernathy Road, NE, 1800  
Atlanta, GA 30328

Ms. Lucianne Blair  
Branch Office Manager  
Department of Environmental  
Protection  
7451 Golf Course Boulevard  
Punta Gorda, Florida 33982

Any present or future party acquiring any interest in either the underlying fee simple time to the Conservation property or the Conservation Easement may notify the other party of any change in

all persons whomsoever when, and to the extent asserted, against the Conservation Property.

IN WITNESS WHEREOF, the parties hereto have affixed their hand and seal in manner and form sufficient to bind them on the 29 day of October, 1997.

SUMMERLIN SANDS LIMITED PARTNERSHIP

By: James F. Jacoby, Chairman  
Jacoby Development, Inc.

James F. Jacoby, CHAIRMAN  
General Partner

Signed in the presence of:

Mitchell B. Jacoby  
Print Name: Mitchell B. Jacoby

Deborah L. Rowland  
Print Name: Deborah L. Rowland

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

By: Margaret F. Higdon  
Grantee

Signed in the presence of:

Lucianne Blair  
Print Name: Lucianne Blair

Abdul B. Ahmadi  
Print Name: Abdul B. Ahmadi

DR2894 PG3902



EXHIBITS TO CONSERVATION EASEMENT

EXHIBIT "A" . . . SUMMERLIN LEGAL

EXHIBIT "B" . . . SUMMERLIN CONSERVATION PROPERTY

OR2894 P6390H

AND

Government Lot 1 in Section 13, Township 46 South, Range 23 East, LESS AND EXCEPT right of way for John Morris Road (Bunche Beach Road);

LESS AND EXCEPT the following:

From the northwest corner of said Section 13, run  $S00^{\circ}53'30''E$  along the west line of said section and the centerline of county road known as John Morris Road (Warren Road) (Bunche Beach Road) for 995 feet to the Point of Beginning of the lands excepted. From said point of beginning run  $S58^{\circ}57'30''E$  for 300 feet; thence  $S00^{\circ}53'30''E$  parallel with the west line of said Section 13 for 200 feet, more or less, to the waters of San Carlos Bay; thence northwesterly along said waters to a point on the west line of said Section 13; thence  $N00^{\circ}53'30''W$  along said section line for 200 feet, more or less, to the point of beginning.

DR2894 P63906

97 DEC -3 PM 4:39

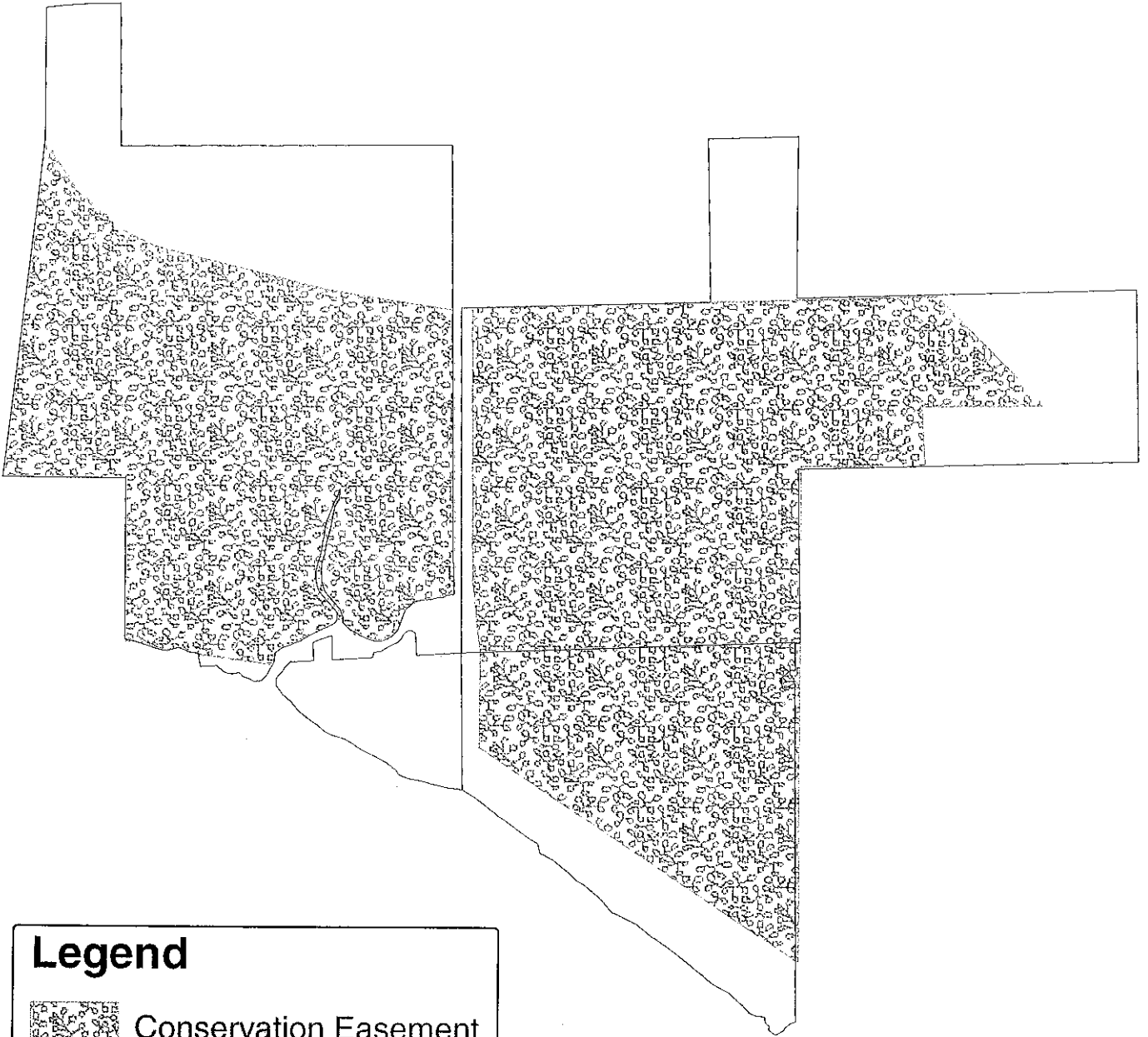
LEGAL DESCRIPTION  
CONSERVATION LANDS

A tract or parcel of land lying in Sections 12 and 13, Township 46 South, Range 23 East, Lee County, Florida, described as follows:


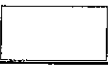
Commencing at the southwest corner of said Section 12; thence N87°14'02"E (Bearings based on the Florida West Zone State Plane Coordinate System, 1990 Adjustment of NAD 1983) along the south line of the Southwest Quarter (SW 1/4) of said Section 12 for 100.05 feet to the POINT OF BEGINNING; thence N06°11'18"W, leaving said south line, for 498.62 feet to the east right-of-way line of former Iona Drainage District Canal "D"; thence N00°53'42"W along said east line, which is parallel with and 54.00 feet east of the west line of said fraction of section, for 2218.55 feet to the north line of said fraction of section; thence N88°05'12"E along said north line for 2584.04 feet to the north east corner of said fraction of section; thence continue N88°05'12"E along the north line of the North Half (N 1/2) of the Southeast Quarter (SE 1/4) of said Section 12 for 900.00 feet; thence S28°04'29"E, leaving said north line, for 635.06 feet; thence S34°51'36"E for 628.38 feet; thence N83°23'48"W for 836.33 feet; thence S02°20'20"E for 360.00 feet to the south line of said fraction of section; thence S87°39'40"W along said south line for 720.00 feet to the southwest corner of said fraction of section; thence S00°56'37"E along the east line of the Southwest Quarter (SW 1/4) of said Section 12 for 1339.00 feet to the southeast corner of said fraction of section; thence S01°06'53"E along the east line of the Northeast Quarter (NE 1/4) of the Northwest Quarter (NW 1/4) of Section 13 for 1339.97 feet to the southeast corner of said fraction of section; thence continue S01°06'53"E along the east line of Government Lot 2 of said Section 13 for 1212.49 feet; thence N54°11'14"W, leaving said east line, for 3180.38 feet; thence N00°53'42"W parallel with and 100.00 feet east of the west line of Government Lot 1 of said Section 13 for 568.43 feet to the POINT OF BEGINNING. Containing 283.8 acres, more or less.

OR2 894 PG3908

# Conservation Easement



**Legend**

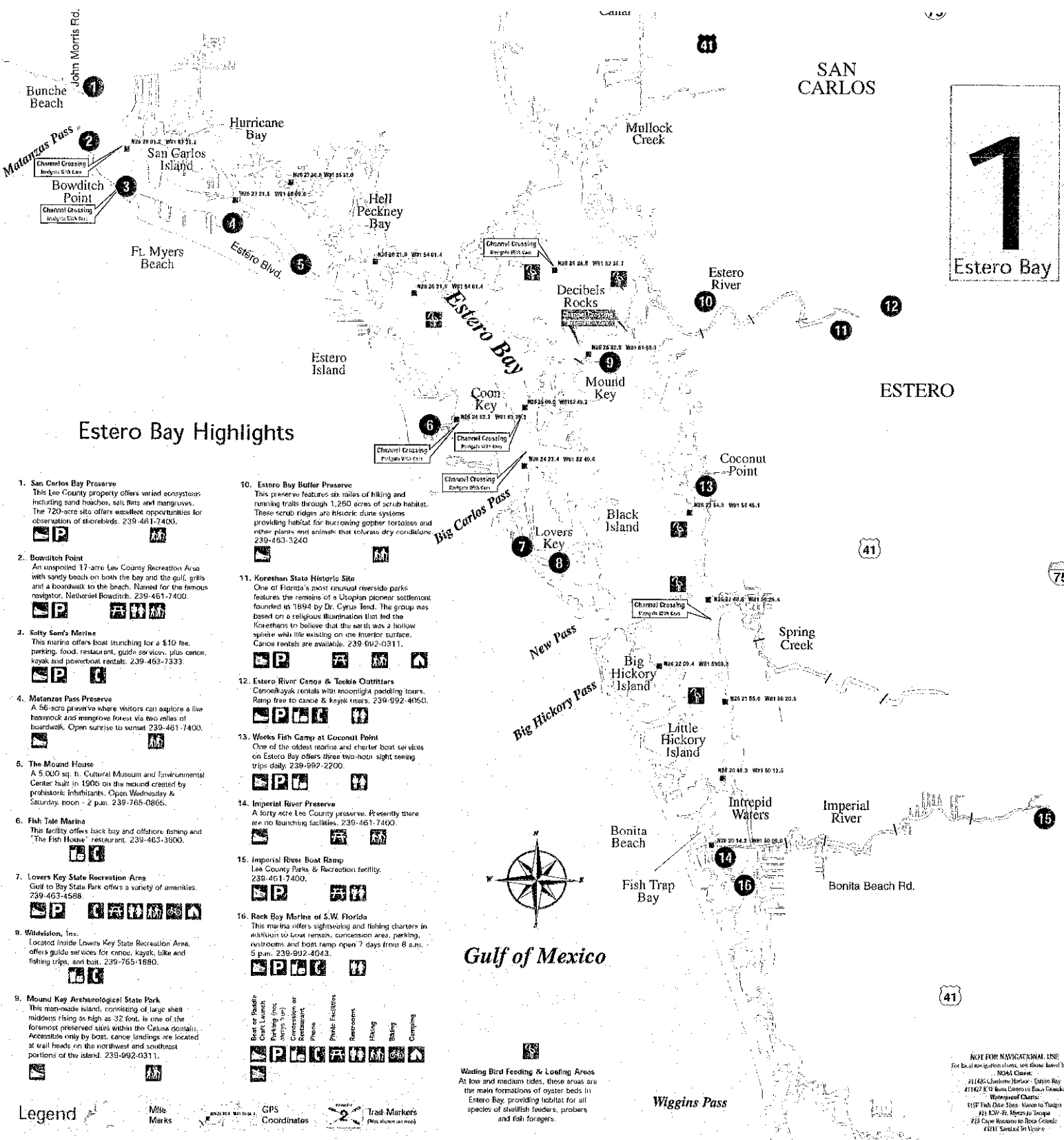
	Conservation Easement
	Preserve boundary



Map created on: 5/01/03, by: LKW

Appendix J.

The Great Calusa Blueway Map



SAN CARLOS

1  
Estero Bay

ESTERO

### Estero Bay Highlights

- San Carlos Bay Preserve**  
This Lee County property offers varied ecosystems including sand beaches, salt flats and mangroves. The 720-acre site offers excellent opportunities for observation of shorebirds. 239-461-7400.
- Bowditch Point**  
An unspoiled 17-acre Lee County Recreation Area with sandy beach on both the bay and the gulf, grills and a boardwalk to the beach. Named for the famous navigator, Nathaniel Bowditch. 239-461-7400.
- Salty Sam's Marine**  
This marina offers boat launching for a \$10 fee, parking, food, restaurant, guide services, plus canoe, kayak and powerboat rentals. 239-463-7333.
- Matanzas Pass Preserve**  
A 56-acre preserve where visitors can explore a live hammock and mangrove forest via two miles of boardwalk. Open sunrise to sunset. 239-461-7400.
- The Mound House**  
A 5,000 sq. ft. Cultural Museum and Environmental Center built in 1906 on the mound created by prehistoric inhabitants. Open Wednesday & Saturday, noon - 2 p.m. 239-765-0866.
- Fish Tale Marina**  
This facility offers back bay and offshore fishing and "The Fish House" restaurant. 239-463-3600.
- Lovers Key State Recreation Area**  
Gulf to Bay State Park offers a variety of amenities. 239-463-4588.
- Wildvision, Inc.**  
Located inside Lovers Key State Recreation Area, offers guide services for canoe, kayak, bike and fishing trips, and bait. 239-765-1880.
- Mound Key Archaeological State Park**  
This man-made island, consisting of large shell middens rising as high as 32 feet, is one of the foremost preserved sites within the Calusa domain. Accessible only by boat, canoe landings are located at trail heads on the northwest and southeast portions of the island. 239-992-0311.

- Estero Bay Buffer Preserve**  
This preserve features six miles of hiking and running trails through 1,260 acres of scrub habitat. These scrub ridges are historic dune systems providing habitat for burrowing gopher tortoises and other plants and animals that tolerate dry conditions. 239-463-3240.
- Koreshan State Historic Site**  
One of Florida's most unusual riverside parks features the remains of a Utopian pioneer settlement founded in 1894 by Dr. Cyrus Koresh. The group was based on a religious illumination that led the Koreshans to believe that the earth was a hollow sphere with life existing on the interior surface. Canoe rentals are available. 239-992-0311.
- Estero River Canoe & Tackle Outfitters**  
Canoe/kayak rentals with moonlight paddling tours. Ramp free to canoe & kayak users. 239-992-4060.
- Weeks Fish Camp at Coconut Point**  
One of the oldest marina and charter boat services on Estero Bay offers three two-hour sight seeing trips daily. 239-992-2200.
- Imperial River Preserve**  
A forty acre Lee County preserve. Presently there are no launching facilities. 239-461-7400.
- Imperial River Boat Ramp**  
Lee County Parks & Recreation facility. 239-461-7400.
- Reck Bay Marina of S.W. Florida**  
This marina offers sightseeing and fishing charters in addition to boat rentals, concession area, parking, restrooms, and boat ramp open 7 days from 8 a.m. 5 p.m. 239-992-4043.

**Legend**

- Boat or Beach
- Dark Launch
- Parking (free, metered, valet)
- Concession or Restaurant
- Public Facilities
- Restrooms
- Hiking
- Biking
- Camping

**Gulf of Mexico**

**Wading Bird Feeding & Loosing Areas**  
At low and medium tides, these areas are the main formations of oyster beds in Estero Bay, providing habitat for all species of wading birds, probers and fish foragers.

**NOT FOR NAVIGATIONAL USE**  
For exact navigation charts, see those listed below:  
NOAA Charts:  
#1425 Chesapeake Harbor - Estero Bay  
#1427 R/V from Estero to Boca Grande  
Waterway Charts:  
#157 Tall Pine Slides - Mason's Triangle  
#21 Boca Grande - Boca Grande  
#25 Cape Romano to Boca Grande  
#101 Sandbar to Venice

Legend

Mile Marks

GPS Coordinates

Trail Markers (Red blazes on rock)

Appendix K.

FNAI Field Report Form for Rare Animals

Scientific Name: \_\_\_\_\_

County: \_\_\_\_\_

Common Name: \_\_\_\_\_

Date observed: \_\_\_\_\_

Basis for Identification: \_\_\_\_\_

Investigator: \_\_\_\_\_

Location of Animal (please attach map and give specific directions; if possible, mark site on copy of USGS 7.5 minute topo map or draw detailed map on back of this page):

Describe habitat/plant community, list dominant species:

Extent of this habitat at site that may support animal (e.g., acres, miles) \_\_\_\_\_

Number of individuals (or nests, burrows, etc.) seen:

Estimated no. of individuals in population:

Age/population structure (adults, young, etc.): \_\_\_\_\_

Ecological/behavioral notes (e.g., reproductive stage, activity type, feeding, flying, nesting):

Have you seen this species at the same location in the past? Yes \_\_\_\_\_ No \_\_\_\_\_

If yes, please give date(s): \_\_\_\_\_ Previous condition: \_\_\_\_\_

Is there evidence of disturbance at the site? Yes \_\_\_\_\_ No \_\_\_\_\_

If yes, please describe:

Owner(s) of site: \_\_\_\_\_

Is owner protecting this animal? Yes \_\_\_ No \_\_\_\_\_

Conservation/Management

Needs \_\_\_\_\_

Comments (other useful information concerning this animal and site - e.g., names and addresses of individuals who might be helpful, publications, museum specimen numbers, etc. \_\_\_\_\_)

(please include any additional information on the back of this sheet.)

Additional forms may be obtained upon request. Please send completed field report forms to:

Submitted by: \_\_\_\_\_  
 Affiliation: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Phone: \_\_\_\_\_ Date: \_\_\_\_\_

Zoologist  
 Florida Natural Areas Inventory  
 1018 Thomasville Rd. Suite 200-C  
 Tallahassee, FL 32303; ph. (850) 224-8207  
 Fax (850) 681-9364; dnipes@fnaa.org



Appendix L.

FNAI Field Report Form for Rare Plants

**FLORIDA NATURAL AREAS INVENTORY**  
**FIELD REPORT FORM FOR RARE PLANTS**

Thank you for taking the time to complete and mail this form. Information from knowledgeable individuals such as yourself makes an important contribution to the FNAI Biological Conservation Database. If you need help with this form, or would like additional information, please call the FNAI Botanist at 850-224-8207.

Scientific name: \_\_\_\_\_ Common name: \_\_\_\_\_

Basis for identification/manual used: \_\_\_\_\_ Date(s) seen: \_\_\_\_\_

Photograph taken? \_\_\_\_\_ Specimen deposited at a herbarium? \_\_\_\_\_ Name of herbarium: \_\_\_\_\_

Quad name: \_\_\_\_\_ County: \_\_\_\_\_ Site or managed area name: \_\_\_\_\_ Directions

(please mark site on copy of USGS 7.5 minute quad map and attach to this form, or draw a detailed map on back of this page, or give GPS coordinates):

Describe the site where the plant was seen: habitat/plant community; topography; hydrology; dominant species in tree, shrub, and ground layers: \_\_\_\_\_

Estimated Size of Population (no. of individuals & size of area occupied):

Flowering? Yes\_\_ No\_\_ Fruiting? Yes\_\_ No\_\_ In bud? Yes\_\_ No\_\_ In leaf? Yes\_\_ No\_\_ Dormant? Yes\_\_ No

Comments

Have you seen this species at the same location in the past? Yes\_\_ No\_\_ If yes, give dates: \_\_\_\_\_ If yes, describe changes, if any, to site and population since last visit

Are there disturbances or threats (e.g. vehicle use, trash dumping, fire suppression, exotic species invasion) to the population?

If yes, please describe: \_\_\_\_\_ Is there evidence (e.g., fire breaks, scorching) of fire at the site? Yes\_\_ No\_\_ if yes, describe and give dates of recent fires, if known

Other useful information concerning the population, its ecological conditions, management history, management needs, names of individuals who might be helpful, etc.:

Your name: \_\_\_\_\_ Tel no.: \_\_\_\_\_ E-mail: \_\_\_\_\_

Address: \_\_\_\_\_

Please include any additional information on the back of this sheet. Please send this form to: Botanist, Florida Natural Areas Inventory, 1018 Thomasville Rd., Suite 200-C, Tallahassee, FL 32303. THANK YOU!

Appendix M.

Florida Exotic Pest Plant Council's 2003 List of Invasive Species

**DEFINITIONS:** *Exotic*—a species introduced to Florida, purposefully or accidentally, from a natural range outside of Florida. *Native*—a species whose natural range included Florida at the time of European contact (1500 AD). *Naturalized exotic*—an exotic that sustains itself outside cultivation (it has not "become" native). *Invasive exotic*—an exotic that not only has naturalized but is expanding on its own in Florida plant communities.

**Abbreviations used:** for "Gov. List": P = Prohibited by Fla. Dept. of Environ. Protection, N = Noxious Weed listed by Fla. Dept. of Agriculture & Consumer Services, U = Noxious Weed listed by U.S. Dept. of Agriculture. for "Reg. Dis.": N = north, C = central, S = south, referring to each species' current distribution in general regions of Florida (not its potential range in the state). See map.



## LIST PREPARED BY THE *Florida* Exotic Pest Plant Council's

### PEST PLANT LIST COMMITTEE:

- Keith A. Bradley*, Institute for Regional Conservation, 22601 S.W. 152<sup>nd</sup> Ave., Miami, FL 33170  
*Kathy Craddock Burks* (CHAIR), Invasive Plant Management, Florida Dept. of Environmental Protection, 3800 Commonwealth Blvd., MS 705, Tallahassee, FL 32399  
*Nancy Craft Coile*, Botanist Emeritus, Division of Plant Industry, Florida Dept. of Agriculture and Consumer Services, 22804 N.W. CR-2054, Alachua, FL 32615  
*James G. Duquesnel*, Florida Park Service, Fla. Dept. of Environmental Protection, P.O. Box 487, Key Largo, FL 33037  
*Edward Freeman*, The Nature Conservancy, 1413 Boulevard of the Arts, Sarasota, FL 34236  
*David W. Hall*, Private Consulting Botanist, 3666 N.W. 13<sup>th</sup> Place, Gainesville, FL 32605  
*Roger L. Hammer*, Miami-Dade Parks Department, Castellow Hammock Nature Center, 22301 S.W. 162<sup>nd</sup> Ave., Miami, FL 33030  
*Kenneth A. Langeland*, Center for Aquatic and Invasive Plants, IFAS, University of Florida, 7922 N.W. 71<sup>st</sup> St., Gainesville, FL 32606  
*Robert W. Pemberton*, Agricultural Research Station, U.S. Department of Agriculture, 2305 College Ave., Ft. Lauderdale, FL 33314  
*Daniel B. Ward*, Department of Botany, 220 Bartram Hall, University of Florida, Gainesville, FL 32611  
*Richard P. Wunderlin*, Institute for Systematic Botany, Department of Biological Sciences, University of South Florida, Tampa, FL 33620

For more information on invasive exotic plants, including links to related web pages, visit the

*Florida* EPPC web site: <http://www.fleppc.org>

5/20/03

**Category I** - Invasive exotics that are altering native plant communities by displacing native species, changing community structures or ecological functions, or hybridizing with natives. *This definition does not rely on the economic severity or geographic range of the problem, but on the documented ecological damage caused.*

Scientific Name	Common Name	Reg. Dis.	Gov. List	Scientific Name	Common Name	Reg. Dis.	Gov. List
<i>Abrus precatorius</i>	rosary pea	C, S		<i>Lygodium japonicum</i>	Jap. climbing fern	NCS	N
<i>Acacia auriculiformis</i>	earleaf acacia	S		<i>Lygodium microphyllum</i>	Old World climbing fern	C, S	N
<i>Albizia julibrissin</i>	mimosa, silk tree	N, C		<i>Macfadyena unguis-cati</i>	cat's-claw vine	NCS	
<i>Albizia lebbek</i>	woman's tongue	C, S		<i>Munilika zapata</i>	sapodilla	S	
<i>Ardisia crenata</i>	coral ardisia	N, C		<i>Melaleuca quinquenervia</i>	melaleuca	C, S	P, N, U
<i>Ardisia elliptica</i>	shoebutton ardisia	S		<i>Melita azedarach</i>	Chinaberry	NCS	
<i>Asparagus densiflorus</i>	asparagus-fern	C, S		<i>Mimosa pigra</i>	catclaw mimosa	C, S	P, N, U
<i>Bauhinia variegata</i>	orchid-tree	C, S		<i>Nandina domestica</i>	heavenly bamboo	N	
<i>Bischofia javanica</i>	bischofia	C, S		<i>Nephrolepis cordifolia</i>	sword fern	NCS	
<i>Calophyllum antillarum</i>	santa maria ("mast wood," "Alexandrian laurel" used in cultivation)	S		<i>Nephrolepis multiflora</i>	Asian sword fern	C, S	
<i>Casuarina equisetifolia</i>	Australian pine	NCS	P	<i>Neyraudia reynaudiana</i>	Burma reed	C, S	N
<i>Casuarina glauca</i>	suckering Australian pine	C, S	P	<i>Paederia cruddasiana</i>	sewer vine	S	N
<i>Cinnamomum camphora</i>	camphor tree	NCS		<i>Paederia foetida</i>	skunk vine	N, C	N
<i>Colocasia esculenta</i>	taro, wild taro	NCS		<i>Panicum repens</i>	torpedo grass	NCS	
<i>Colubrina asiatica</i>	latherleaf	S		<i>Pennisetum purpureum</i>	Napier grass	C, S	
<i>Cupaniopsis anacardioides</i>	carrotwood	C, S	N	<i>Pistia stratiotes</i>	water-lettuce	NCS	P
<i>Dioscorea alata</i>	winged yam	NCS	N	<i>Psidium cattleianum</i>	strawberry guava	C, S	
<i>Dioscorea bulbifera</i>	air-potato	NCS	N	<i>Psidium guajava</i>	guava	C, S	
<i>Eichhornia crassipes</i>	water-hyacinth	NCS	P	<i>Pueraria montana</i>	kudzu vine	NCS	N, U
<i>Eugenia uniflora</i>	Surinam-cherry	C, S		<i>Rhodomyrtus tomentosa</i>	downy rose-myrtle	C, S	N
<i>Ficus microcarpa</i>	laurel fig	S		<i>Ruellia brittoniana</i>	Mexican petunia	NCS	
<i>Hydrilla verticillata</i>	hydrilla	NCS	P, U	<i>Sapium sebiferum</i>	Chinese tallow	NCS	N
<i>Hygrophila polysperma</i>	green hygro	NCS	P, U	<i>Scaevola sericea</i>	beach naupaka	C, S	
<i>Hymenachne amplexicaulis</i>	West Indian marsh grass	C, S		<i>Schefflera actinophylla</i>	schefflera	C, S	
<i>Imperata cylindrica</i>	cogon grass	NCS	N, U	<i>Schinus terebinthifolius</i>	Brazilian pepper	NCS	P, N
<i>Ipomoea aquatica</i>	water-spinach	C	P, U	<i>Senna pendula</i>	Christmas senna	C, S	
<i>Jasminum dichotomum</i>	Gold Coast jasmine	C, S		<i>Solanum tampicense</i>	wetland nightshade	C, S	N, U
<i>Jasminum fluminense</i>	Brazilian jasmine	C, S		<i>Solanum viarum</i>	tropical soda apple	NCS	N, U
<i>Lantana camara</i>	lantana	NCS		<i>Synonium podophyllum</i>	arrowhead vine	C, S	
<i>Ligustrum lucidum</i>	glossy privet	N, C		<i>Syzygium cumini</i>	Java plum	S	
<i>Ligustrum sinense</i>	Chinese privet	NCS		<i>Tectaria incisa</i>	incised halberd fern	S	
<i>Lonicera japonica</i>	Japanese honeysuckle	NCS		<i>Thespesia populnea</i>	seaside mahoe	C, S	
				<i>Tradescantia fluminensis</i>	white-flowered wandering Jew	N, C	
				<i>Tradescantia spathacea</i>	oyster plant	S	
				<i>Urochloa mutica</i>	Pará grass	C, S	



**Appendix N - Projected Costs and Funding Sources Table**

*Structures & Improvements*

Item	Possible Funding Sources	Estimated Cost
Canoe/Kayak Launch Area	Conservation 20/20,	\$10,000
Bicycle Racks	Tourist Development Council (TDC)	\$1,000
Picnic Tables	and/or Florida Recreation Development	\$800
Bike Path, Boardwalk, Trails	Assistance Program (FERDAP)	\$3,000,000
Restrooms	Conservation 20/20	\$45,000
Parking Lot (Pervious Materials)	Conservation 20/20	\$90,000
		<b>\$3,146,800</b>

*Resource Enhancement & Protection*

Item	Possible Funding Sources	Estimated Cost
Invasive Exotic Plant Removal	Conservation 20/20 and/or DEP -	\$250,000
	Bureau of Invasive Plant Management	\$25,000
Native Plantings	US Fish and Wildlife Service	\$25000-50,000
Archaeological Resource Protection	Conservation 20/20	\$20,000
		<b>\$320,000</b>

*Educational Programs*

Item	Possible Funding Sources	Estimated Cost
Information Kiosk and Other Educational Signs	Conservation 20/20 and/or Lee	\$20,000
Educational Program Materials	County Parks and Recreation	\$2,000
		<b>\$22,000</b>

**TOTAL COST ESTIMATE**

**\$3,463,800**

*Site Management & Maintenance*

Item	Possible Funding Sources	Estimated Cost
Exotic Plant Control	Conservation 20/20	\$15,000 per year
Trail Maintenance		\$10,000 per year
Utilities	Lee County Parks & Recreation	\$1,000 per year
Upkeep		\$3,000 per year
Staff	Tourist Development Council (TDC)	\$40,000-60,000 per year

**Yearly Maintenance Estimate**

**\$69,000-\$89,000**

*All costs are rough estimates based on information currently available.*

Appendix N.

Projected Costs and Funding Sources Table

**Category II** - Invasive exotics that have increased in abundance or frequency but have not yet altered Florida plant communities to the extent shown by Category I species. *These species may become ranked as Category I, if ecological damage is demonstrated.*

Scientific Name	Common Name	Reg. Dis.	Gov. List	Scientific Name	Common Name	Reg. Dis.	Gov. List
<i>Adenanthera pavonina</i>	red sandalwood	S		<i>Leucaena</i>	lead tree	NCS	
<i>Agave sisalana</i>	sisal hemp	C, S		<i>Leucocephala</i>			
<i>Aleurites fordii</i>	tung oil tree	N, C		<i>Limnophila sessiliflora</i>	Asian marshweed	NCS	P
<i>Alstonia macrophylla</i>	devil-tree	S		<i>Livistona chinensis</i>	Chinese fan palm	C, S	
<i>Alternanthera philoxeroides</i>	alligator weed	NCS	P	<i>Merremia tuberosa</i>	wood-rose	S	
<i>Antigonon leptopus</i>	coral vine	NCS		<i>Murraya paniculata</i>	orange-jessamine	S	
<i>Aristolochia littoralis</i>	calico flower	N, C		<i>Myriophyllum spicatum</i>	watermilfoil	NCS	P
<i>Asystasia gangetica</i>	Ganges primrose	C, S		<i>Nymphoides cristata</i>	snowflake	C, S	
<i>Begonia cucullata</i>	wax begonia	N, C		<i>Panicum maximum</i>	Guinea grass	C, S	
<i>Broussonetia papyrifera</i>	paper mulberry	N, C		<i>Passiflora biflora</i>	2-flower passion v.	S	
<i>Callisia fragrans</i>	inch plant	C, S		<i>Pennisetum setaceum</i>	green fountain grass	S	
<i>Casuarina cunninghamiana</i>	Australian pine	C, S	P	<i>Phoenix reclinata</i>	Senegal date palm	C, S	
<i>Cecropia palmata</i>	trumpet tree	S		<i>Phyllostachys aurea</i>	golden bamboo	N, C	
<i>Cestrum diurnum</i>	day jessamine	C, S		<i>Pteris vittata</i>	Chinese brake fern	NCS	
<i>Chamaedorea seifritzii</i>	bamboo palm	S		<i>Ptychosperma elegans</i>	solitaire palm	S	
<i>Cryptostegia madagascariensis</i>	rubber vine	C, S		<i>Rhynchelytrum repens</i>	Natal grass	NCS	
<i>Cyperus involueratus</i> (C. alternifolius mis-applied)	umbrella plant	C, S		<i>Ricinus communis</i>	castor bean	NCS	
<i>Cyperus proflifer</i>	dwarf papyrus	C		<i>Sansevieria hyacinthoides</i>	bowstring hemp	C, S	
<i>Dalbergia sissoo</i>	Indian rosewood	C, S		<i>Sesbania punicea</i>	purple sesban	NCS	
<i>Elaeagnus pungens</i>	silvertortu	N, C		<i>Solanum diphyllum</i>	2-leaf nightshade	NCS	
<i>Epipremnum pinnatum</i> cv. Aureum	pothos	C, S		<i>Solanum jamaicense</i>	Jamaica nightshade	C	
<i>Ficus altissima</i>	false banyan, council tree	S		<i>Solanum torvum</i>	turkey berry	NCS	N, U
<i>Flacourtia indica</i>	governor's plum	S		<i>Syagrus romanzoffiana</i> (= <i>Arecastrum romanzoffianum</i> )	queen palm	C, S	
<i>Hemarthria altissima</i>	limpe grass	C, S		<i>Syzygium jambos</i>	rose-apple	C, S	
<i>Hibiscus tiliaceus</i>	mahoe	C, S		<i>Terminalia catappa</i>	tropical almond	C, S	
<i>Ipomoea fistulosa</i> (= <i>I. carnea</i> ssp. <i>fistulosa</i> )	strub motting-glory	C, S	P	<i>Terminalia muelleri</i>	Australian almond	C, S	
<i>Jasminum sambac</i>	Arabian jasmine	S		<i>Tribulus cistoides</i>	puncture vine	NCS	
<i>Kalanchoe pinnata</i>	life plant	C, S		<i>Urena lobata</i>	Caesar's weed	NCS	
<i>Koeleruteria elegans</i>	flamegold	C, S		<i>Wedelia trilobata</i>	wedelia	NCS	
				<i>Wisteria sinensis</i>	Chinese wisteria	N, C	
				<i>Xanthosoma sagittifolium</i>	elephant ear	NCS	



### Application for Membership in the Florida Exotic Pest Plant Council

#### Annual Membership Levels (CIRCLE ONE)

##### Individual

Student \$10  
General \$20  
Contributor \$50  
Donor over \$50

##### Institutional

Library \$100  
Contributor \$500  
Donor \$501 - \$10,000  
Patron over \$10,000

Name \_\_\_\_\_

Organization \_\_\_\_\_

Mailing Address \_\_\_\_\_

City, State, Zip \_\_\_\_\_

Telephone \_\_\_\_\_

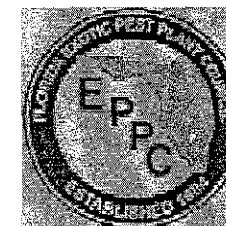
Fax \_\_\_\_\_

E-mail \_\_\_\_\_

Mail application & dues to:

Kris Serbesoff-King  
3301 Gun Club Rd.  
West Palm Beach, FL 33406

(Or sign up on-line at [www.fleppc.org](http://www.fleppc.org).)



## Florida Exotic Pest Plant Council's 2003 List of Invasive Species

#### PURPOSE OF THE LIST:

To focus attention on 1) the adverse effects exotic pest plants currently have on Florida's native biodiversity and the functioning of native plant communities, 2) the habitat losses from exotic pest plant infestations, 3) the impacts on endangered species via habitat loss and alteration, 4) the need to prevent habitat losses through pest-plant management, 5) the socio-economic impacts of these plants (e.g., increased wildfires in Melaleuca areas), 6) changes in the seriousness of different pest plants over time, and 7) the need to provide information that helps natural area managers set priorities for control programs.

[WWW.FLEPPC.ORG](http://WWW.FLEPPC.ORG)