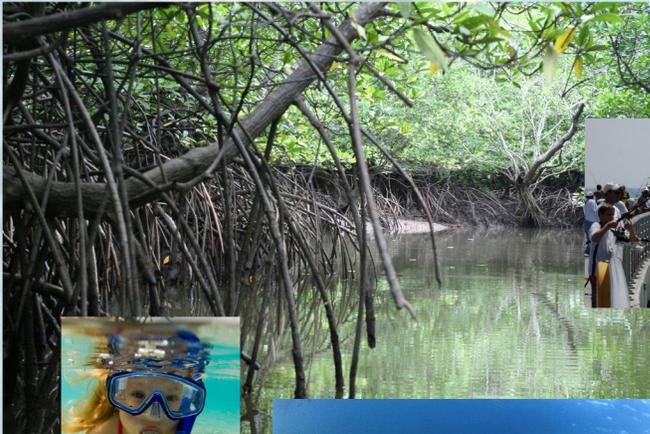


SEBASTIAN INLET STATE PARK: "A VISION OF TOMORROW"



A MASTERPLAN FOR SEBASTIAN INLET STATE PARK

Sebastian Inlet State Park: A Vision of Tomorrow

Submitted To:
Sebastian Inlet State Park
State of Florida Department of Environmental Protection:
Division of Recreation and Parks

Submitted By:
Ryan Pollack

with

The University of Florida
College of Design, Construction and Planning
Department of Landscape Architecture

*Senior Capstone project
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Acknowledgments

Primary Faculty Advisor:

Lester Linscott

Department Faculty and Staff

Additional Advisors

Jim Couillard w/ Marion County Parks and Recreation

Phillip Rands w/ Sebastian Inlet State Park

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A Special Thanks To:

My Mother and family whom this book is dedicated, for filling my life with constant love and support.

The faculty and staff of the entire Department for providing me with a rich educational experience here at the University of Florida.

My classmates who became close friends and mentors for me during these past five years

Jim Couillard for all of your time and professional knowledge these past two years.

INTRODUCTION

PREFACE:

The senior capstone project in the department of Landscape Architecture at the University of Florida involves taking on a project where you can implement the knowledge and experience you have received during your undergraduate education here at the University. It includes you choosing a project type related to the field, as well as an actual site to be analyzed for the implementation of the project.

Born and raised in the small rural Florida town of Melbourne Beach located on the east coast, I developed an interest in the flora, the wildlife and the elements of our states pristine coastal environments. I furthered that interest at the University of Florida and found my niche within the field after interning under a Landscape Architect designing for parks and recreation. This is what formed my decision to take on a capstone project relating to parks design.

In determining the location for the project, I knew I wanted to work on a project in the place I grew up in, giving me years of important knowledge about the region, people, natural elements and many factors to support the production of something great for the area. I wanted to work on a site deemed important not only for me, but for the area as well.

I selected The Sebastian Inlet State Park as my site for the project. I have been visiting this park since the age of three and know it well. It is a landmark for the people of both counties it occupies and has so much to offer its users.



THE VISION:

A fishing boat leaves the marina carrying a father and son out into the glassy waters of the Indian River Lagoon in hopes for an active day of fishing. The harbor master watches from a park bench under the shade of an oak as an osprey makes a dive for an early meal.

On their way south the two fishermen pass by a group of kayakers led by a park ranger on an interpretive aquatic tour of the most biologically diverse estuary in North America. They pass by miles of mangrove swamps and large expanses of grass flats.

On their way through the channel they spot children interacting with the gentle waters of the inlet cove while mothers relax under the shade of an umbrella.

Anglers from the north pier provide hints of the fishing forecast for the day as a number of them struggle with something on the line. As the boy and his father cruise past the pier and head north along the coast the new cafe' springs from the dunes with a couple sipping coffee from the second story gazing out over the Atlantic Ocean. Surfers are taking advantage of the clam morning winds and glassy conditions at arguably the best surfing spots in the east coast. The two in the boat continue north in search of pods of bait fish.

On their return trip through the inlet the two can smell burning fires from campsites to the south with the anticipation of eating their catch for the day back at the marina. This father and son along with the hundreds of thousands who visit the park annually realize they can't put a price on the unique experience they receive from the natural setting available.



INTRODUCTION

PROJECT GOAL:

The incredible growth and development in the state of Florida and more specifically along its coasts has caused significant degradation of the extraordinary yet fragile natural environments of these areas, threatening many exotic species, natural communities and important ecological systems. It is vital that we preserve and protect these natural areas, provide for recreational and interpretational opportunities, and educate individuals of all ages about the importance of these fragile natural settings, and what can be done to maintain them. The Sebastian Inlet State Park has been a great example for this, and yet still offers even more opportunities for natural enhancements and enjoyable experiences for its users.

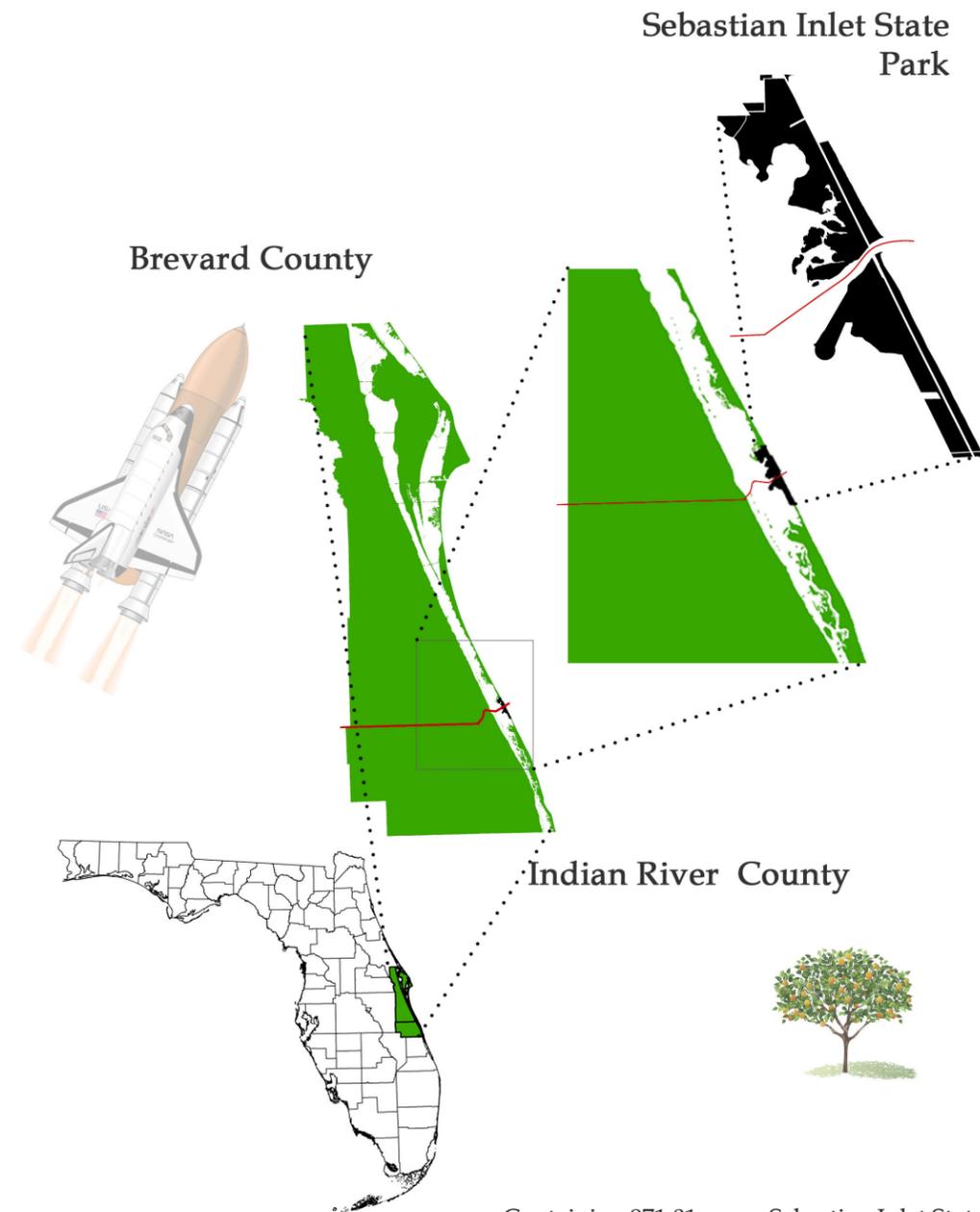
GUIDING PRINCIPLES

The balance of three interrelated guiding principles form the park masterplan, and remain just as important in the park's vision today, as they do over a long term period of time.

- 1. Preservation, Protection & Enhancement:** The importance of preserving the existing natural and cultural features of the site needs to remain a main focus through the design process. In addition, improvements to currently altered and impacted natural communities are another goal. The addition of proposed features and facilities, as well as improvements to existing site elements should have minimal impacts on the significant cultural and natural resources of the site. It is important that the current character of the site be preserved and that the park continues to be successful in preserving and protecting Florida's threatened natural coastal environments.
- 2. Recreation and More:** Improvements to existing site features, as well as the addition of new-use features to provide for resource-based recreation are another focus. The intent of these additions and enhancements is to improve the overall user experience of the site and to attract more visitors. Recreational elements will be a huge focus as they play a huge role in the effectiveness of environmental education, interaction and site experience.
- 3. Interpretation:** Interpretational elements in areas where locals and visitors have a chance to interact with the natural environment is key for understanding not only the importance of these areas but also the important roles humans can play, in protecting these natural environments in the 21st century. The outdoor educational program of the site should contain educational facilities, indoor and outdoor classrooms, and opportunities for field studies and outdoor laboratory experiences, among other components.



SITE VICINITY:



Containing 971.01 acres, Sebastian Inlet State Park is located in central Florida along the eastern Atlantic coast on a barrier island. It inhabits both Brevard County to the north and Indian River County to the south. The Park is 12 miles north of Vero Beach and 18 miles south of Melbourne. The park is split between the two counties by the inlet waterway. Roughly two-thirds of the park is located in Brevard County.

LAND USE

COUNTY WIDE

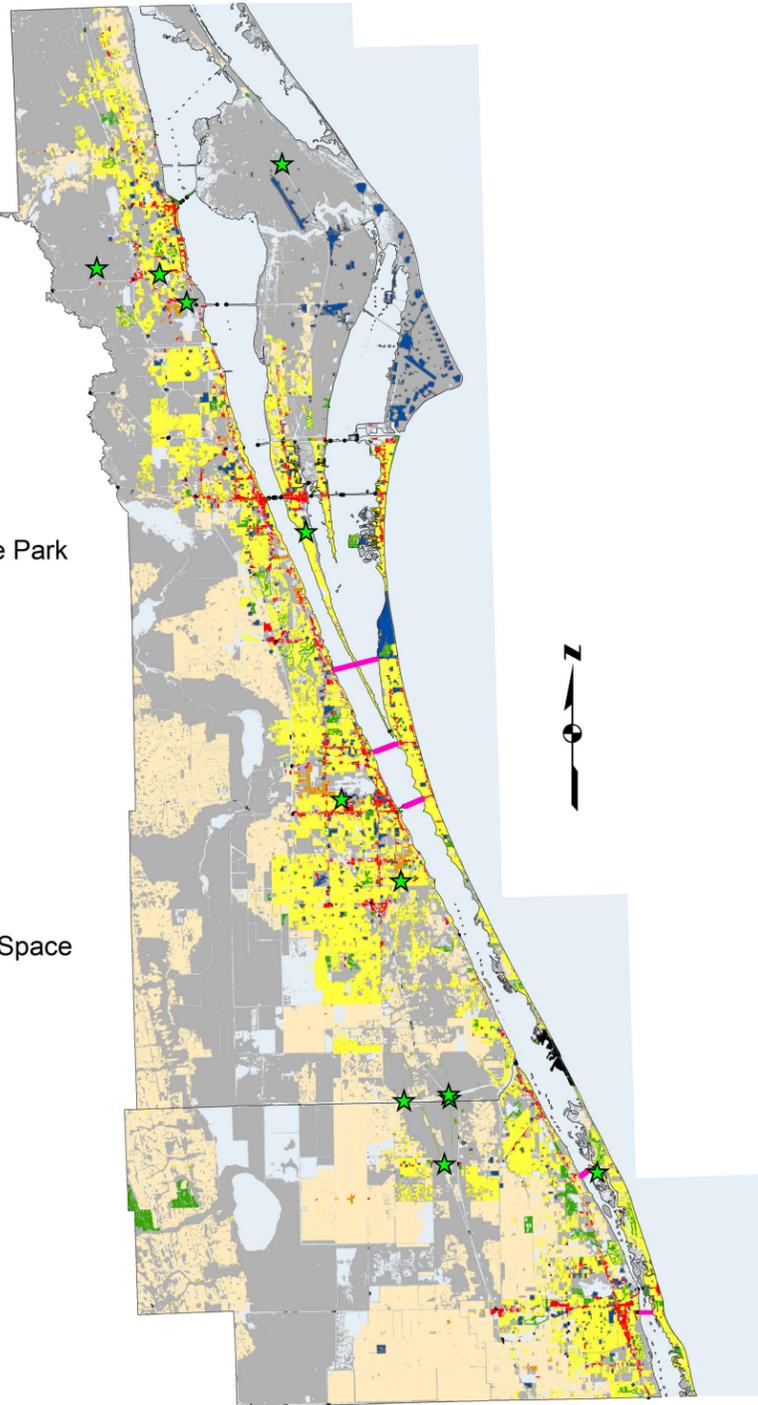
This map shows land uses for the combined Brevard and Indian River Counties. The map gives you an idea of how rural most of these two counties are. Almost three quarters of both counties are designated conservation and agricultural areas. Notably, a large area to the north called the Merritt Island National Wildlife Refuge covers 140,000 acres and served as inspirational site for my project.

Most of the dense areas are located mainland near major bridges connecting to the barrier island. Sebastian Inlet State Park can be seen to the southeast.

Legend

- ★ Case Studies
- Sebastian Inlet State Park
- Parks & Recreation
- State Parks
- Institutional
- Residential
- Commercial
- Industrial
- Agriculture
- Conservation/Open Space
- Bridges
- Water
- County Boundaries

0 3.5 7 14 Miles



Parks and Recreation



Conservation



Agriculture



Commercial

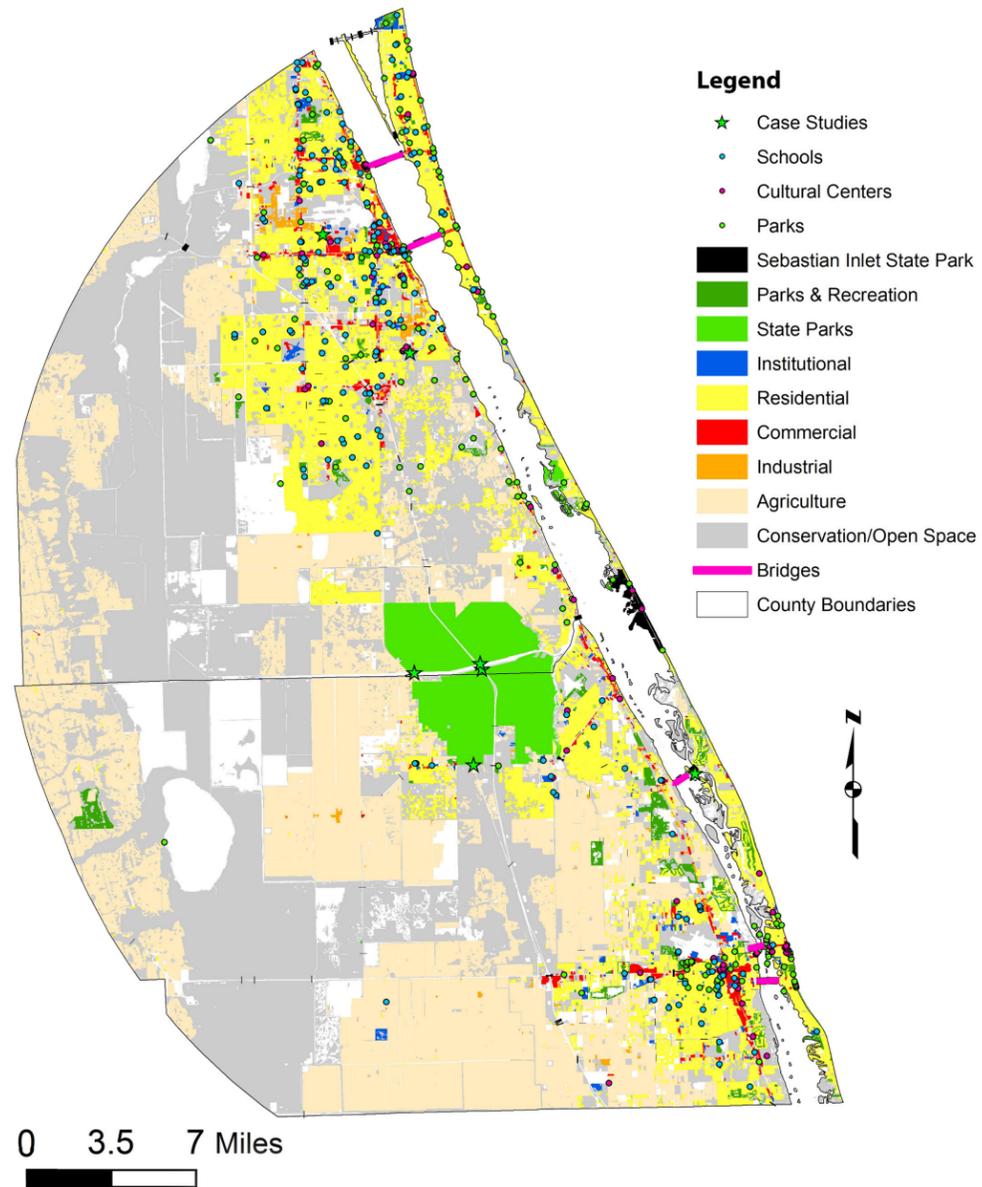


Residential



Institutional

25 MILE RADIUS



The 25-mile radius map shows significant areas as well as general character in closer proximity to the site. Concentrated analysis took place in areas near major connection from bridges. The map aided in locating significant areas to research for potential case studies. You can start to get an idea of the character of the area near to Sebastian Inlet State Park, and what areas on the mainland might take advantage of park amenities based on connectivity.



Parks and Recreation



Commercial



Conservation



Residential



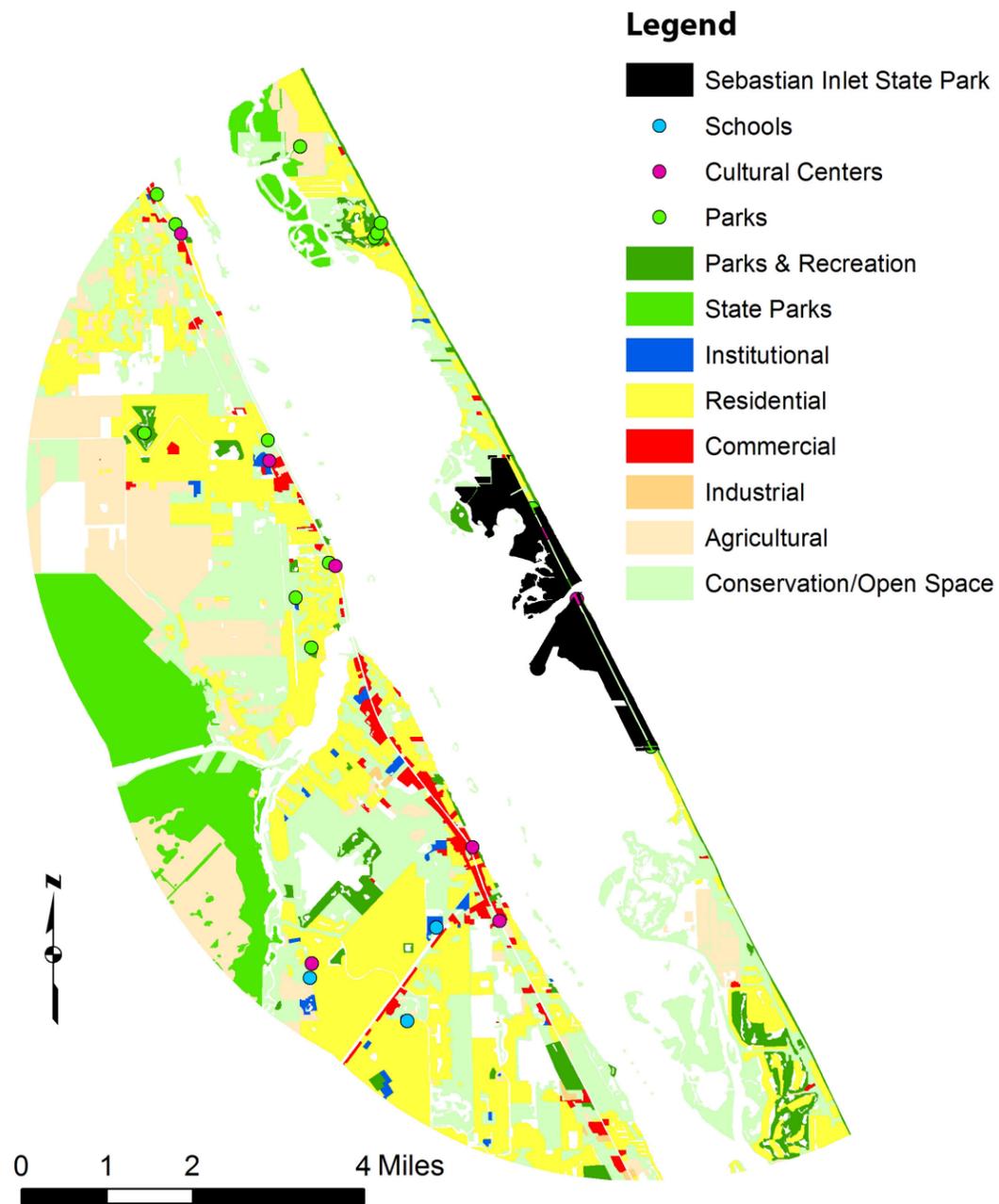
Agriculture



Industrial

LAND USE

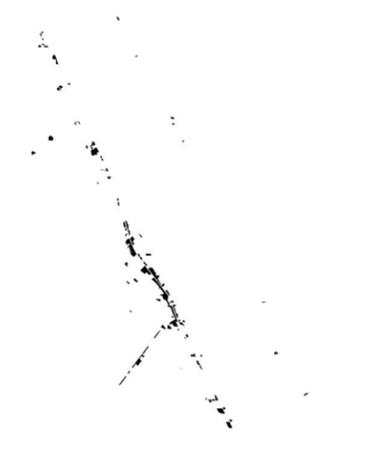
5 MILE RADIUS



The five mile land use map gives a good sense of what the land is like adjacent to the Park. This map shows the lack of connectivity to the barrier island in close proximity to the site. Almost all of the land within five miles of the site is either conservation and parks or low density residential and offers a pristine natural setting. Pelican Island is just to the south and Long Point Park is just to the north of Sebastian Inlet State Park.



Parks and Recreation



Commercial



Conservation



Residential



Agriculture



Industrial

PARK HISTORY

Formation: The history of the Sebastian Inlet area can be traced back to the end of the last ice age. Sandbars off the coast of the mainland formed the barrier islands. Paleo hunters were the first human inhabitants that moved in once vegetation took hold on the sandbars and animals began inhabiting the islands. The Ais Indians were more recent inhabitants of the barrier islands. They lived off the bounty of the land and sea and were a tribe of hunters and gatherers. By 1760, the Ais Indians disappeared as they succumbed to European diseases like the other natives of Florida.



Spanish Fleet of 1715: Eleven Spanish treasure galleons sank along the east central Florida coast in 1715. One of the survivors' campsites was located on the present day site of the McLarty Treasure Museum. While 1,500 people survived, seven hundred people lost their lives in this disaster. Situated on a survivors' camp of this ill-fated 1715 Spanish Plate Fleet, the museum features artifacts, displays, and an observation deck that overlooks the Atlantic Ocean.



Commercial Fishing: The lives and history of the people who lived in Sebastian were interwoven with the Indian River Lagoon and fishing. The lagoon provided not only food and transportation but also a means of livelihood for many of Sebastian's early residents. The commercial fishing industry helped make Sebastian what it is today.

Excavation: In 1872, a movement to dig an inlet on a strip of barrier island near present day Sebastian Inlet was promoted by Captain David P. Gibson. At that

time, the barrier island at the site of the proposed cut was approximately 260 feet wide. From 1901 to 1915 Six efforts to open the inlet took place with sand washing into the inlet as soon as it was excavated. In 1905 Roy O. Couch arrived in Brevard County whose name is now synonymous with the Sebastian Inlet. Mr. Couch raised money from private individuals and invested a great deal of his own money and formed the Sebastian Inlet Association. With Mr. Couch's persistent lobbying with the legislature and the Army Corps of Engineers and the formation of the Sebastian Inlet Association, a permit was finally issued by the War Department and the seventh effort to open the inlet began in April of 1918. The permit expired in December of 1918, giving the dredgers a very short time frame to complete the work. The impossible time frame in which to accomplish the work led Mr. Couch and several other prominent businessmen to Tallahassee to push through a bill for the land that surrounded the inlet to be encompassed into a local taxing district. In 1919 the Florida Legislature created the Sebastian Inlet District.



Construction Timeline



In 1924, the small jetties were completed and Sebastian Inlet was opened at its current location.

In 1939, at a cost of \$6,000, approximately 72,000 cubic yards of sediment are removed from the inlet.

In 1941 due to a northeaster the Inlet closed. It was left closed during World War II For safety reasons, then permanently blasted open in 1947 and has remained open since.

1950's- Several maintenance dredging projects were completed to deepen and widen the inlet channel throughout the 1950's. New construction extended both the north and south jetties.

1960's- The inlet sand trap was excavated to capture sand and prevent shoaling, and the Back Bay navigation channel was dredged.

1970's- Sand was dredged and placed to counter erosion on the downdrift beach. The north and south jetties were extended further.

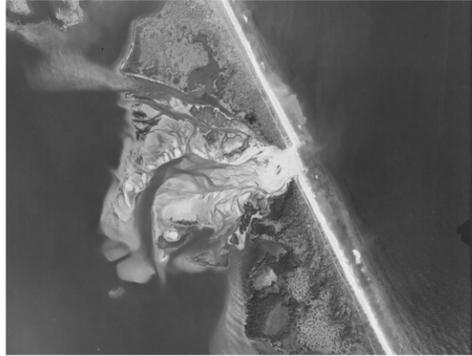
1980's- Over 200,00 cubic yards of sand was placed on the south beach after several dredging events occurred. Sand was stockpiled on Coconut Point and hauled to the beach.

1990's- A number of studies and monitoring projects were conducted at the inlet in the 90's in addition to maintenance dredging events and taking sand from the inlet trap and channel and placing on the downdrift beach. Engineering assessments of jetties, geotechnical evaluation of sand trap and shoals, and biological studies focusing on sea turtles, seagrass and reefs were conducted. Over 800,000 cubic yards of sand were placed on the downdrift beaches. State permit received in 1996 for dredging the navigation channel extension to the ICW, however, Federal permits denied due to presence of protected seagrass.

2000 - Present- Over 300,000 cubic yards of sand was placed on downdrift beaches. Major renovation of North jetty were completed with elevated concrete cap, handrails and grate system. Fortunately, the jetties survived the 2004 and 2005 hurricanes without significant damage. Due to shoaling at west end of channel, the navigation channel was temporarily reoriented to the southwest with buoy channel markers. To better define channel and manatee slow speed zones, permanent piling markers were placed in the inlet throat. State and Federal Permits were received to dredge the connection from the Inlet to the ICW. On July, 2007 dredging was completed and navigation markers were installed.



HISTORIC PHOTOS



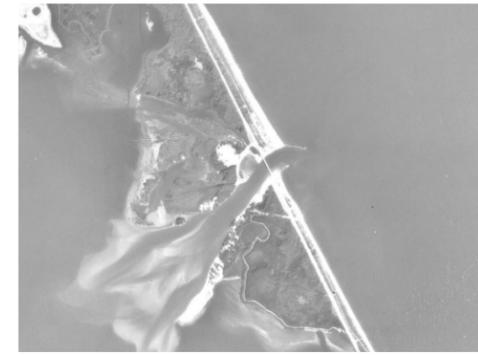
1943



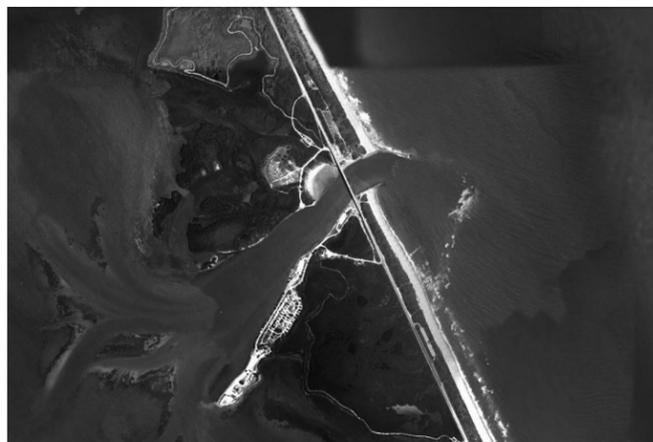
1951



1958



1971



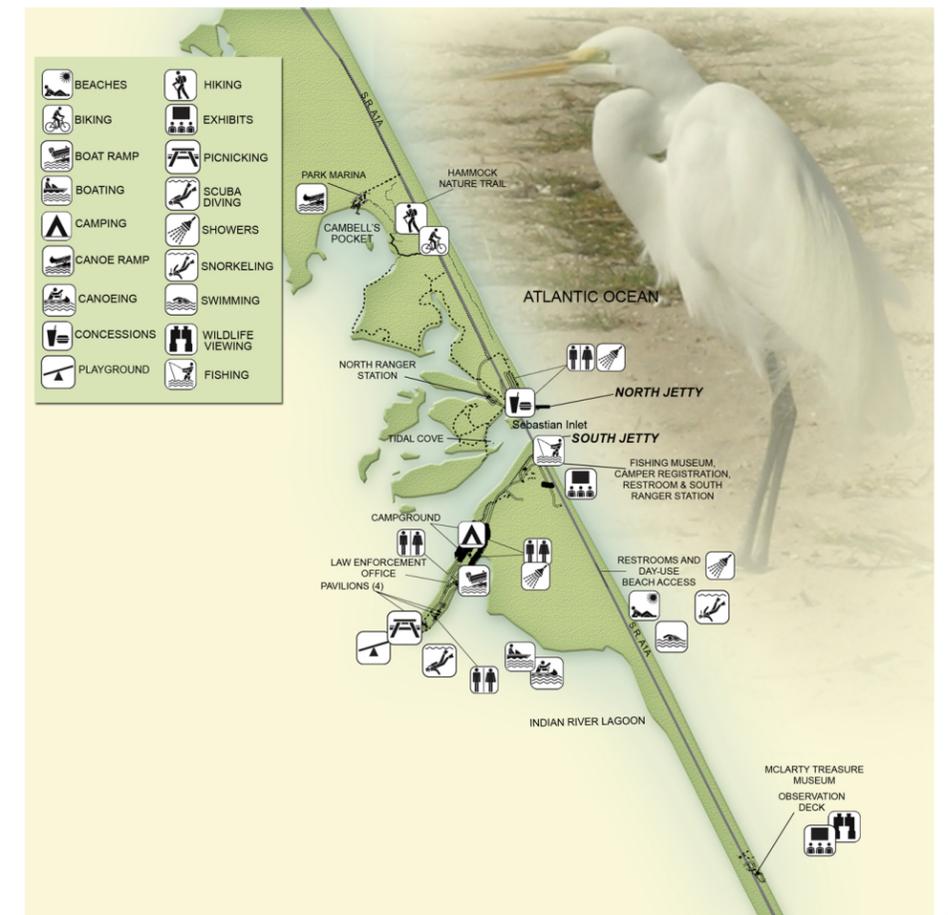
Today

PARK INFORMATION

In 1966 the State of Florida acquired the park with help of a donation by Robert P. McLarty. The park was acquired to protect, develop, and maintain the property for public outdoor recreation, conservation, historic and natural interpretation, and related purposes. In 2006, the Sebastian Inlet State Park was considered the sixth most popular park in the state of Florida bringing in an estimated 800,000 visitors annually.

It now offers premier saltwater fishing, and is a favorite for anglers nationwide for catching snook, bluefish, redfish, and Spanish mackerel from its two jetties. Surfing has also become a popular recreation and the Park offers some of the best waves on the east coast of not only Florida, but the entire country. Sebastian Inlet State park holds several major surf competitions each year bringing in spectators and surfers from all over the world. Two museums provide a history of the area, one being the McLarty Treasure Museum named after Robert P. McLarty, which features the history of the 1715 Spanish treasure fleet. The second museum is the Sebastian Fishing Museum which tells the history of the area's fishing industry of the 1800 and 1900's. Three miles of beautiful beaches provide opportunities for swimming, scuba diving, snorkeling, shelling, and sunbathing. Visitors have the opportunity to canoe and kayak in the most biologically diverse estuary in the country, the Indian River Lagoon. The eight mile-long Hammock Trail gives visitors a chance to relax with a stroll and an experience with an abundance of wildlife. A full facility campground make a popular weekend retreat adjacent mangrove marshes with great views to the inlet.

Over seven plant communities are contained within the park that offer a variety of wildlife including a number of threatened and endangered species. It is currently part of the Florida Greenways and Trails System. With an abundance of recreational opportunities, history, culture and natural amenities, the Sebastian Inlet State Park offers something for everyone and has the potential for so much more.



EXISTING FEATURES



The Park offers over three miles of wide sandy beaches both north and south of the inlet with multiple access points and parking.



The sport of surfing has really grown in popularity recently and Sebastian Inlet Park offers arguably the best surfing in Florida. People come from all over the state and the southern east coast to take advantage of the waves the north jetty produces as well as monster hole and spanish house breaks.



Beach, river, or inlet anglers will all be pleased with the fishing within the park. Fishermen come from all over to fish from the Park's north jetty for prized fish like redfish, snook, snapper, etc. There are few places better along the east coast of Florida.



Swimming can be done along the miles beach or the inlet cove where waters are more gentle and pounding waves and currents are non existent.



The reefs along the beach and structure of the jetties provide for exceptional diving inshore and offshore the Atlantic ocean provides endless miles for diving.



Canoeing and kayaking the Lagoon is a popular aquatic activity. The mangrove swamps and grassy flats of the Lagoon are great for observing an abundance of wildlife.



A hiking trail winds for roughly a mile through a hardwood hammock community as well as mangrove swamps with interpretive signage along the way.



A forty-mile long paved multi-use trail runs along A1A and along the Lagoon with access to the beach. There are three different biking trails within the park with a combination of both paved and unpaved surfaces through sandy and swampy areas.



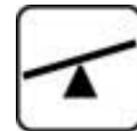
Over 180 different types of birds can be viewed throughout the year from the park which is part of the Great Florida Birding Trail. The beaches of Brevard county offer the largest nesting assemblage of sea turtles in the United States.



Boaters have access to the freshwater of the Sebastian River, the brackish waters of the Indian River Lagoon, the Intercoastal Waterway, and to the salty water of the Atlantic Ocean. The Gulf Stream is located about 25 to 30 miles east of Sebastian Inlet.



Two different areas within the park provide boat ramps into the Indian River Lagoon and are only a minutes ride through the Inlet into the Atlantic, and a few miles to the fresh water of the Sebastian River.



A modern playground facility is located at the tip of coconut point campground surrounded by great views to the inlet, lagoon, mangrove swamps and very close to a protected eastern shorebird nesting area.



A full facility campground at coconut point overlooks the waters of the Indian River Lagoon and Sebastian Inlet. Two rest room facilities are provided as well as a playground for children.



Four waterfront pavilions are located on the south side of the inlet. They can accommodate sixty people each and can rented for full day or half day events.



Concessions are provided north of the inlet within the boardwalk system which provides access to the beach. There is also a small gift shop within the same building.



Two ADA accessible rest room facilities can be found north of the inlet, and also at both museums, the campground and boat ramp areas.



Outdoor showers are located within the boardwalk system north of the inlet and by the Sebastian Fishing Museum as well.



Picnic areas are found throughout most areas of the park heavily used by visitors. A large picnic area between the parking lot and concessions building offers many tables.

EXISTING FEATURES

Located on a barrier island between the Indian River Lagoon and the Atlantic Ocean, and on both sides of the Sebastian Inlet, the Park provides a wide variety of natural amenities and recreational, cultural and historical features.

Natural & Recreational Features



First Peak



North Jetty



Indian River Lagoon



Atlantic beaches



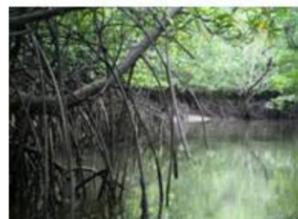
Inlet Cove



Hammock Trail



Full Facility Campground



Mangrove Swamps



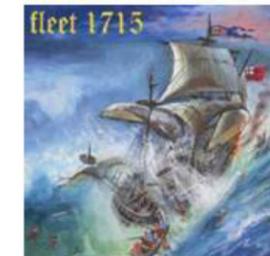
Dune Habitats

There are thirteen recorded archeological sites within the Park with four in Brevard County and nine within Indian River County. The McLarty Treasure Museum displays artifacts excavated mostly from the native populations and 1715 Spanish Fleet wreck. Most of the archeological sites consist of shell middens and one sand mound. These elements within the park and in the museum offer more opportunities for education and interpretation.

Cultural & Historical Features



Ais Indians, 1760



Spanish Fleet of 1715



Commercial Fish Camps, 1800's



Inlet Opening, 1924



1949



Mosquito Impoundments, 1950's



Fishing Museum



McLarty Treasure Museum



Annual Surf Contests

The E.L.C. is a non-profit environmental learning center located in Vero Beach, Fl. The campus offers an abundance of hands on educational opportunities for all ages.

Mission Statement: "To provide comprehensive environmental education that will instill an understanding of our natural world and will motivate participants to be active stewards of our natural resources."

Ownership: Non-profit organization
 Proximity: 12 miles from Sebastian Inlet State Park
 Scale: 64 acres

Strengths

- Diversity of ecosystems
- Extensive interpretive trail system (over .5 miles)
- Effective donation program
- Abundance of educational opportunities
- Boardwalk with interactive signage
- Aquatic tours
- Indoor & outdoor classes
- Wet lab
- Native greenhouse
- Educational Programs (mangrove plantings)

Weaknesses

- Environmental focus concentrated on the lagoon ecosystem
- Capacity of site limits recreation & expansion



This sanctuary features an education center, trail system and amphitheatre. It was the Environmentally Endangered Lands Program 's first purchase with the goal to create a network of sanctuaries throughout Brevard County.

Ownership: Environmentally Endangered Lands Program
 Proximity: 61 miles from Sebastian Inlet State Park
 Scale: 470 acres

Recreational Elements:

- Wildlife observation
- Hiking

Educational Elements

- Cultural/historical & natural trail interpretation
- Environmental Learning Center
- Library
- Science room
- Interactive exhibits

Strengths

- Diversity of ecosystems
- Abundance of wildlife
- Variety of trail and boardwalk systems
- Cultural interpretation
- Modern learning center
- Classroom
- Interactive exhibit
- Library
- Science exploration room
- Outdoor amphitheatre

Weaknesses

- Limited recreational features
- Few programs offered



SHELDON LAKE STATE PARK

Sheldon Lake State Park & Environmental Learning Center is a 2,800 acre outdoor education and recreation facility located in northeast Harris County with five different trails totaling over 1.5 miles and two aquatic labs.

Ownership: State Parks & Recreation
 Proximity: West Texas
 Scale: 2,800acres

Recreational Elements:

- Hiking
- Wildlife observation
- Boating
- Fishing

Educational Elements

- Environmental learning center
- Two aquatic labs
- Science room
- Interactive exhibits
- Programs

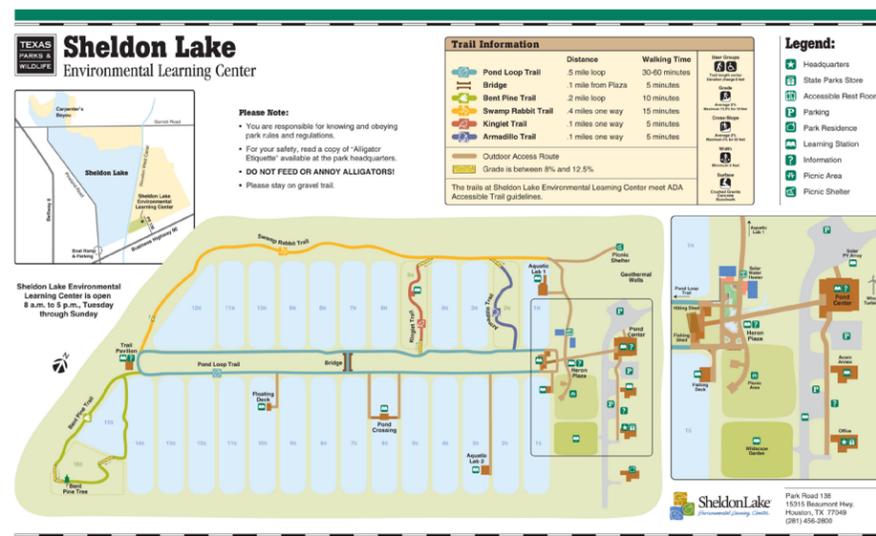


Strengths

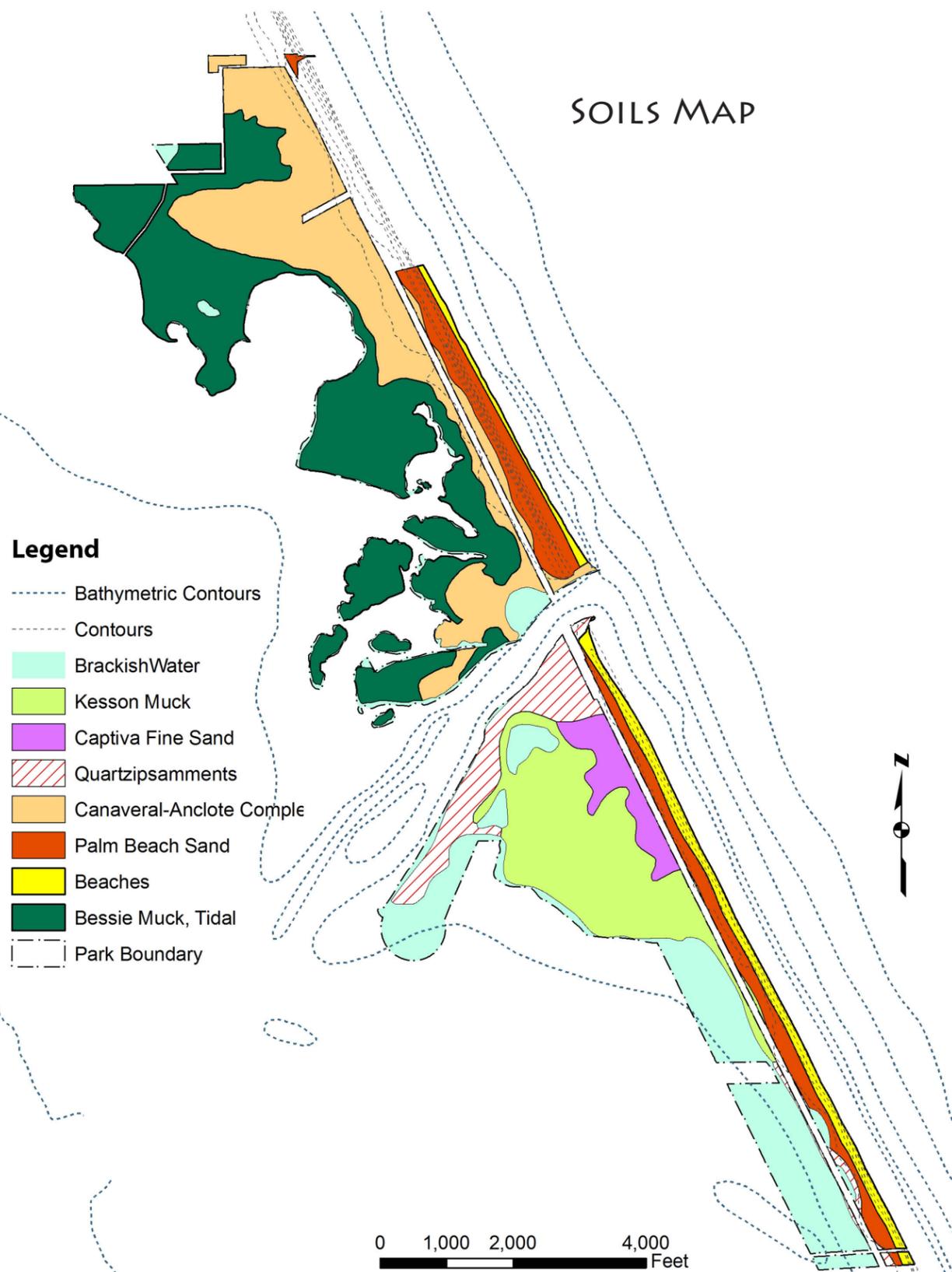
- Variety of hiking trails
- Broad range of educational elements
- Alternate energy
- Green building
- Compost demonstration
- Native demonstration gardens
- Wildlife viewing ponds
- Aquatic labs

Weaknesses

- Lack of variety of natural communities



SOILS MAP



Topography- As displayed by the contours within the soils map there is little grade change throughout the site. Along the east side of the site along the dune systems there is an elevation difference of roughly five feet. There is however significant bathymetric elevation changes moving east from the shoreline into the Atlantic Ocean. The gentle sloping bathymetric contours adjacent the west side of the site within the Indian River Lagoon display shallow areas with a deep channel dug out for navigation through the inlet water.

Geology- Consisting mainly of Hawthorn group deposits, the Park is inter bedded with limestone, dolomite, sand and clay laid down 23 to 13 million years ago in the Miocene times. Overlaying the Hawthorn Group is the Anastasia Formation composed of quartz sand and shell material laid 1.6 to 0.1 million years ago during the Pleistocene era.

Soils- There are seven different soil types excluding spoil banks within the Park. In two areas of the park, along the shoreline of the Atlantic Ocean and beach dune community south of the inlet, significant soil erosion occurs. This is caused by seasonal storms and inlet exacerbation.

- **Canaveral Complex-** A mixture of sand and shell fragments, Canaveral Complex is a nearly level, gently sloping soil. It occurs along the Atlantic coast on narrow ridges.
- **Coastal Beaches-** Consisting of narrow strips of nearly level or gently sloping sand and seen along the Atlantic Ocean, Coastal Beach soils are a mixture of quartz sand and fragments of sea shells. At times it is covered with saltwater and is bare of vegetation.
- **Palm Beach Sand-** With a 0-5 percent slope, this soil is nearly level, well-drained and occurs on dune-like ridges parallel to the coastline. Palm Beach Sand is low in organic content and moderately alkaline throughout. It has a low water table and rapid permeability rate.
- **Quartzipsammments-** A mix of thick deposits of sand, mixed sand and shell fragments, Quartzipsammments is gently sloping at 0-5 percent and moderately drained to somewhat poorly drained. Available water capacity is very low and permeability is very rapid.
- **Captiva Fine Sand-** Poorly drained and nearly level, captiva fine sand occurs in narrow, elongated sloughs between dune-like ridges and mangrove swamps. Slopes range from 0-1 percent.
- **Kesson Muck-** This soil is frequently flooded, very poorly drained and nearly level. Kesson Muck is formed in thick marine deposits of sand and shell fragments and occurs in tidal swamps and marshes. The surface appears dark reddish-brown and the underlying layer is grayish-brown and dark greenish-gray fine sand mixed.
- **Bessie Tidal Muck-** The areas of this soil are covered in dense, tangled growth of mangrove trees and roots. The soil material ranges from shells to mixed sand and organic materials.

Summary

The soils map displays areas where frequent flooding occurs as well as erosion. It shows where development might be difficult, or not desired because of existing sensitive areas. The bathymetric contours indicate areas for safe navigation, as well as shallow areas prime for canoeing and kayaking. The soils map aids the creation and analysis of the flood map on the following pages.

SITE ANALYSIS

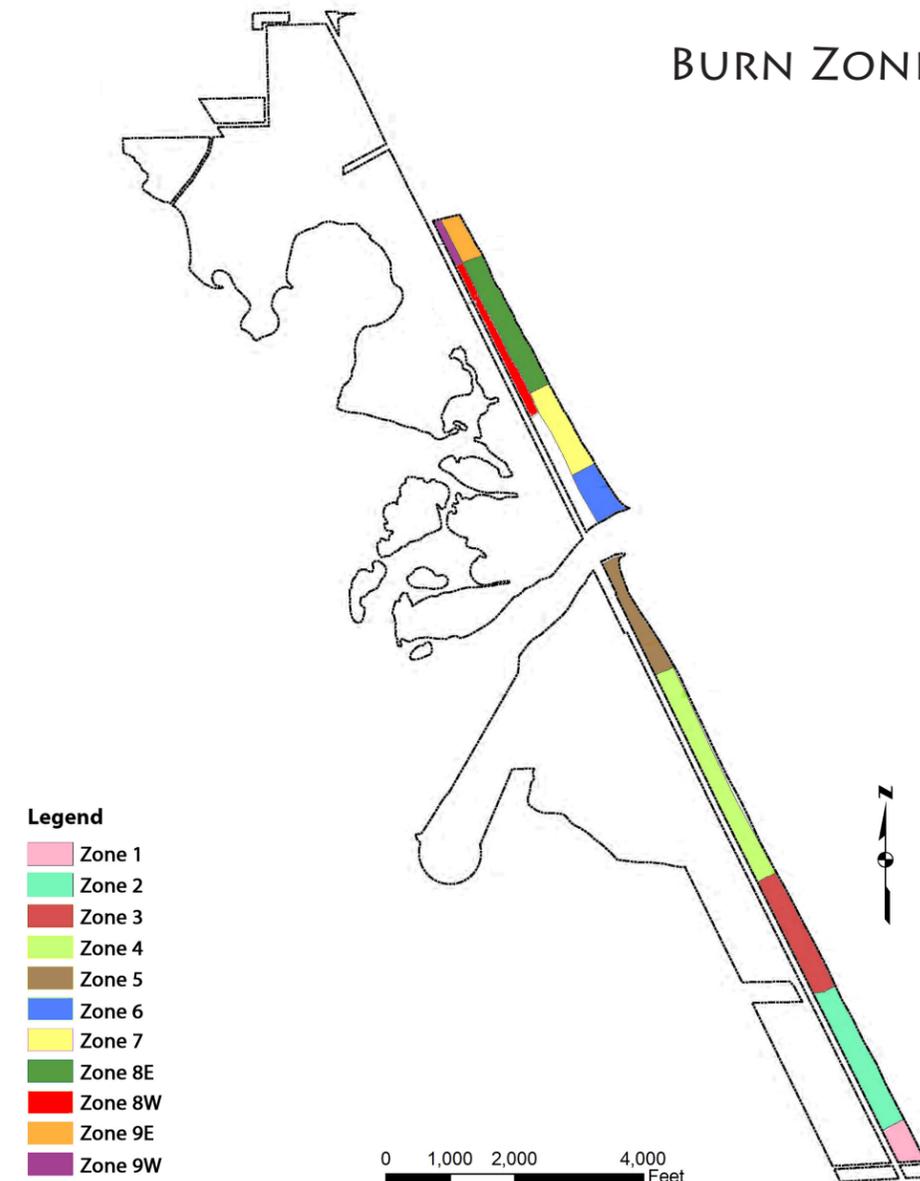
FLOOD MAP



Coinciding with both the soils and vegetation map, the flood map shows flood risks throughout the site. Average annual rainfall is approximately 52 inches. With low elevation levels and the fact that the park is surrounded by waters and in an area with heavy rain events and an active hurricane season, a majority of the park shows a high risk for flooding. The entire site is under the flood plain. This is needs to be taken into account when addressing existing and proposed structures as well as overall design and management of the site.

SITE ANALYSIS

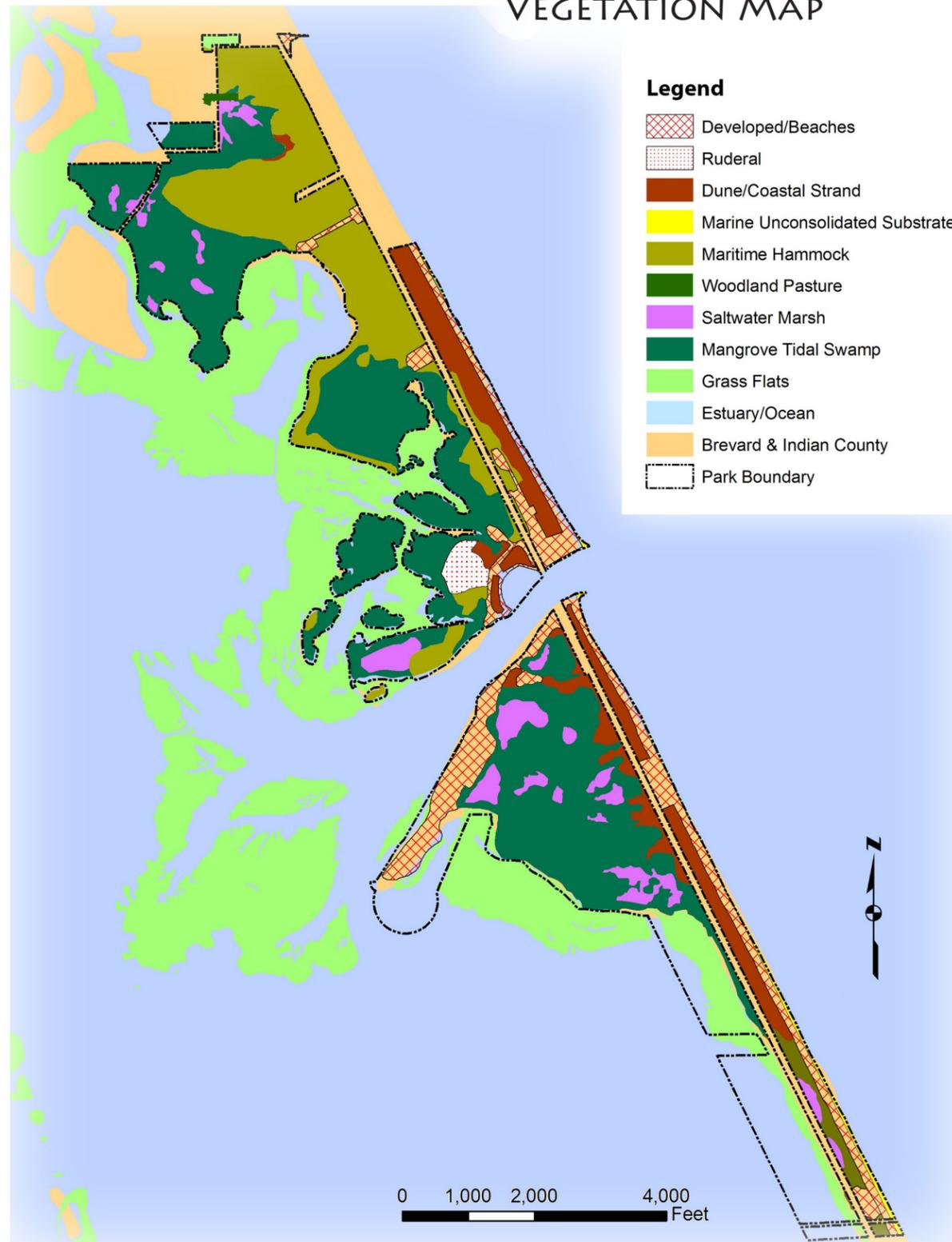
BURN ZONES MAP



A burn zones map of the site shows areas for management to maintain ecology diversity within natural communities. A majority of the area is coastal strand and beach dune and all zones have a fire return interval of five to seven years. These areas indicate sensitive habitat where constant management is needed. There are eleven burn zones compiling 92 burn acres. Development should be minimal or non-existent in these areas so that the health of these systems is maintained.

* It should be noted that these burn zones areas are close to active use areas and would provide for opportunities for interpretive signage and tours.

VEGETATION MAP



Vegetation

Eight natural communities are contained within the Park in addition to developed and ruderal areas, aquatic grass flats and marine worm reef areas just off the coast. Each area contains a variety of wildlife species interchangeably as well as some rare and endangered species. Some important plant communities include:

- **Beach Dune & Coastal Strand-** This community is seen adjacent the beach with minimal erosion and vegetative cover. Dominant vegetation includes *Uniola paniculata*, *Helianthis debilis*, *Ipomoea imperati*, *Panicum amarum*, *Canavalia rosea*, *Coccoloba uvifera*, *Sabal palmetto*, *Serenoa repens*, *Spartina patens*, *Croton punctatus*, and *Myrica cerifera* among others. There are areas south of the inlet where this community is in poor condition because of fragmentation by trails, parking, and beach re-nourishment projects. This has caused a high amount of erosion in some areas. The beach dune and coastal strand community south of the inlet supports one of the last populations of a very rare and endangered species of southeastern beach mouse in the south. This species also lived in the dunes and coastal strand north of the inlet but because of habitat fragmentation and predation among other factors the species disappeared.
- **Maritime Hammock-** Because of vulnerability to extinction and its rarity, the Maritime Hammock community is considered imperiled by the Florida Natural Areas Inventory and should be protected. It is considered to be in good condition based on the park's unit management plan with some areas being invaded by exotic Brazilian Pepper and Australian Pine species. Some common native plant species include *Quercas geminata*, *Ardisia escallonioides*, *Eugenia axillaris*, *Persea borbonia*, and *Bursera simaruba* among others.
- **Mangrove Tidal Swamp-** based on the unit management plan for the park the condition of this community varies throughout the site. The mosquito impoundments surrounding the shoreline along the lagoon side have altered these areas significantly but improvements are being made. red mangrove, White mangrove, Black Mangrove and buttonwood dominate this community with few exotics present.
- **Estuary & Ocean-** Substrate along the edges of the aquatic estuary touching the western edge of the site is mostly devoid of vegetation but home to rare shorebirds, crabs and mollusks. These areas along the Indian River side as well as the Atlantic side are also home to young sea turtles and nesting ones as well.
- **Grass Flats-** Located along the wester side of the Park in the Lagoon waters, This aquatic community shown in bright green stabilizes sediments and provides nurseries, shelter and food to plenty of aquatic organisms. Some species of grass include *Halodule wrightii*, *thalassia testudinum*, *Halophila johnsonii* and *Syringodium filiforme* among others.
- **Ruderal-** These areas are severely altered by human activity and often contain exotic and invasive species. There is a large area of concern just north of the inlet and cove where a large number of gopher turtles reside and is used for overflow parking.
- **Developed Areas-** These are areas where all natural vegetation has been removed for development and structures for human use.

Summary

This map has been the most useful for developing analysis, synthesis, and masterplanning. It provides information for important natural communities that need to be protected as well as those that could provide recreational and interpretive opportunities. It was also discovered some of the areas on this map need to be addressed for rehabilitation because of threatened wildlife species like the eastern beach mouse, gopher tortoise and eastern shorebird area at the tip of coconut point. Developed areas might show areas for potential redevelopment and expansion depending on existing vegetation near these areas.

SITE SYNTHESIS

Based on prior research, site visits, inventory, and analysis of the site and surrounding areas, two synthesis maps have been produced.

Conservation

The first map shows suitabilities for conservation with red representing areas to be conserved, protected or even enhanced naturally. An example would be the coastal dune habitats in red or eastern shorebird nesting area at the tip of coconut point located on the southwest peninsula. Moving across the legend, yellow and then light yellows and whites represent areas that have either been disturbed or don't offer any important natural elements that need to be conserved. You can see from this and previous maps that much of the Park is undisturbed and contains important natural areas for conservation.

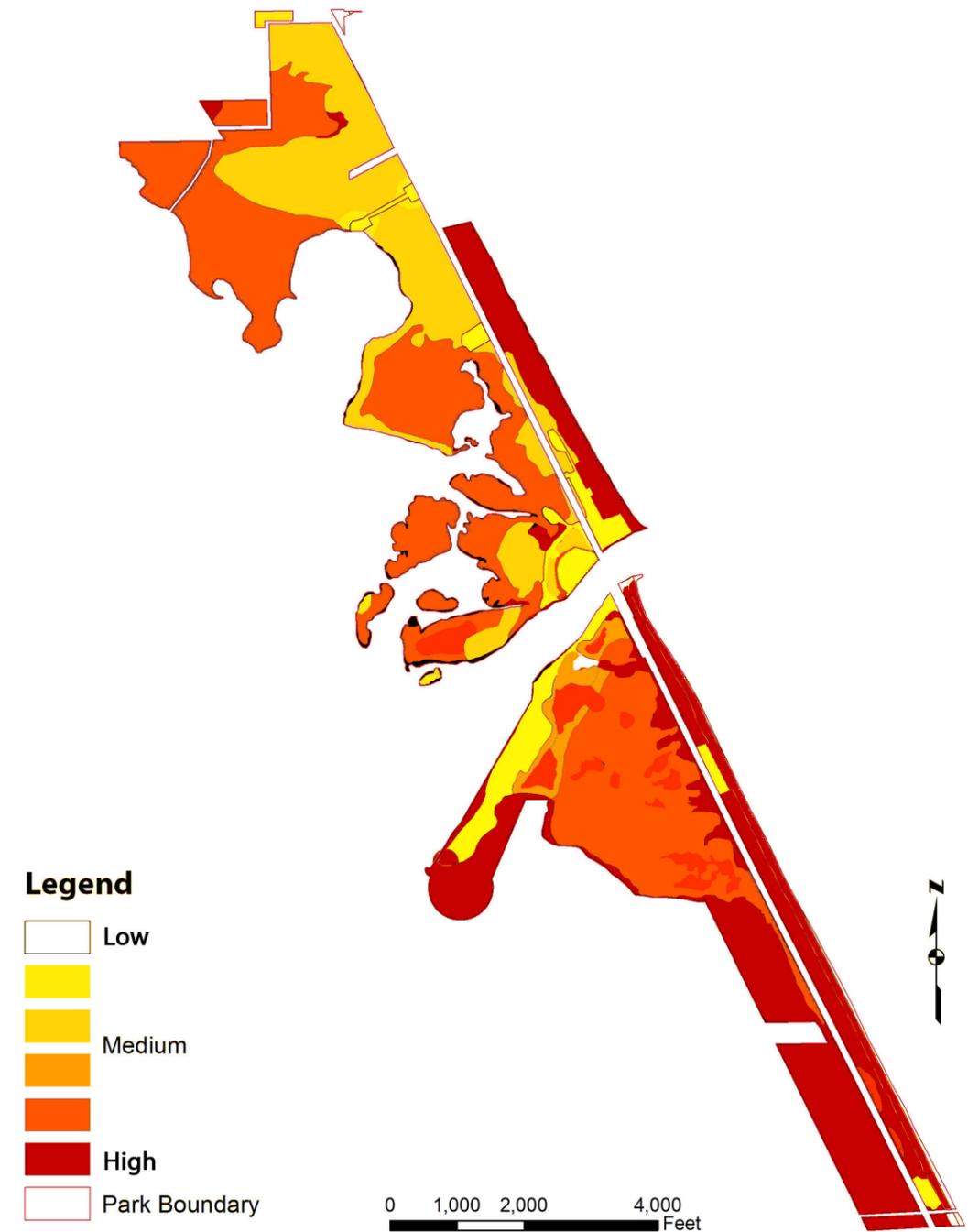
Recreation

The map on page 36 shows areas of the park with suitability for recreation. Areas in darker reds and oranges offer opportunity for active recreation. Yellows and light greens display areas with potential for passive recreation and areas hatched should be protected. These areas include the dune and coastal habitats and the eastern shorebird habitat at the tip of coconut point.

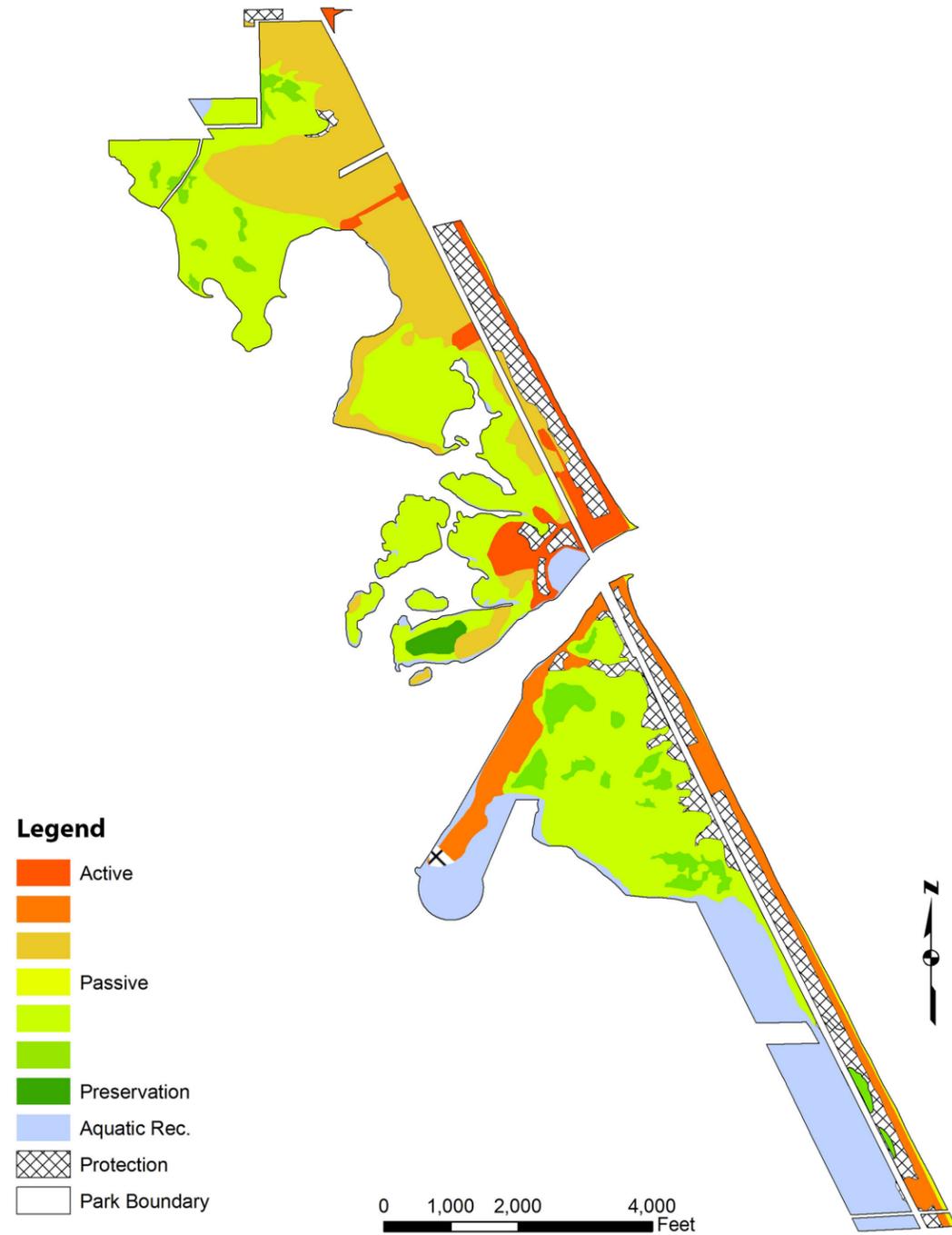
The two suitability maps communicate with one another but display some conflicting data. For example an area on the conservation suitability signifying strong desire for conservation may also show as an opportunity for recreation on the recreation suitability map. This is because that area might have features that should be protected and maintained but also offer opportunity for interpretation and education, which might be accomplished through passive recreation with little to no disturbance to the area. These maps can be somewhat arbitrary and depend on decision making during the masterplanning process.

The suitability maps were developed to help aid in the masterplanning process and hopefully reinforce the initial vision and guiding principles of the masterplan.

CONSERVATION SUITABILITY MAP



RECREATION SUITABILITY MAP



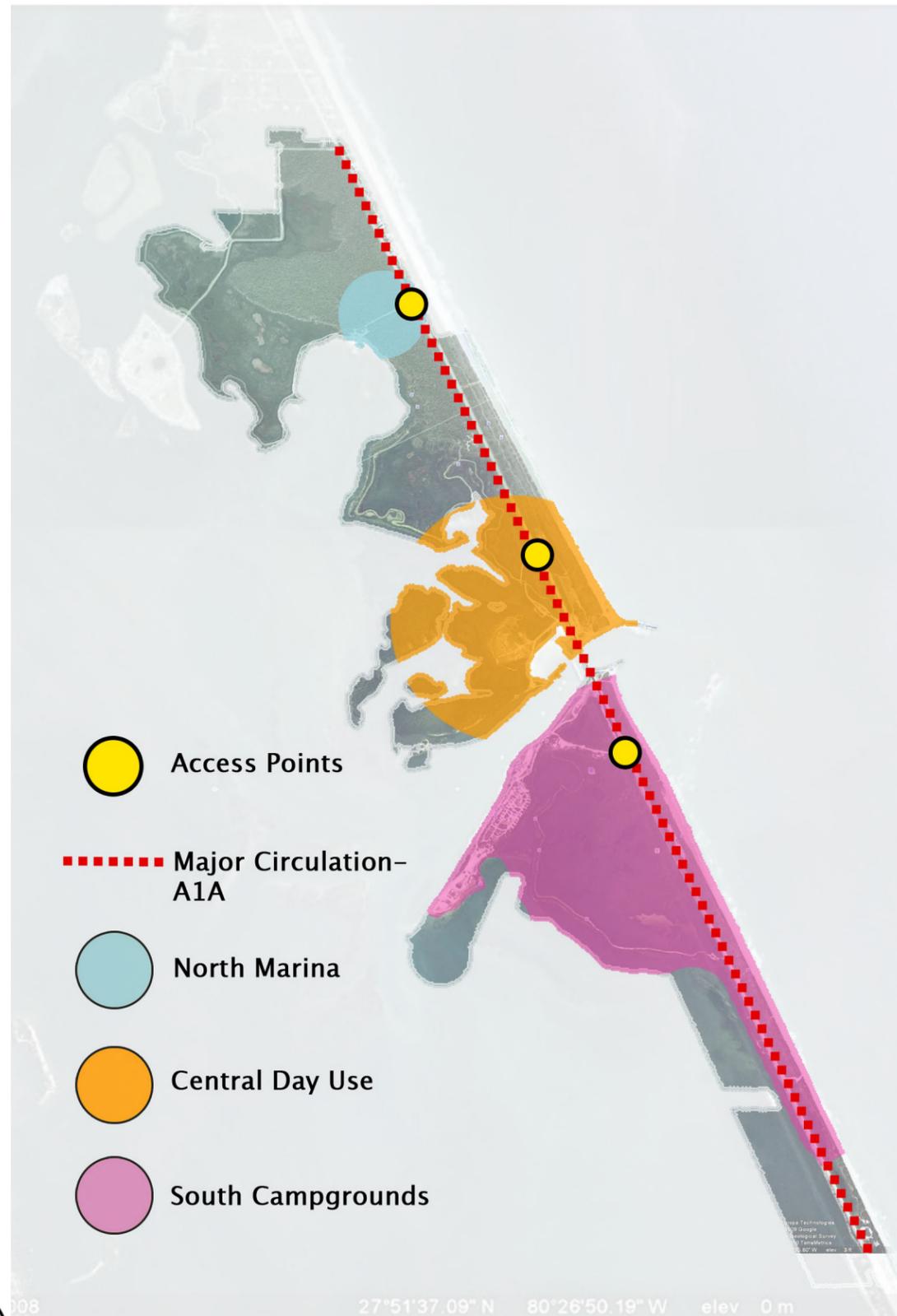
Summary of Park Suitabilities

Following suitability analysis, the next step was to begin locating areas for protection, preservation, rehabilitation, and redevelopment and improvements in fulfilling the initial vision for the project. This would help organize the overall masterplan as well as program development which began conceptually early on in the process. Three areas of interest were selected within the park. These areas were either heavily used by park visitors or natural areas disturbed by either human activity or other invasive species. The three areas of interest are:

1. North marina Area
2. Central Day-Use Area
3. South Camping Area.

The areas are shown on the map on page 38. These three areas serve as the three most actively used areas of the park by visitors. The plan illustrates main access points in yellow to each of these areas from A1A, shown as a dashed red line. Each of these three areas of the masterplan will be discussed in more detail in the phased portion of the masterplan.

AREAS OF INTEREST



PARK MASTERPLAN

The overall masterplan map for the park on the following page displays active areas for redevelopment and proposed areas for natural rehabilitation. One of the main goals for the park vision is to bring more people into the site while improving visitor experience.

Redevelopment

For redevelopment in red areas, the goal is to attract more visitors while minimizing disturbance to the natural areas close by. Most of the areas selected in red for re-development are either already developed or already disturbed areas with little to no expansion into existing healthy natural areas. Places identified for rehabilitation are important naturally disturbed areas in need of improvements. Along with rehabilitating these areas, the goal is also to provide information to visitors, why there is a need for improvements, how it is being done, and why it should be happening.

Archeological Preservation

Preservation of known existing archaeological sites has been taken into account during the design process and those sites will stay protected, however it is highly likely there are more of these sites within the park that have not been recorded. Professional surveying has not been done and there is no set time frame for this to take place in the near future. Therefore preserving potential archaeological sites has not been ignored, but was not a high priority. It is assumed that surveying and sampling will be done prior to alteration of existing areas where plans illustrate. If these areas contain archeological sites base on surveying, revisions will be made to protect these areas.

Architecture

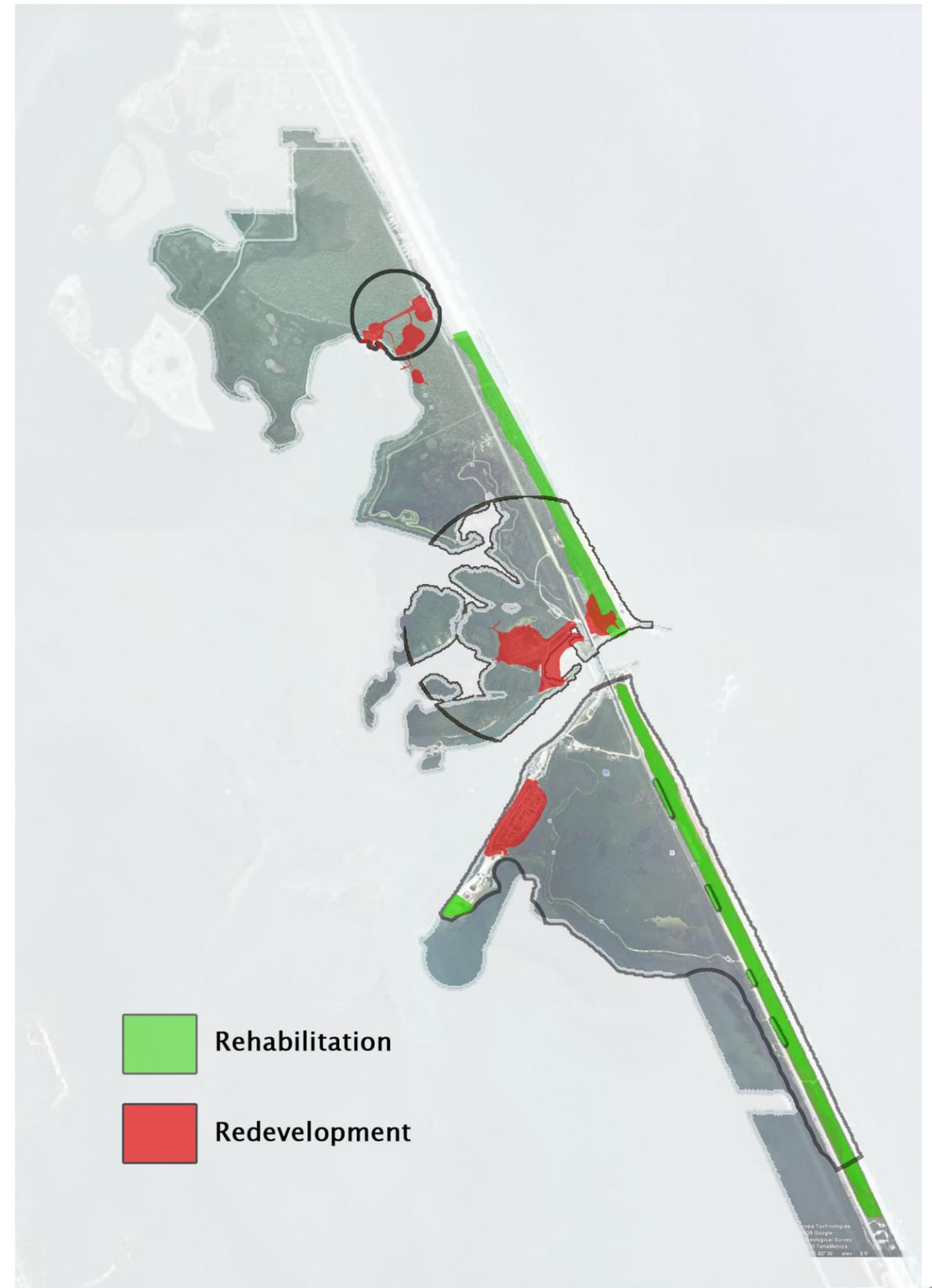
All proposed structures and buildings including the maring, rest room facilities, new cafe', baitshop, etc. will have a vernacular style of architecture. All proposed structures will be designed to withstand occasional flooding and raised in areas with frequent flooding.

Landscaping & Irrigation

All landscaping done within the masterplan will be 100 percent native taking into account the natural plant communities close by. This will provide more nectar, seed, cover, and sustenance for wildlife and help reinforce the natural areas of the Park as well. The native plants will require less fertilizer, fungicide and pesticide. Using natives will also help maintain a healthy natural soil. Temporary irriragtion may be used until native plants are established but this will decrease water polltuion and conserve water as no permanent form of irrigation will be needed. The native plantings will also provide more opportunity for signage and public education through demonstration.

Rehabilitation

Areas for rehabilitation include the eastern shorebird habitat at the southwest tip of coconut point and along the east side of the site within the dune and caostal communities. Rehabilitation will consist of limiting or preventing access to selected or all areas with fencing, signage, and enfroecement if necessary. Native landscaping to improve the health of the vegetation community will also be done with native plants of the existing specific plant community of that area. These rehabilitation sites will provide yet another area within the park for public education and interpretation through demonstartion.



The emphasis for the rehabilitation map is within the dune and coastal community. These areas have seen the most disturbance by humans. Beach re nourishment projects south of the inlet along the east coast brought sand across the dunes in trucks which cut wide trails through the natural habitat causing major damage. Since the re nourishment projects, park visitors seeking access to the beach continue to use these trails while parking along A1A for quicker and closer access to the beach. This has created an ongoing disturbance to the areas. In some cases erosion is severe and the dunes have fallen away completely.

Not only are the communities themselves very important, but one of the last populations of a very endangered species of southeastern beach mouse mentioned earlier in analysis makes the dune and coastal habitat its home, along with gopher tortoises, scrub jays and other threatened species. A first step for the masterplan would be to replant these identified areas with native vegetation, and enforce regulations of no parking or access to. This would have to be done with signage, fencing and communication and enforcement by park rangers.

Plant List for Rehabilitation of the Dune Communities

- Sea Oats (*Uniola paniculata*)
- Railroad Vine (*Ipomoea pes-caprae*)
- Beach Morning Glory (*Ipomoea imperati*)
- Coastal Dune Sunflower (*Helianthus debilis var. debilis*)
- Baybean (*Canavalia rosea*)
- Bitter panicgrass (*Panicum amarum*)
- Sea grape (*Coccoloba uvifera*)



REHABILITATION MAP



PHASED MASTERPLAN

The phased masterplan organizes the program elements into phases of the three areas of interest and is based on the unit management plan for the Park and these three main factors.

- 1) Park and user needs
- 2) Cost of implementation
- 3) Time needed for implementation.

Below is an outline of the overall program for the park organized within the three areas of interest and broken down into phases within those areas.

Program Outline

The program includes revitalization of existing natural areas, improvements to existing features, and design of new use elements.

North Marina Area

Phase 1: "Marina Life"- Redevelopment

Phase 2: "Spanish House Parking"- Redevelopment

Phase 3: "Environmental Learning Center"- Option A
- New Use Area

Central Day-Use Area

Phase 1: "Atlantic Lounge"- Redevelopment

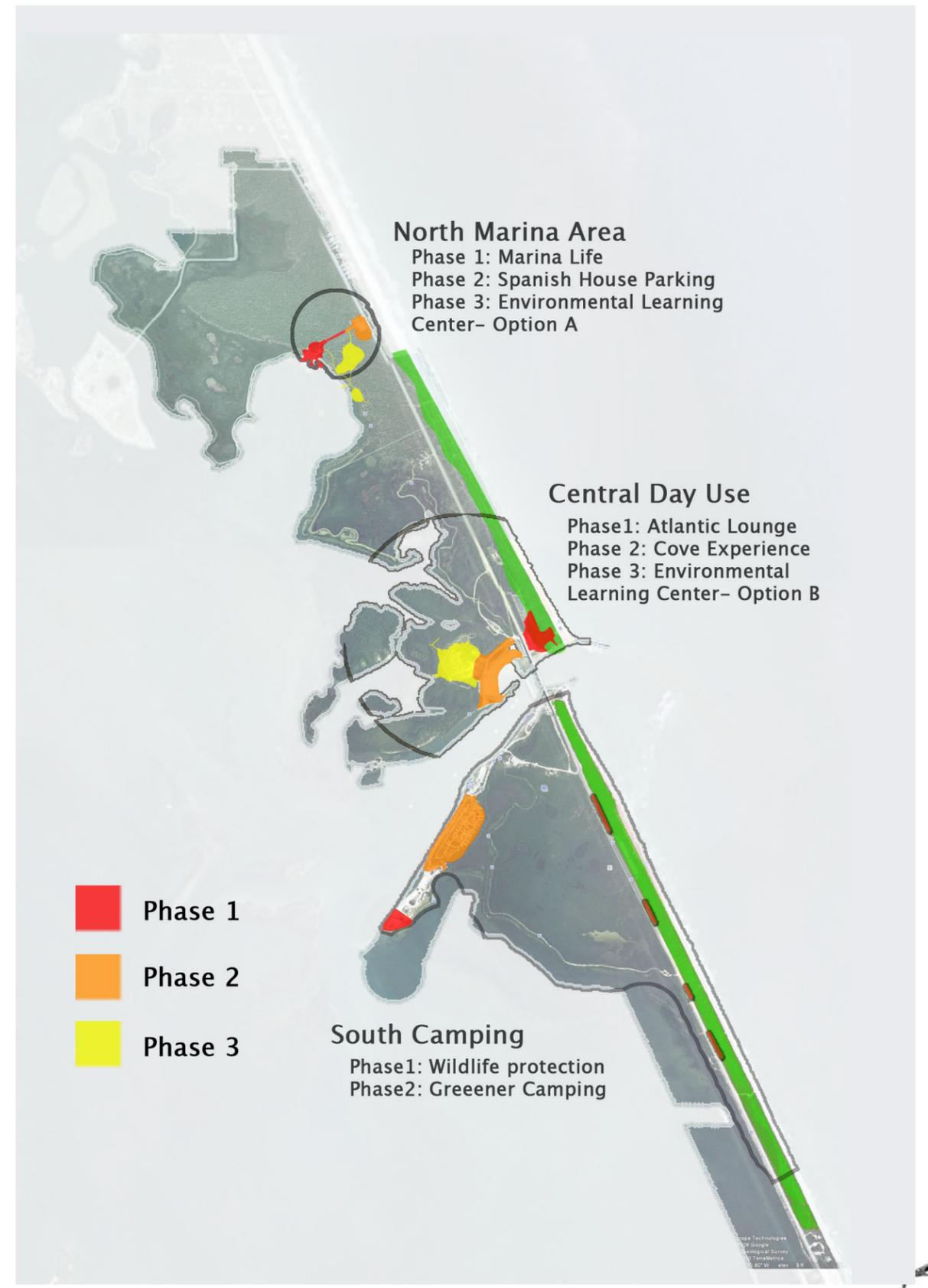
Phase 2: "Cove Experience"- Redevelopment

Phase 3: "Environmental Learning Center"- Option B
- New Use Area

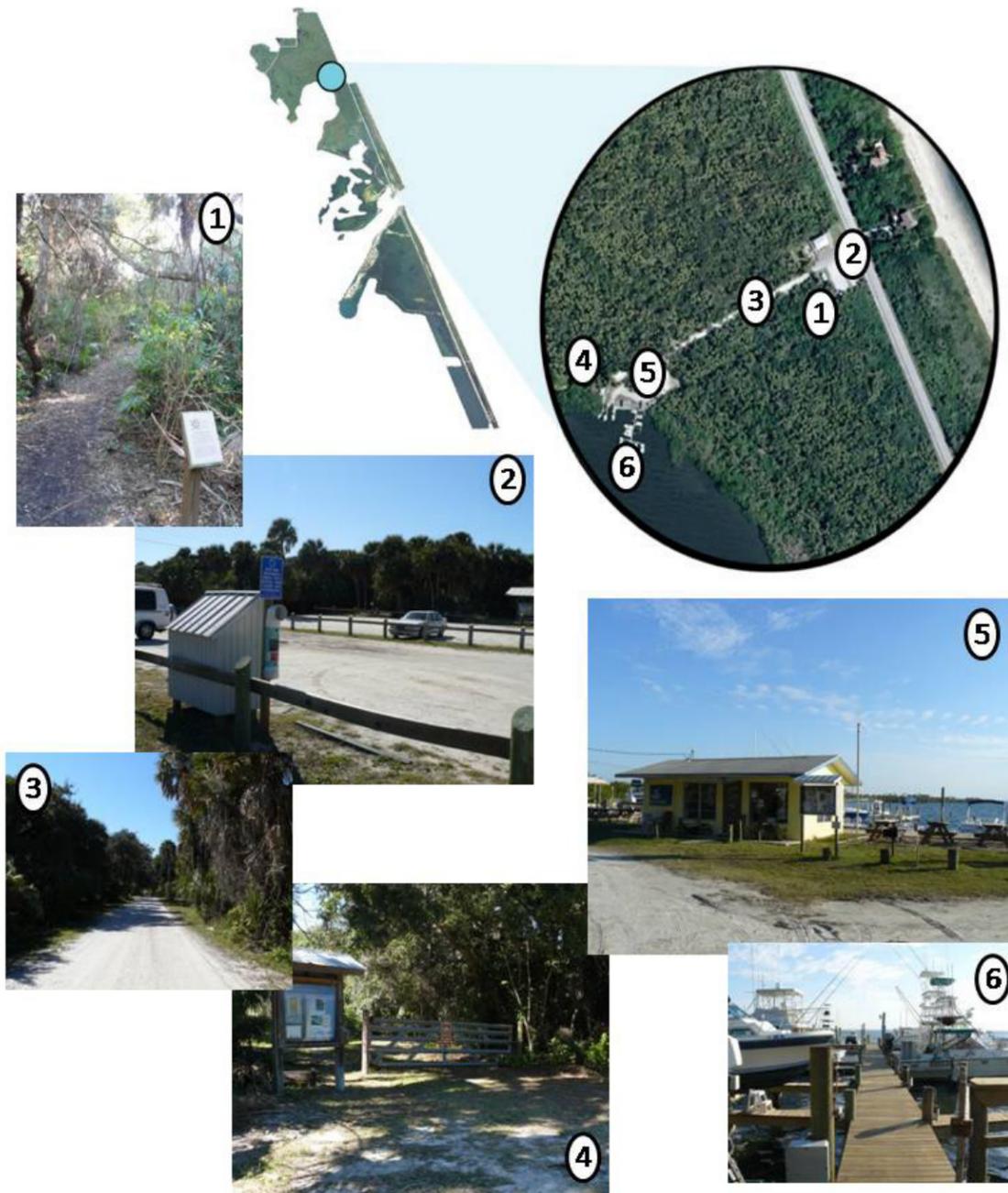
South Camping Area

Phase 1: "Wildlife Protection"- Revitalization

Phase 2: "Cooler Camping"- Redevelopment



EXISTING CONDITIONS



Eastern Parking Lot and Administration Office

The quietest of the three areas of the masterplan, the north marina area is rarely filled with cars or people unless there is a special event happening. It is located to the far north of the park and is an under utilized area for what it offers. Just to the west of A1A is an informal parking lot with the capacity to hold roughly forty cars. Across from the parking lot an administration building with offices for park managers and rangers as well as a utilities area to the west of the building can be seen. There is access to the beach across from A1A which is the main reason for visitors parking here. To the west of the parking lot a large kiosk informs visitors of the Hammock trail head nearby. This area is addressed during phase two of the masterplan for the north marina area.

Marina

Passing the parking lot and administration building visitors can take a dirt road to the marina. Parking is informal and unpaved. The marina is old and in need of repairs but nestled in a nice lagoon cove offering great views over the water. The existing dock system is newly renovated and the existing boat ramp is in good shape. There are very few areas to sit and enjoy the area though it could be a nice space. Inside the marina you can find information on boating or decide to rent a canoe or kayak for one half day or a full day. Rest rooms are located on the outside of the building. A large kiosk offers information on the history of mosquito impoundments in the area that became very popular in the 1950's but are slowly being altered to improve the health of the mangrove ecosystems. The kiosk also serves as a trail head to a multi-use trail system used heavily as a bike path through the mangrove swamps.

Below are pictures of the parking lot for the beach (left) and the existing marina (right).



PHASE 1- MARINA LIFE

Right now the marina area is under utilized. The building offers very little to visitors. Users are only spending the necessary time here to either launch their boat or rent a canoe and kayak to take off on into the River. The space offers much more potential for a variety of uses because of its great location, excellent views, and peaceful environment.

Design Goal: to create a space for visitors to spend time in and enjoy the natural and recreational features the marina and its surrounding has to offer.

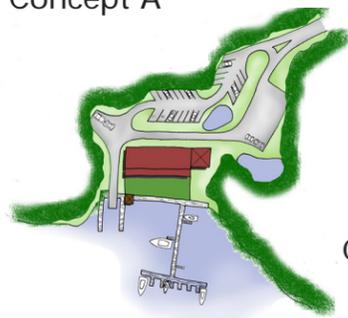
A redesigned marina resembling the architecture of early fish camps offers concessions and a covered and screened seating area as well as outdoor shaded seating on an expanded deck. This would draw visitors into the space for a bite to eat and a cold drink after or before a day of boating or to just to pass the time looking out over the water. A proposed fish cleaning station also creates the potential to clean your fish and have a cook from inside prepare your catch for a meal while you rest in the shade. With a canoe and kayak rental station within the marina for users, there is opportunity for guided tours across the gentle waters of the lagoon.

A park area shown to the west of the building offers even more opportunity for seating as well as picnicking and grilling. A trail down to a community pavilion and dock system could be rented out for birthday parties or to simply allow families an area for get togethers in a private setting.

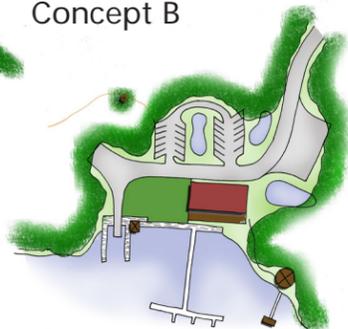
Shaded formalized parking is separated from the main circulation route. Two storm water ponds collect run off and filter it before moving into the Lagoon.

Concept Development

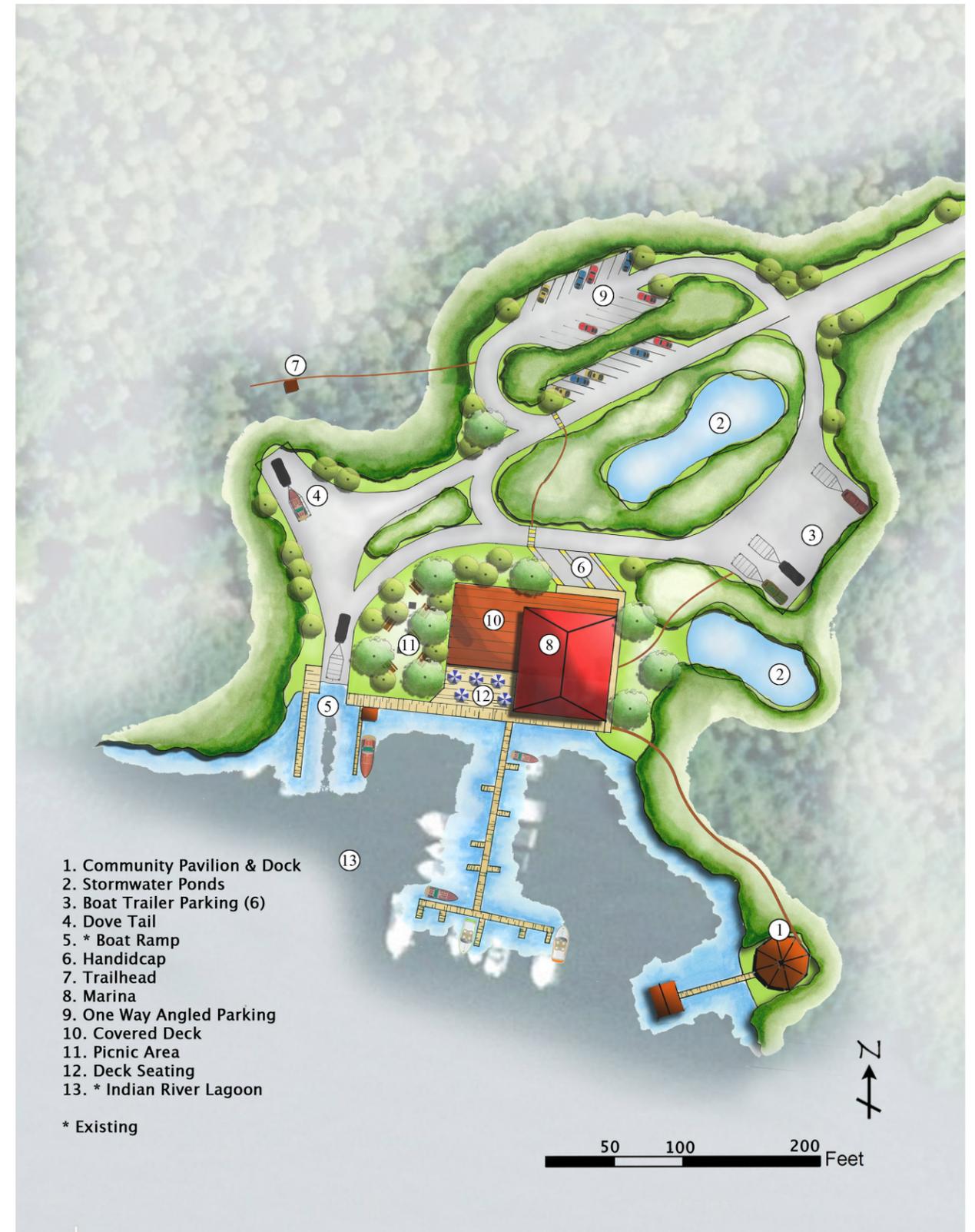
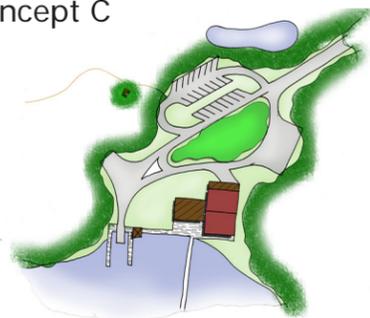
Concept A



Concept B



Concept C



PHASE 2- SPANISH HOUSE PARKING

A vernacular designed marina resembling the character of early fish camps with a screened in front porch would add character, culture and history to the area.



The parking lot just to the west of A1A does not accommodate for the numbers of visitors it attracts on a good day of surf because of a very popular break called "Spanish House" just north of the area. The parking lot at this location can hold roughly 40 cars which causes parking overflow parking along A1A making matters unsafe which also damages the natural vegetation.

Design Goal: To expand the parking lot while doing minimal clearing to existing vegetation nearby. Increasing shade within the new parking area with native trees of *Sabal palmetto*, *Coccoloba uvifera* and native oaks.

To accommodate for more users, a proposed rest room facility along with showers just west of the parking lot near the existing trail head would attract more people to the Hammock trail and marina area as well.

By providing enough parking spaces for users and especially surfers when the waves are up, this would hopefully prevent parking along A1A and prevent people from making new trails to the beach through the dune habitat. Signage and enforcement might be needed however which could educate individuals about the sensitive habitats and wildlife within these natural areas.





The proposed parking lot contains planted islands every eight car spaces to provide shade and collect rainwater from the parking lot. One way roads and angled parking limit the size of the parking and therefore decreasing the amount of natural vegetation that would have to be cleared.

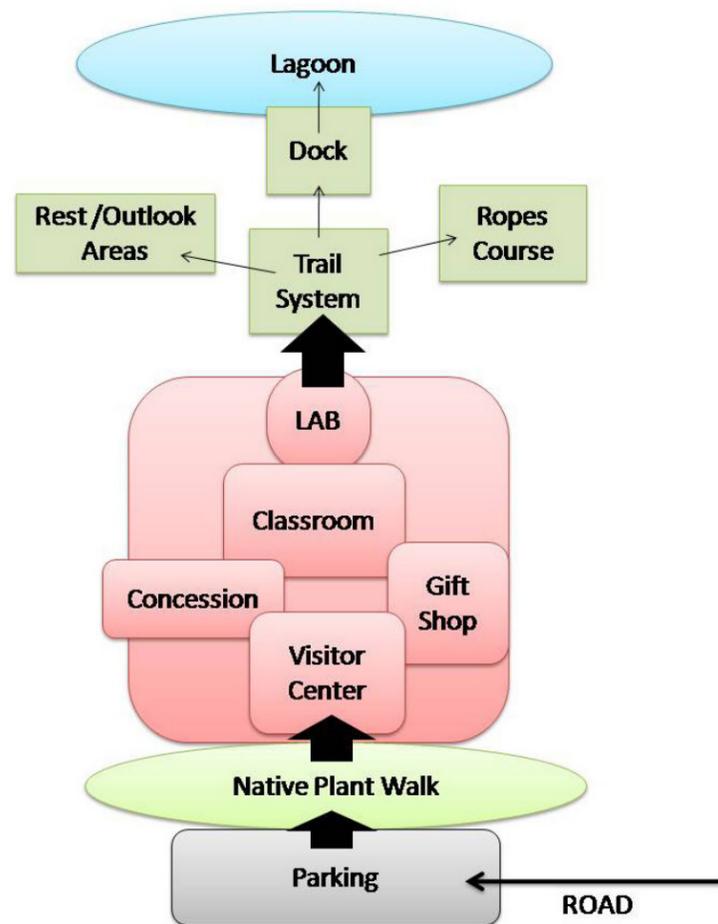


PHASE 3- ENVIRONMENTAL LEARNING CENTER

OPTION A

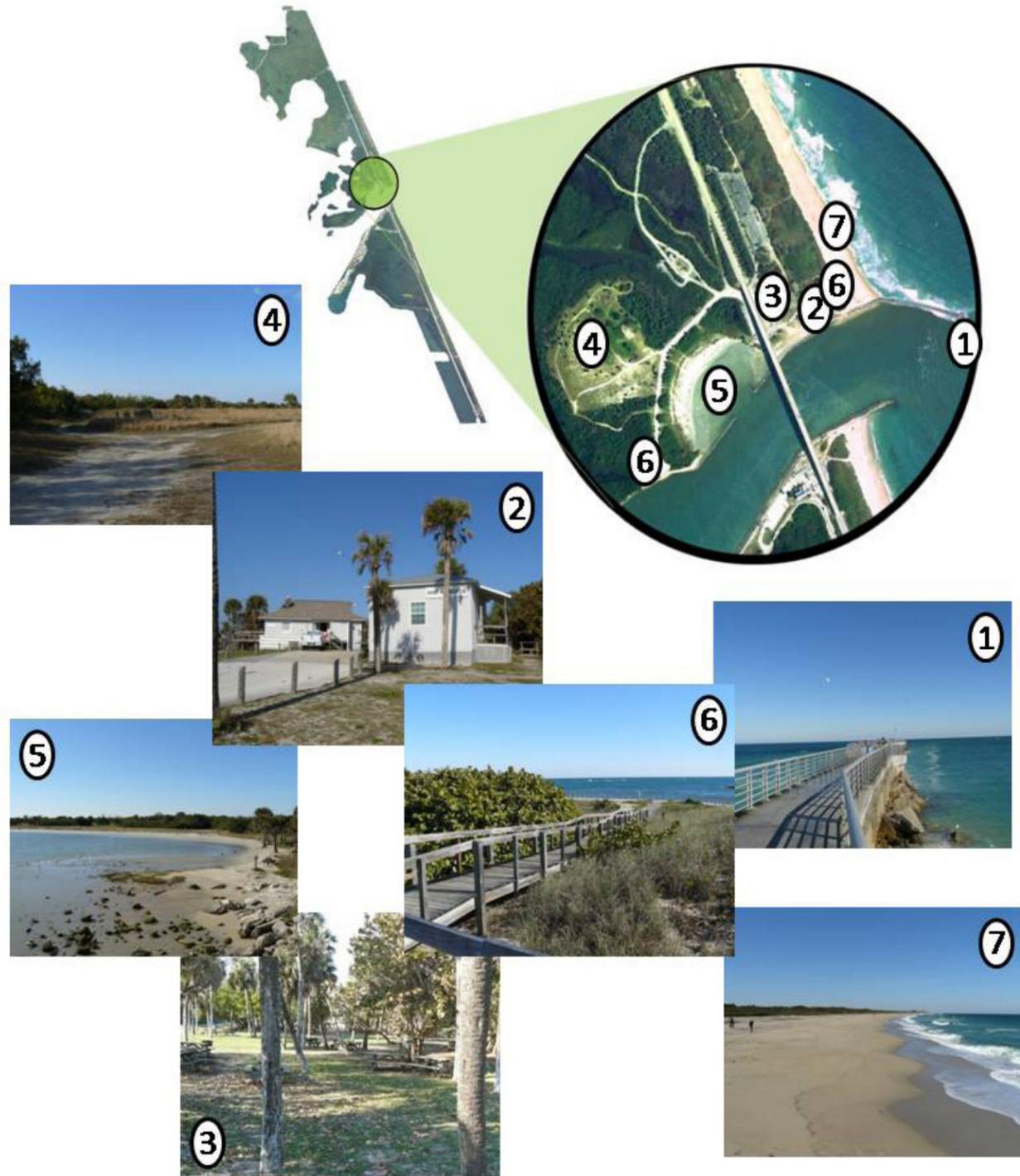
The introduction of an environmental learning center to the park is a conceptual idea that could be implemented down the road. Because the park offers such a rich array of cultural, natural and historical features, the ELC would provide a wide variety of effective interpretive programs both indoors and out. This is the first conceptual design for an ELC in the park using a more conservative approach of proposed program elements although if was implemented in this area of the Park, it should be noted that there would a lot of clearing of hardwood hammock vegetation.

This proposed location would create a more private space for the ELC with connections to the marina. This could reinforce the idea of the guided tours on the Lagoon and make hands on aquatic education available.



1. Entrance
2. Pervious Parking
3. Historic Model Home & Native garden
4. Educational Facility
 - a. Visitor Center
 - b. Gift Shop
 - c. Concessions
 - d. Classroom
 - e. Aquatic Lab
 - f. Greenhouse
5. Trail System
6. No-Motor Vessel Station
7. Ropes Course

CENTRAL DAY-USE



To the Northeast of the Inlet

This is the busiest area of the park offering the most recreational elements and parking for users. The newly reconstructed north jetty is always crowded and when there are waves, surfers come from all over to surf "first peak." Two annual surf contests take place here attracting thousands of visitors from all over the world for each week long event. A boardwalk system leads down to miles of Atlantic Beaches, the north jetty, and also concessions area and gift shop. Rest room facilities and outdoor showers are located just north of the concessions building. Between the parking lot and boardwalk a shaded park has picnic tables and just south of that there is a bait shop for anglers. For a more private beach experience visitors can park to the north in another large parking lot with its own outdoor showers and rest room facilities.

To The Northwest of the Inlet

To the northwest of the inlet a man made swimming cove offers gentle waters for people of all ages to swim without worrying about powerful waves and rip currents. It is also a good place for snorkeling and fills up quickly during summers, weekends, and holidays. The northern inlet shoreline is a popular spot for fishermen who don't want the crowds of the jetty or catwalk running under the A1A bridge. To the northwest of the swimming cove an overflow parking area is used during holidays, surf contests and busy summer days when the Central Day-Use Area fills up.

Below are pictures of the existing concessions building (left) and the existing parking lot and park leading to the boardwalk system and concessions (right).



PHASE 1- ATLANTIC LOUNGE

Similar to the Marina Area, the concessions building located along the boardwalk system is under utilized. There is very limited space inside and outside of the building for seating and not a lot of variety for food and beverage is provided. The building also does not take advantage of great views to the Atlantic Ocean, beaches or the active inlet waters. There is limited recreation aside from the beach and the pier, and also a need to entertain younger children when they are away from the beach.

Design Goal: to create a space for visitors to spend time in and enjoy the natural and recreational features of the beaches and waterways while providing improved dining services to create a better experience for visitors and an increase in revenue for the park.

A design for a vernacular new-use cafe' building with an extended deck from the boardwalk, oriented for users to enjoy views to the inlet and Atlantic would create a great seating and dining area. Expanding up and not out would make room for indoor dining upstairs and a break from the sun and pesky mosquitos. On the ground floor, indoors is a proposed beach rental station and retail/gift shop as well as an extended deck and seating just outside overlooking the beach and inlet. Expanding up and making the building two stories would not only improve views for visitors downstairs, but would eliminate the need to clear away dune habitat.

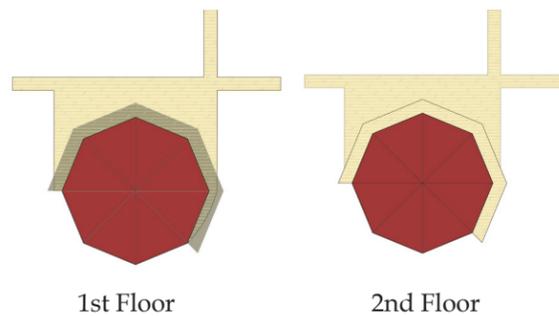
A proposed playground is much needed as there is not one anywhere north of the inlet. Sand volleyball courts would add yet even more variety of recreation to the place.

Additional planting of native trees within the park system would provide more shade for seating and recreation along with a pavilion for private get-togethers.

The existing parking lot is in need of additional shade from native trees which is also proposed on the masterplan for the Atlantic Lounge.

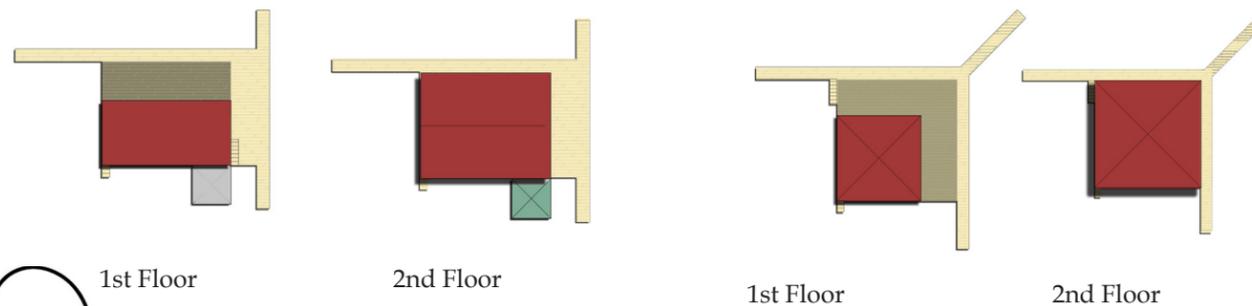
Conceptual diagrams were created to define architectural structure of both the first and second floor of the cafe'.

Concept A



Concept B

Concept C

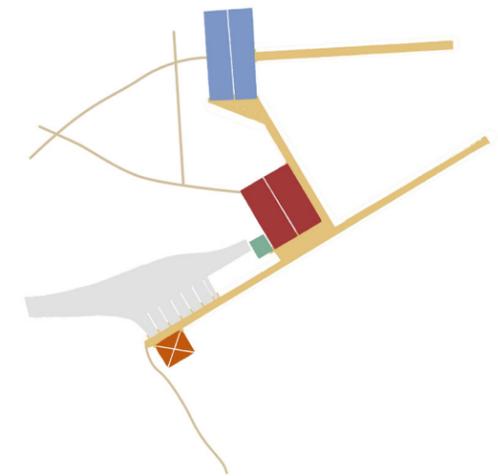


CONCEPT DESIGN

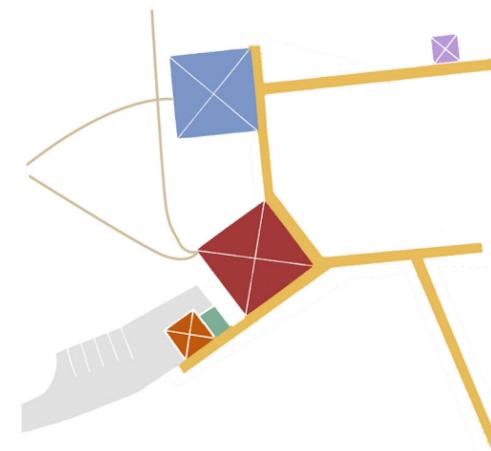
Concept A



Concept B



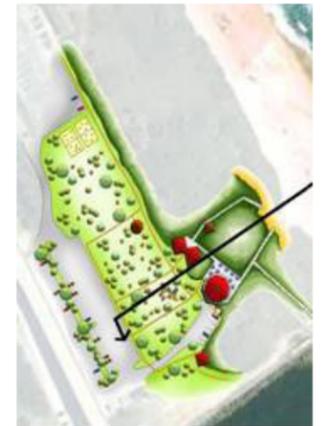
Concept C



Taking the concept diagrams to the next step involved orienting them to take advantage of good views and analyzing relationships. Circulation among each program element was also examined. These diagrams helped identify the use of elements from each concept for a final program diagram for the cafe' and Atlantic lounge Masterplan. Additional proposed elements include a wildlife outlook, bait shop, boardwalk system, rest room facilities, showers, pedestrian circulation, storage area, and parking.



The second story cafe' surrounded by large windows and an open interior would provide visitors with views to the beaches, ocean and inlet waters. The first floor would contain a station for beach rentals, a gift shop, and outside and expanded deck with shaded seating.



PHASE 2- COVE EXPERIENCE

For the amount of visitors that use the cove area, there is a lack of shade during the day, no rest room facilities or outdoor showers, and informal parking along the road causing disturbance to vegetated areas.

Design Goal: to provide users with additional elements to enhance the experience and bring more people to the area while decreasing disturbance to the natural environment.

The overflow parking area is already disturbed. Creating a formal overflow parking lot would prevent cove users from parking along the road among vegetation. Creating distinguished paths would also control circulation.

The addition of showers, pavilions along the edge of the beach, and rest room facilities would further enhance user experience and bring more people into the site.

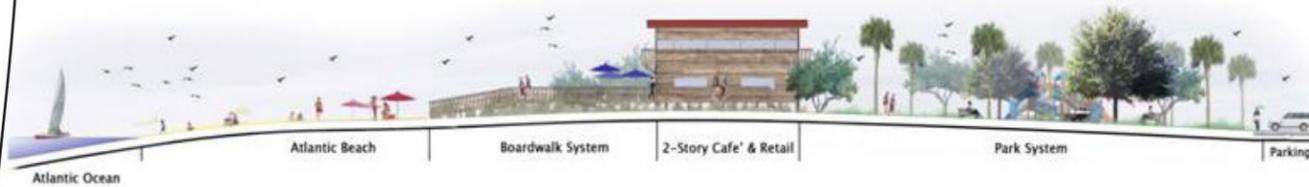
Native trees in planted islands would provide shade in and along edges of the parking lot and parking along the roadside. Proposed bioswales between parking spaces and a storm water pond would treat runoff before it is released into the lagoon and inlet.

Two photos of existing conditions.

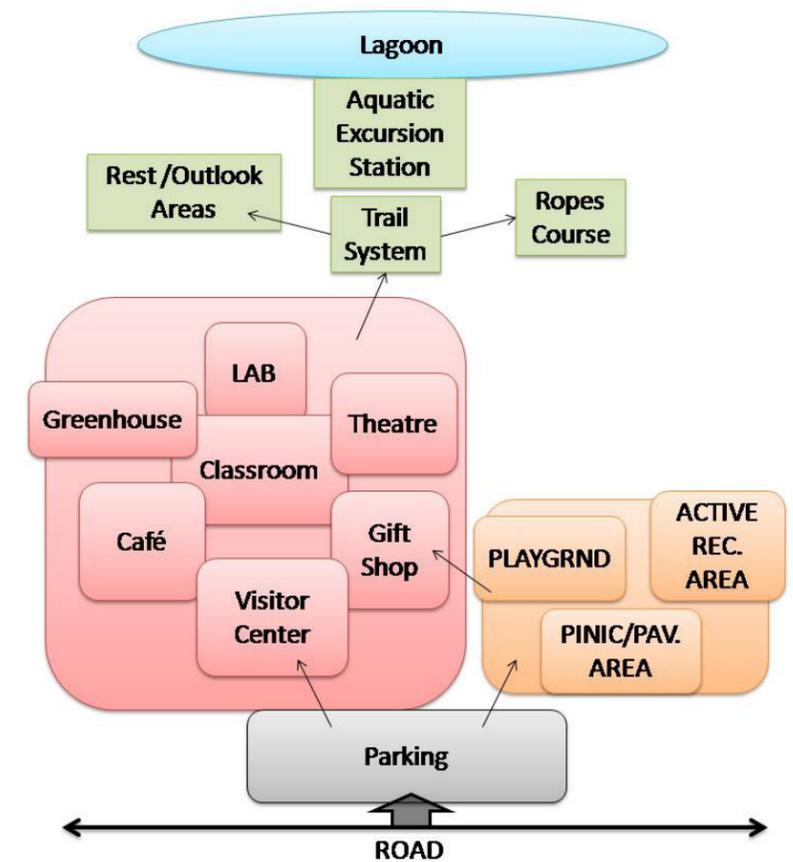


PHASE 3- ENVIRONMENTAL LEARNING CENTER OPTION B

The introduction of an environmental learning center to the park and its users is a conceptual idea that could develop down the road. Because the park offers such a rich array of cultural, natural and historical features, the ELC could provide a wide variety of effective interpretive programs both indoors and out. This is the second conceptual design for an ELC in the park using a more aggressive approach of proposed program elements to support more visitors and provide more features.



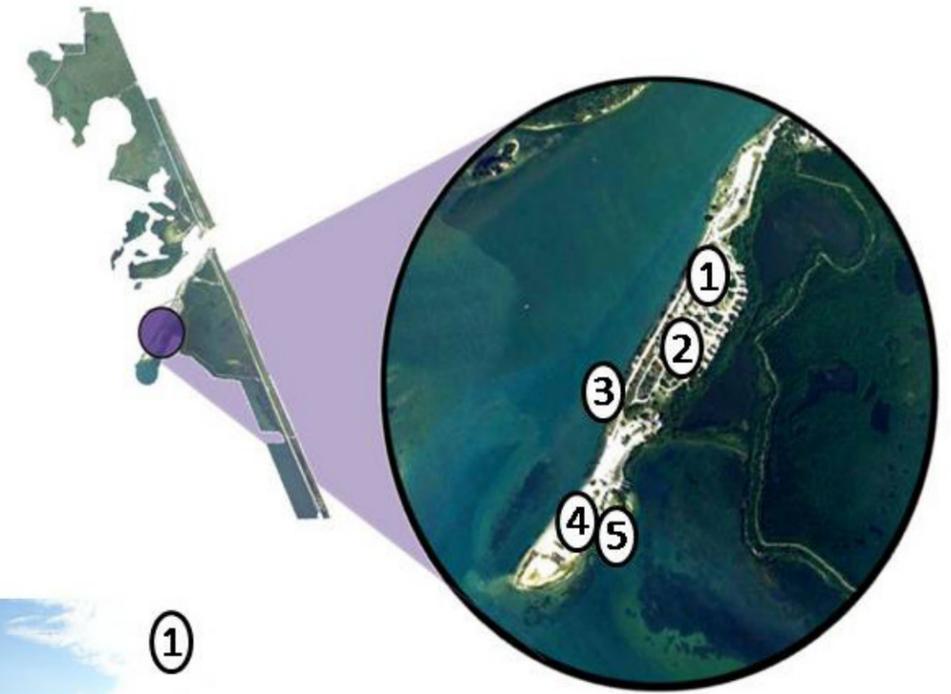
Below is a diagram of relationships of the various program elements for the environmental learning center.



SOUTH CAMPING AREA



- 1. Picnic/Pavilion Area
- 2. Active Recreational Area
- 3. Paved Parking & Retention
- 4. Educational
 - a. Visitor Center
 - b. Gift Shop
 - c. Cafe'
 - d. Classroom
 - e. Aquatic Lab
 - f. Greenhouse
- 5. Trail System & Ropes Course
- 6. No-Motor Vessel Station
- 7. Existing Road



SOUTH CAMPING AREA

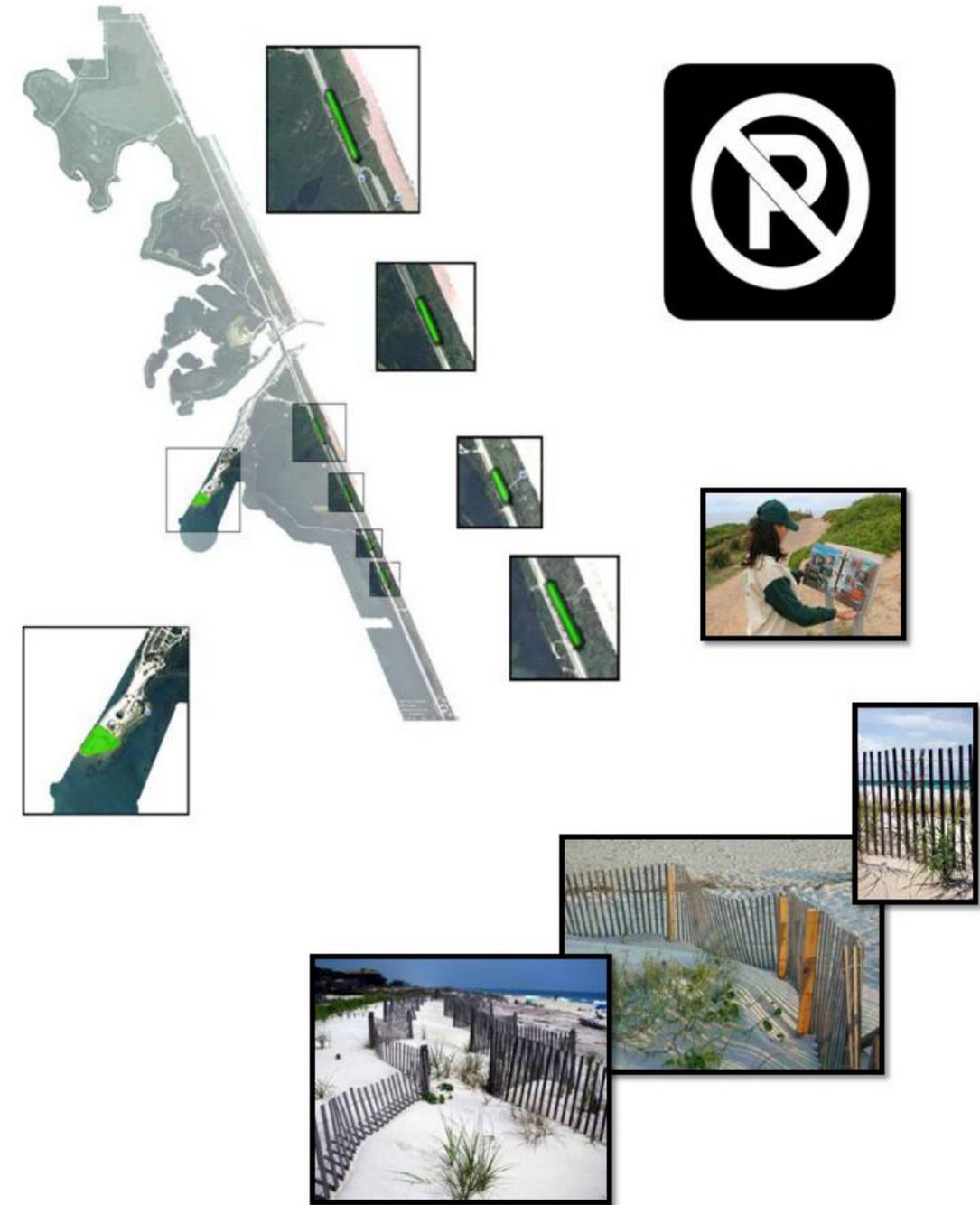
The south camping area contains the Florida Fishing Museum near A1A and miles of more private Atlantic beaches. The campground along coconut point has full facility sites for both RV's and tents and there is a parking lot alongside A1A with free access to the beach farther south.

Phase 1: Wildlife Protection

Phase 1 for this area addresses the eastern shorebird nesting area at the tip of coconut point as well as the highly disturbed dune and coastal habitats along the east side of A1A south of the inlet noted earlier from the Vegetation Map. Replacing the existing chain link fence which keeps visitors out of the shorebird area with a nicer wooden dune fence along with interpretive signage would enhance visual quality. The signage would also educate users about the protected area making them less likely to enter.

Along the eastern side of A1A beach re nourishment programs in the past that had trucks bring sand across the dune habitat damaged large areas. Beachgoers continue to use these areas as access points to the beach, blocking the wildlife corridors and not giving the vegetation a chance to grow back. There are also a number of areas where people are parking alongside A1A for easy access to the beach throughout these damaged areas which is unsafe for users and detrimental to vegetation.

This plan for phase 1 identifies those areas that need to be protected through enforcement of signage and dune fencing to prevent access. This would also be a good opportunity to educate people on why they shouldn't be disrupting the natural habitat, where the southeastern beach mouse, a highly threatened species is trying to survive.



PHASE 2- COOLER CAMPING

The campgrounds at coconut point contain great views to the inlet waters and mangrove swamps along the Indian River Lagoon. However some the campsites are spaced too closely together and shading is minimal in many areas.

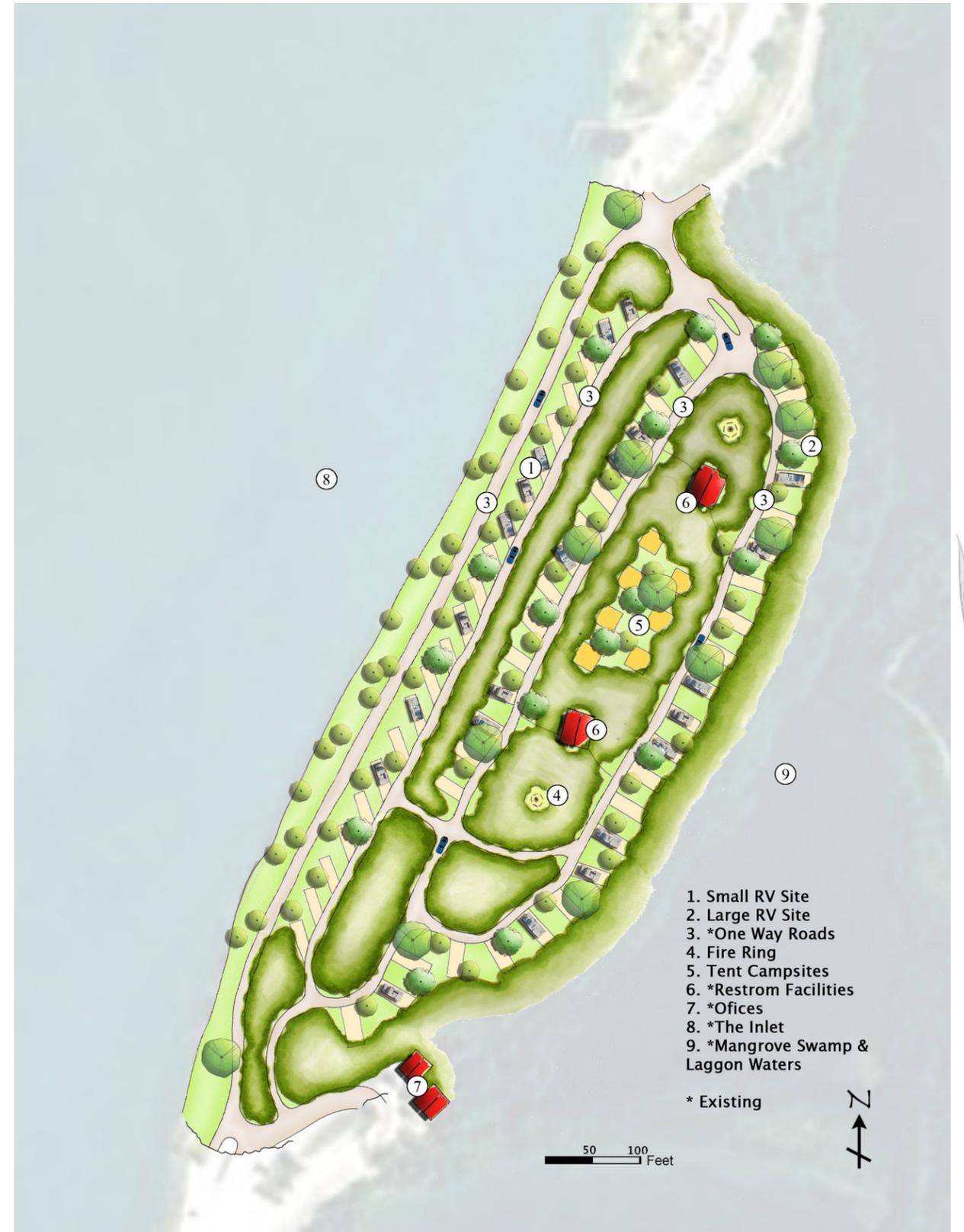
Design Goal: to provide users with additional elements to enhance the experience and bring more people to the area by shading with native trees and buffering sites from each other with vegetation.

There is also no current existing tent campsites. The proposed locations on the plan to the right show designated tent campgrounds made private with additional vegetation. Two fire rings would create areas for both types of campers.

The plan shows an addition of RV sites to bring in more revenue for the park while spacing out the existing sites for a nicer experience for campers.

The additional vegetation and shade trees would be planted in a way that would still allow for nice views to the inlet. All road systems were left as is in the plan and the offices shown at the bottom of the plan are existing.

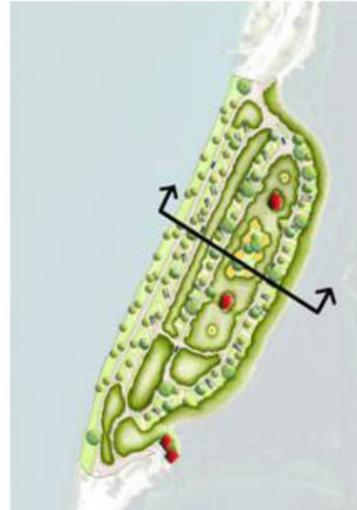
To the right is a picture of the existing campsite area of coconut point to give you an idea of how close the sites are spaced together and barren the area is.



CONCLUSION



"A Vision for Tomorrow" was a very rewarding for me. I have taken a liking to park's design and think planning and designing for outdoor experiences among nature is gratifying. One of the biggest lesson I learned about this project was how different the design process is when dealing with real clients and a real site. Ideas change so much after research, during analysis, and after meetings with clients that you can't always stick to the same deign ideas throughout. I've learned flexibility and willingness to change ideas for the better of the client and site is very important in producing effective and efficient work.



BIBLIOGRAPHY

Absolutely Florida. "Florida State Parks - SEBASTIAN INLET STATE RECREATION AREA." Absolutely Florida Guide to Travel in the Sunshine State. Web. 26 Apr. 2010. <<http://www.funandsun.com/parks/SebastianInlet/sebastianinlet.html>>.

Ferrero Hixon Assoc. Sears Park Masterplan. Rep. May 15, 2009. Print.

Florida Tech. Geomorphic Investigations of Tidal Inlets: Applications in Coastal Engineering. Rep. Marine & Environmental Systems. Web. Mar.-Apr. 2010. <<http://research.fit.edu/zarillo/sebhist.htm>>.

Forsyth, Ann, Laura Musacchio, and Frank Fitzgerald. Designing Small Parks: a Manual Addressing Social and Ecological Concerns. Hoboken, N.J.: J. Wiley, 2005. Print.

McHarg, Ian L. Design with Nature. Garden City, N.Y.: Published for the American Museum of Natural History [by] the Natural History, 1969. Print.

Portland Parks and Recreation. Waterfront Park Masterplan. Rep. Portland. Print.

Rhodeside and Harwell. Monroe Park Masterplan. Rep. Print.

RJM Design Group Inc. Ambrose Park- Masterplan Report. Ambrose Park- Masterplan Report. 30 Apr. 2009. Web.

Roberts, Wallace, and Todd Roberts. Boyce Mayview Park Masterplan. Ecological Restorations, 1999. Print.

The Sebastian Inlet District. "Sebastian Inlet District - The History of Sebastian Inlet, Florida."

Sebastian Inlet District - Managing the Connection Between the Atlantic Ocean & Indian River. Web. Mar.-Apr. 2010. <http://www.sebastianinletdistrict.com/Inlet_History.html>.

"Sebastian Inlet History | SURFLINE.COM." SURFLINE.COM | Global Surf Reports and Forecasts, Live Surf Cams and Coastal Weather. Web. 26 Apr. 2010. <http://www.surflines.com/surfing-a-to-z/sebastian-inlet-history_904/>.

Sebastian Inlet State Park Unit Management Plan. Rep. Vol. December 12th. Environmental Protection Agency: State of Florida, 2008. Print.

Sole, Michael W., and Bob Ballard, comps. "Outdoor Recreation in Florida- 2008." Environmental Protection Agency. Web. Dec. 2009. <<http://http://www.dep.state.fl.us/parks/planning/forms/OutdoorRecreationinFlorida2000.pdf>>.

Website Creations. "Sebastian Inlet State Park." Welcome To Floridian Nature. Web. Jan.-Feb. 2010. <<http://www.floridiannature.com/SebastianInlet%20StatePark.htm>>.

Welcome to Florida State Parks. Web. 26 Apr. 2010. <<http://www.floridastateparks.org/sebastianinlet/>>.



SEBASTIAN INLET STATE PARK: "A VISION OF TOMORROW"



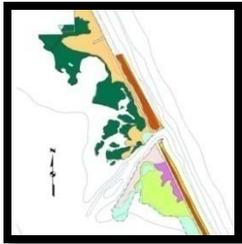
A MASTERPLAN FOR SEBASTIAN INLET STATE PARK

CONTENTS



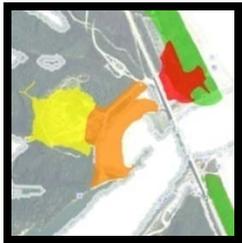
Site & Project Introduction

Vision
Location
Description



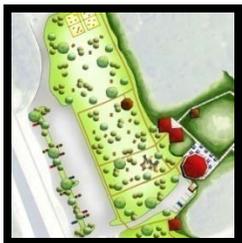
Analysis & Suitability

Land Use
Soils
Hydrology
Burn Zones
Vegetation
Conservation/Recreation



Masterplan Summary

Three areas of Interest
Conservation
Recreation

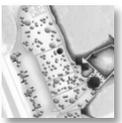
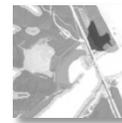
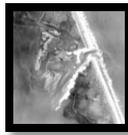


Phased Masterplan

North & Marina
Central Day Use
South & Campgrounds

Conclusion

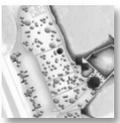
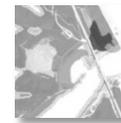
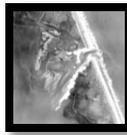
PROJECT VISION



The significant growth and development in the state of Florida and more specifically along its coasts has caused degradation of the extraordinary yet fragile natural environments of these areas, threatening many exotic species, natural communities and important ecological systems. It is vital that we preserve and protect these natural areas, provide opportunities for recreation and interpretation, and allow individuals of all ages to experience the importance of these fragile natural settings, and learn what can be done to maintain them. The Sebastian Inlet State Park holds numerous natural amenities and has played a leading role in protecting these natural systems while offering park users a variety of recreational opportunities. My intent is to provide a masterplan for the park that would further enhance these natural features while creating enjoyable experiences to increase the parks number of visitors.



PROJECT VISION



Guiding Principles

The balance of three interrelated guiding principles form the park masterplan, and remain just as important in the park's vision today, as they do over a long term period of time.

- 1. Preservation, Protection & Enhancement:** The importance of preserving the existing natural and cultural features of the site needs to remain a main focus through the design process. In addition, improvements to currently altered and impacted natural communities are another goal. The addition of proposed features and facilities, as well as improvements to existing site elements should have minimal impacts on the significant cultural and natural resources of the site. It is important that the current character of the site be preserved and that the park continues to be successful in preserving and protecting Florida's threatened natural coastal environments.



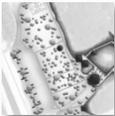
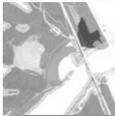
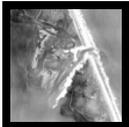
- 1. Recreation and More:** Improvements to existing site features, as well as the addition of new-use features to provide for resource-based recreation are another focus. The intent of these additions and enhancements is to improve the overall user experience of the site and to attract more visitors. Recreational elements will be a huge focus as they play a huge role in the effectiveness of environmental education, interaction and site experience.



- 1. Interpretation:** Interpretational elements in areas where locals and visitors have a chance to interact with the natural environment is key for understanding not only the importance of these areas but also the important roles humans can play, in protecting these natural environments in the 21st century. The outdoor educational program of the site should contain educational facilities, indoor and outdoor classrooms, and opportunities for field studies and outdoor laboratory experiences, among other components.

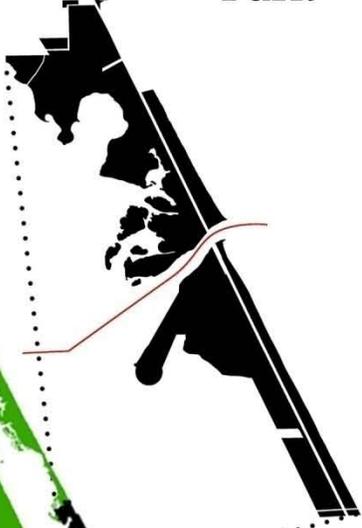
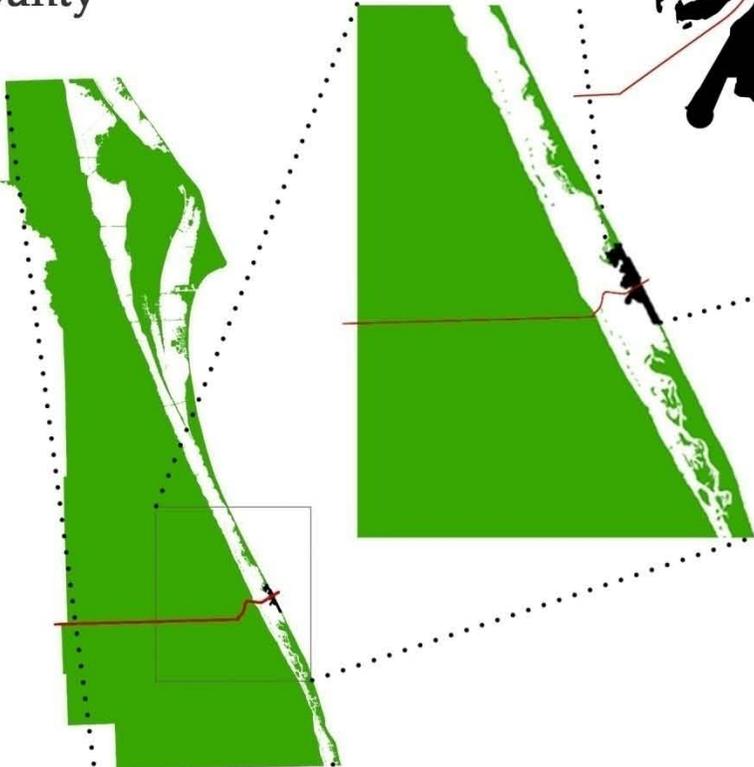


SITE LOCATION

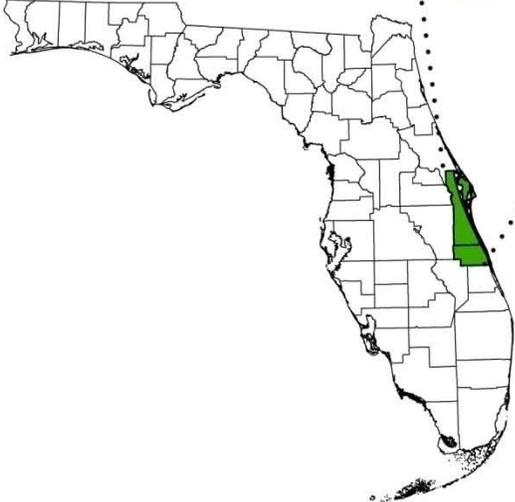


Sebastian Inlet State Park

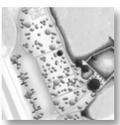
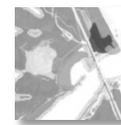
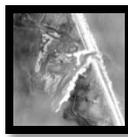
Brevard County



Indian River County



SITE DESCRIPTION



Located on a barrier island between the Indian River Lagoon and the Atlantic Ocean, and on both side of the Sebastian Inlet, the Park provides a wide variety of natural amenities and recreational features.

Natural & Recreational Features



First Peak



North Jetty



Indian River Lagoon



Atlantic beaches



Inlet Cove



Hammock Trail



Full Facility Campground

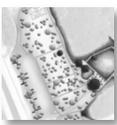
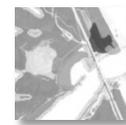
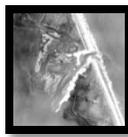


Mangrove Swamps



Dune Habitats

SITE DESCRIPTION



Cultural & Historical Features



Ais Indians, 1760



Spanish Fleet of 1715



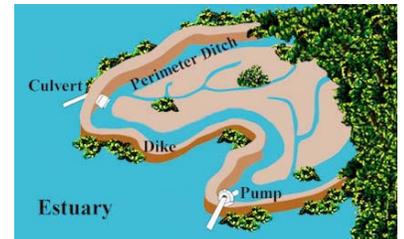
Commercial Fish Camps, 1800's



Inlet Opening, 1924



1949



Mosquito Impoundments, 1950's



Fishing Museum

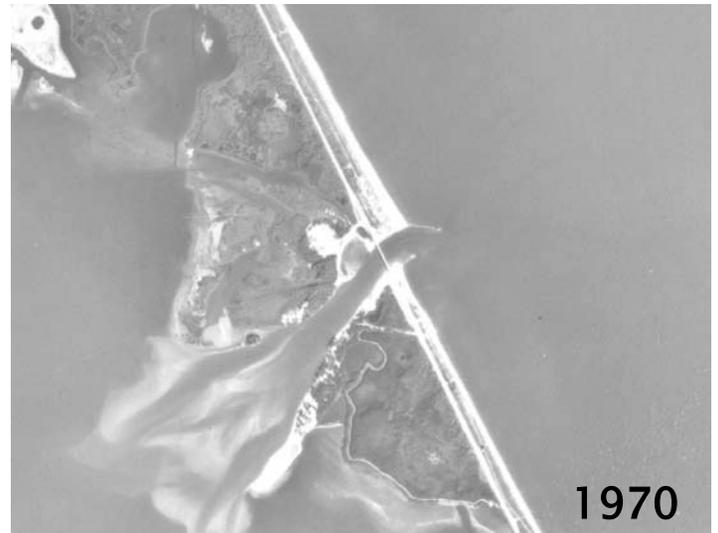
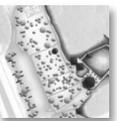
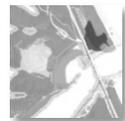
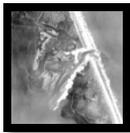


McLarty Treasure Museum

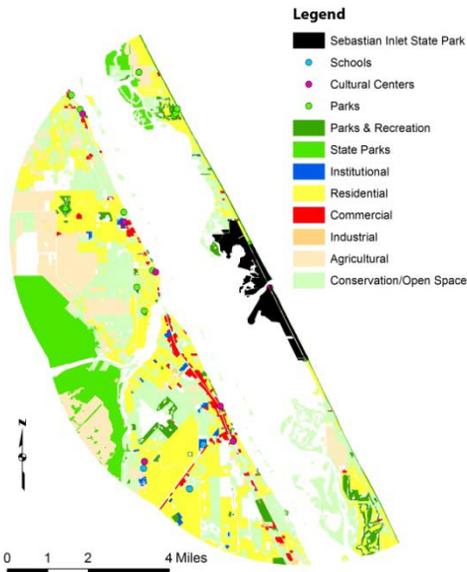
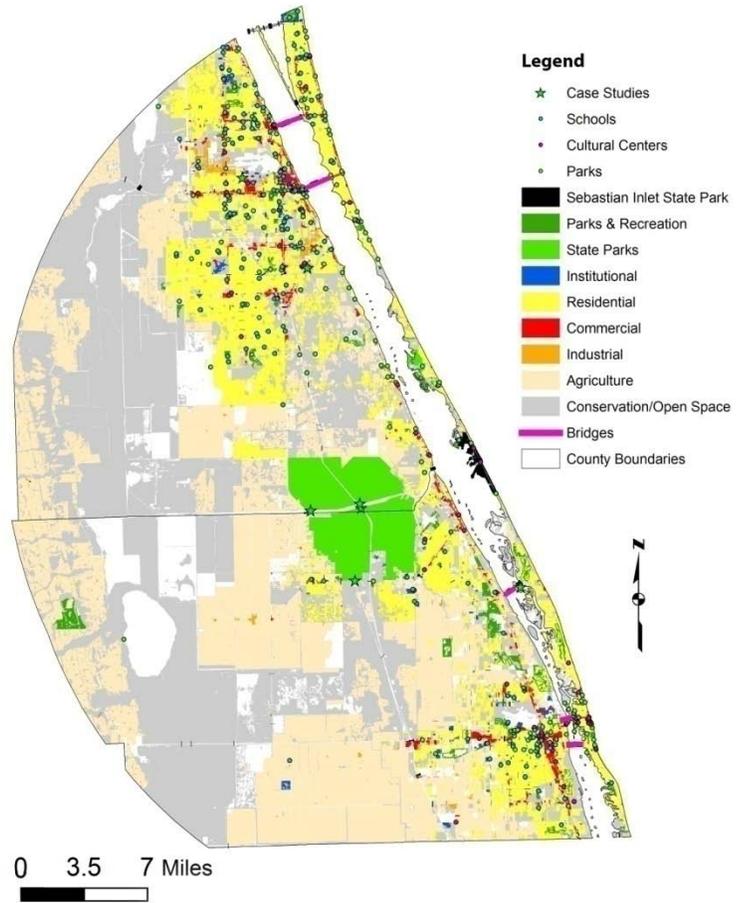
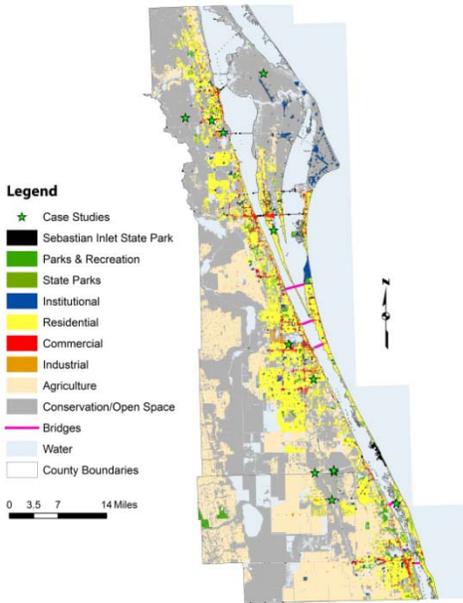
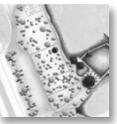
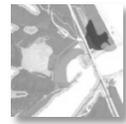


Annual Surf Contests

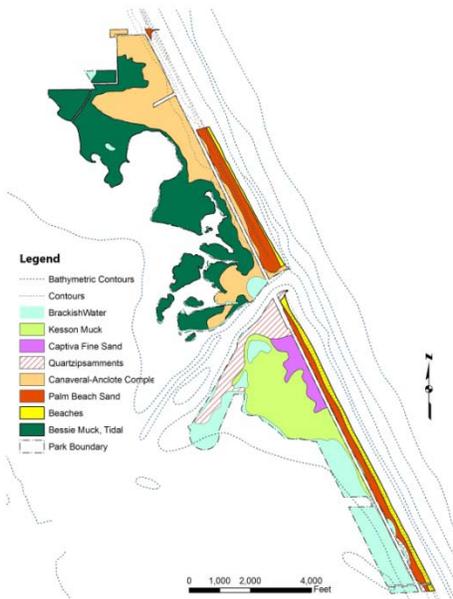
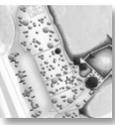
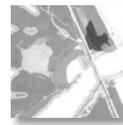
SITE DESCRIPTION



LAND USE



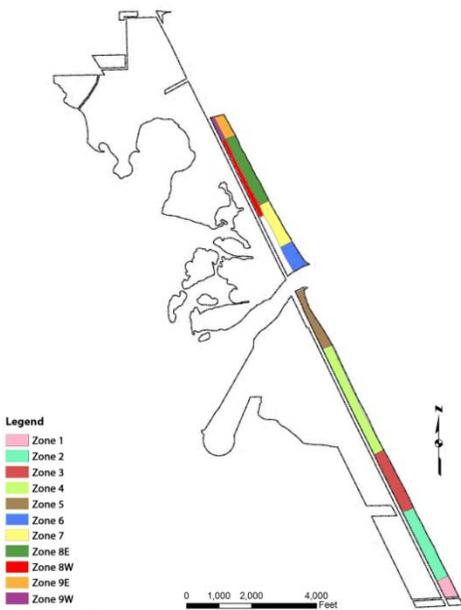
ANALYSIS MAPS



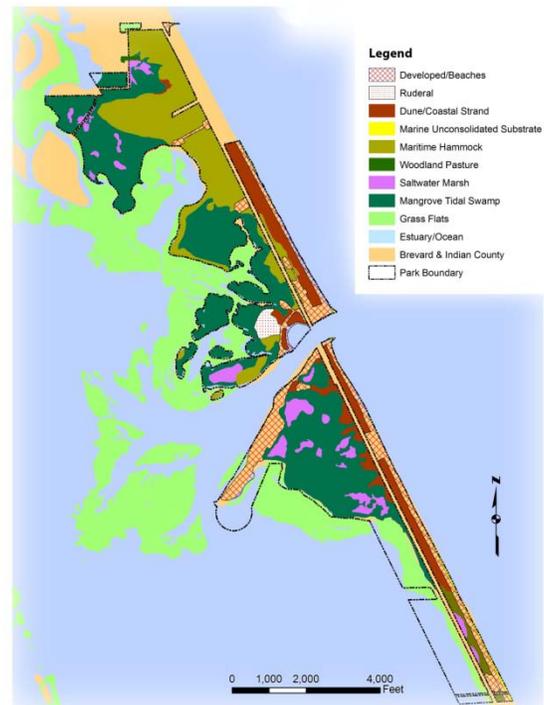
Soils Map



Hydrology Map

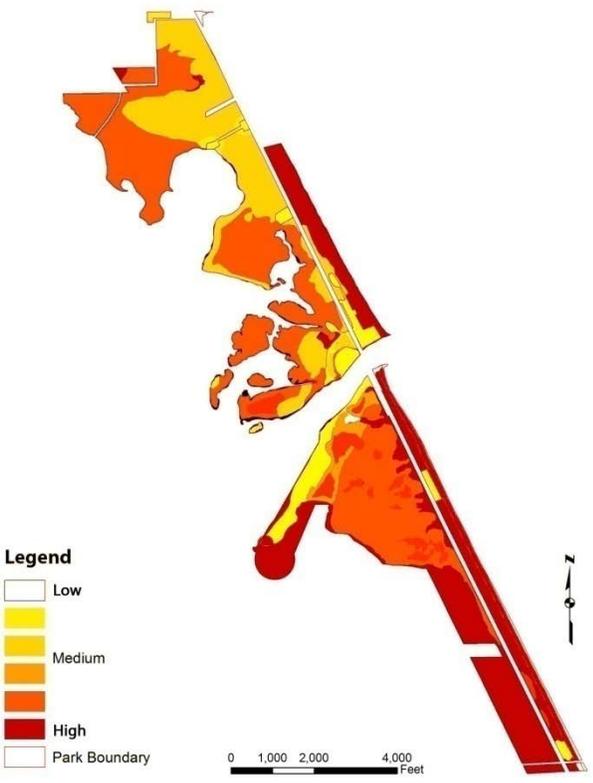
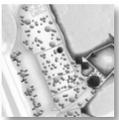
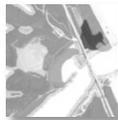


Burn Zones Map

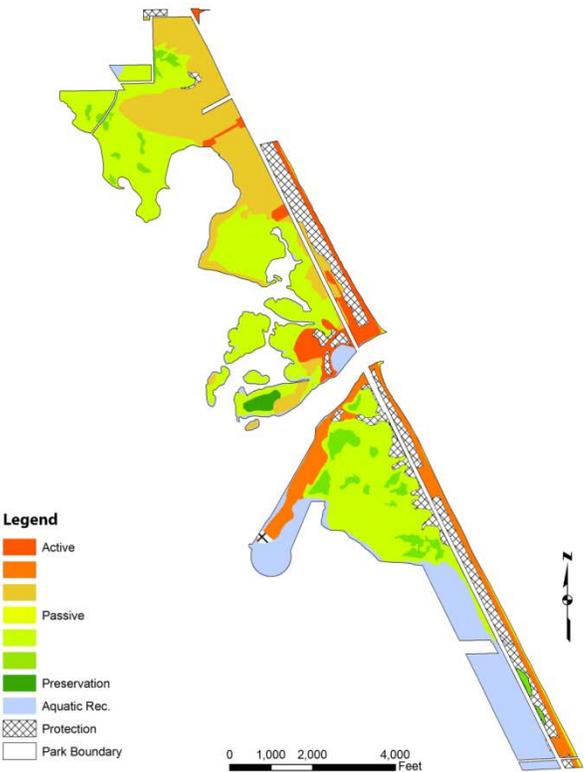


Vegetation Map

SUITABILITY MAPS

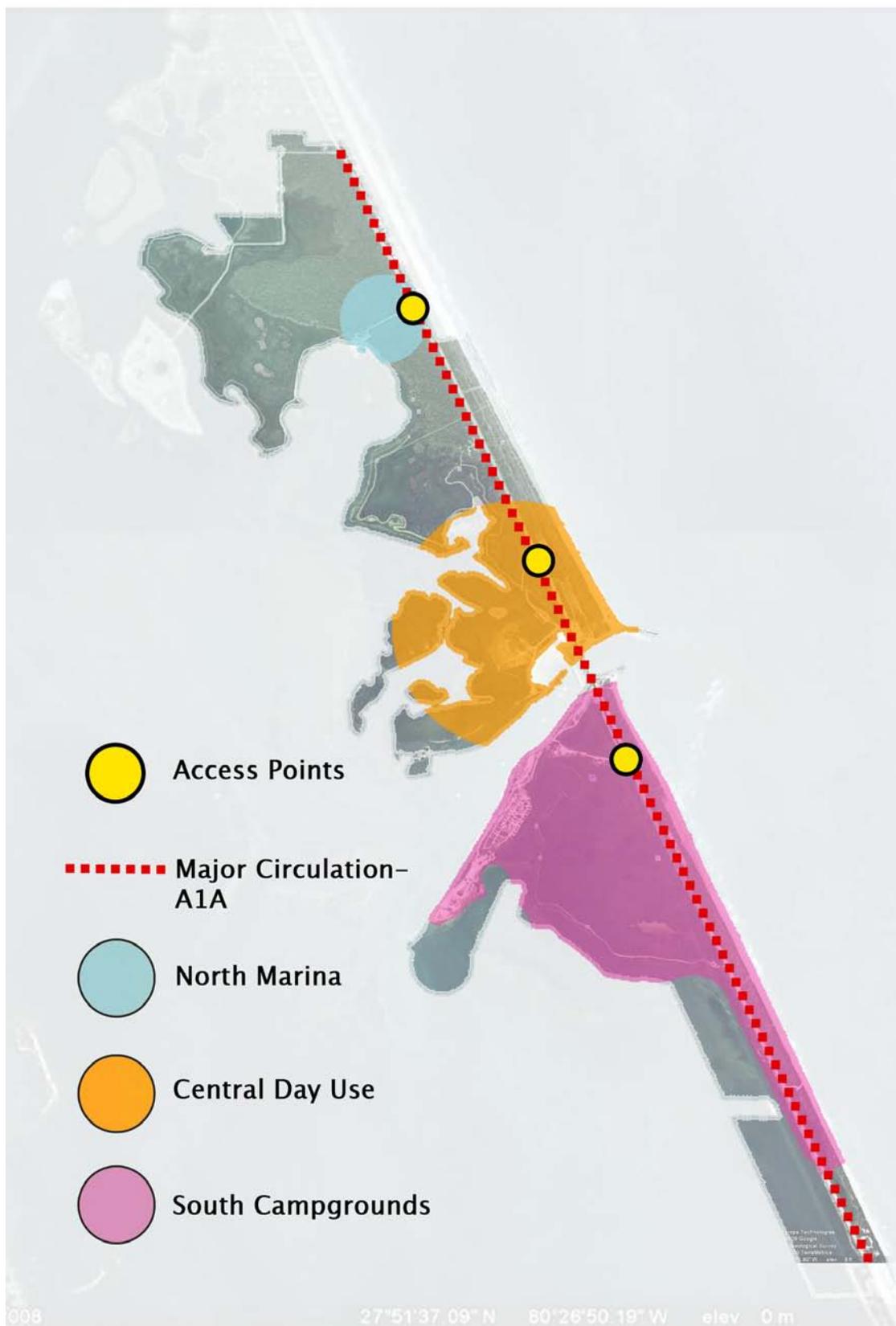
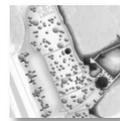
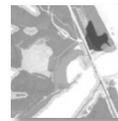
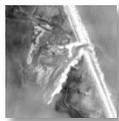


Conservation Suitability

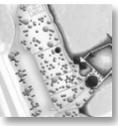
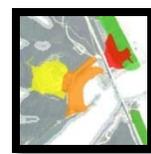


Recreational Suitability

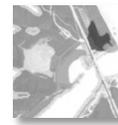
AREAS OF INTEREST



MASTERPLAN SUMMARY



REHABILITATION



Ammophila breviligulata

Solidago sempervirens

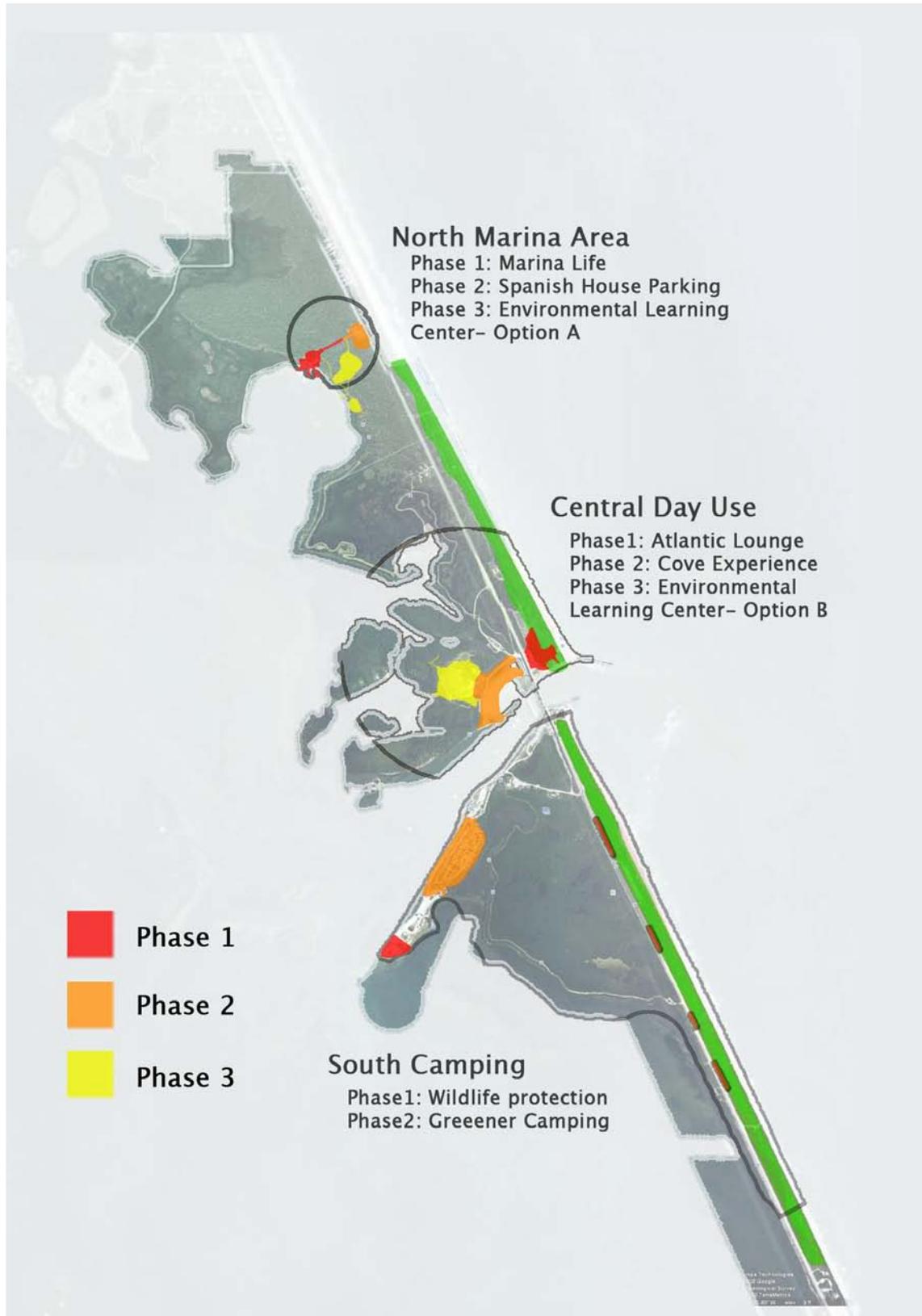
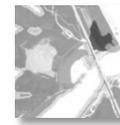
Leymus mollis

Lathyrus japonicus

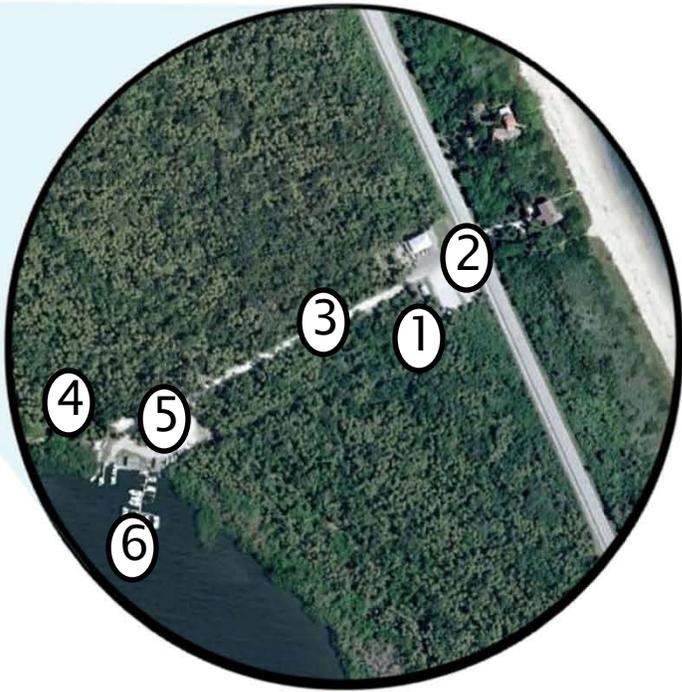
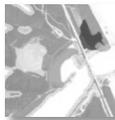
Hudsonia tomentosa

Prunus maritima

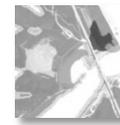
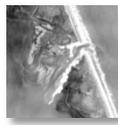
MASTERPLAN- PHASED



NORTH MARINA



PHASE 1



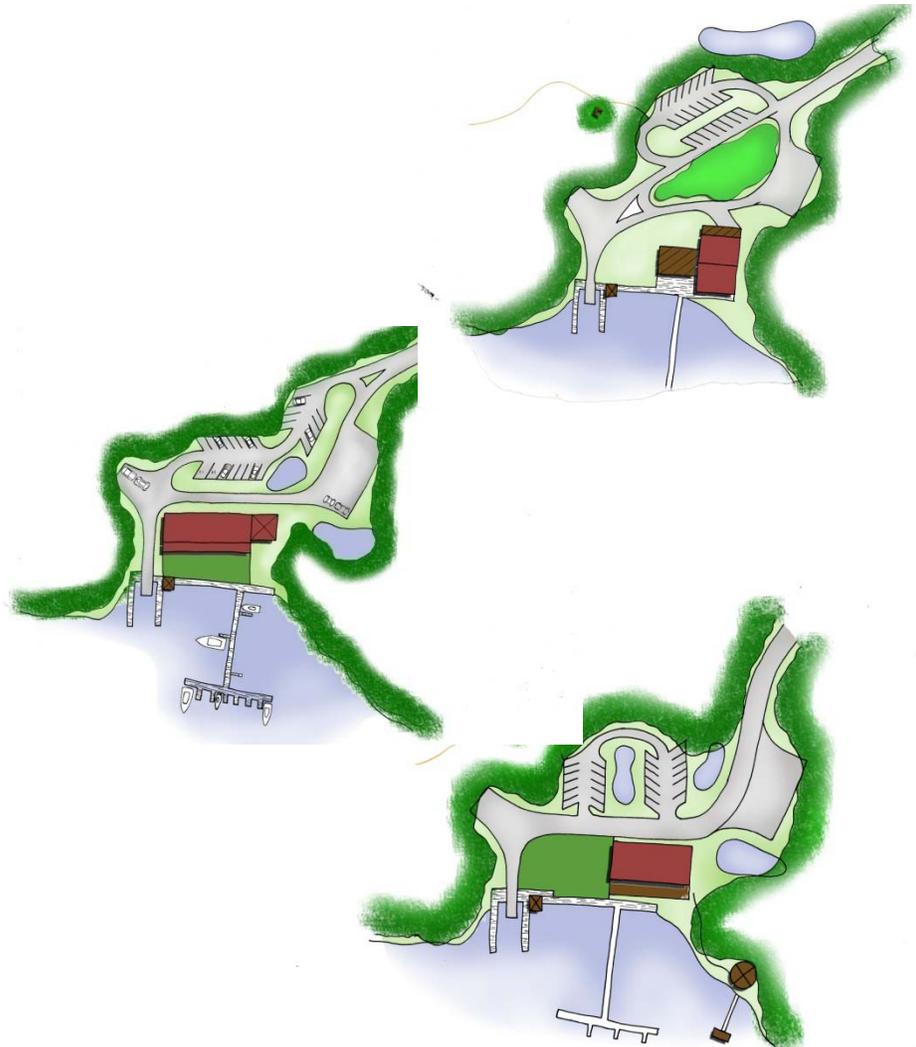
MARINA LIFE

Objective– Bring in more users and create a usable space throughout the day.



Program–

- New marina
 - Bait Shop
 - Concessions
- Dining/Seating
 - Screened Outdoor
- Cleaning Station
- Community Area
 - Pavilion
 - Dock
- Shaded Formal Parking
- Shaded Picnic Area

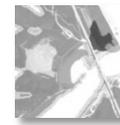


PHASE 1

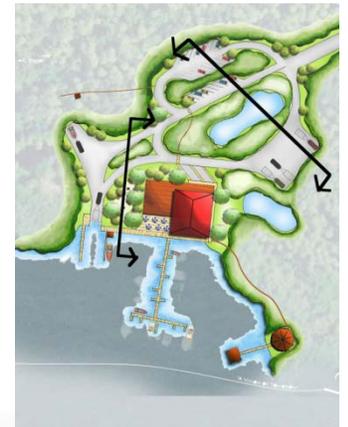
MARINA LIFE



PHASE 1



MARINA LIFE



Indian River Lagoon & Dock System

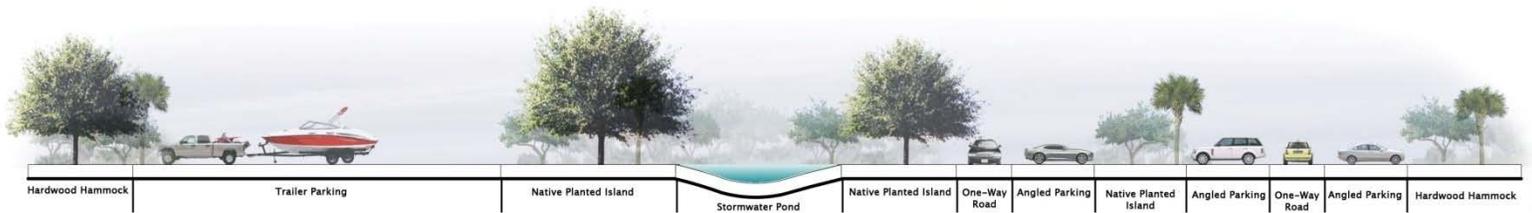
Marina & Shaded Park Area

Angled Parking

One-Way Rd.

Planted Island

One-Way Rd.



Hardwood Hammock

Trailer Parking

Native Planted Island

Stormwater Pond

Native Planted Island

One-Way Road

Angled Parking

Native Planted Island

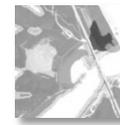
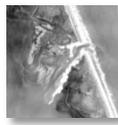
Angled Parking

One-Way Road

Angled Parking

Hardwood Hammock

PHASE 2



SPANISH HOUSE PARKING

Objective– Improve safety by adding formal parking to prevent street-side parking along A1A as well as control visitor access points to the beach.



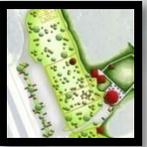
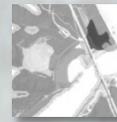
Program–

- Formal Parking
- Planted Islands for Shade
- Buffer from A1A
- Restroom Facilities
- Showers
- Trailhead

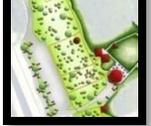
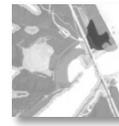


PHASE 2

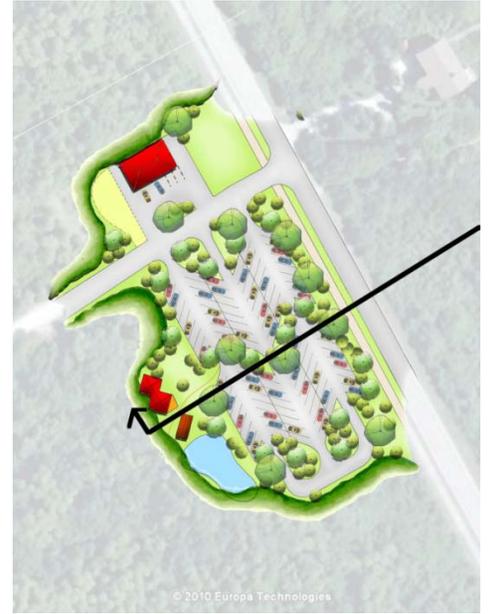
SPANISH HOUSE PARKING



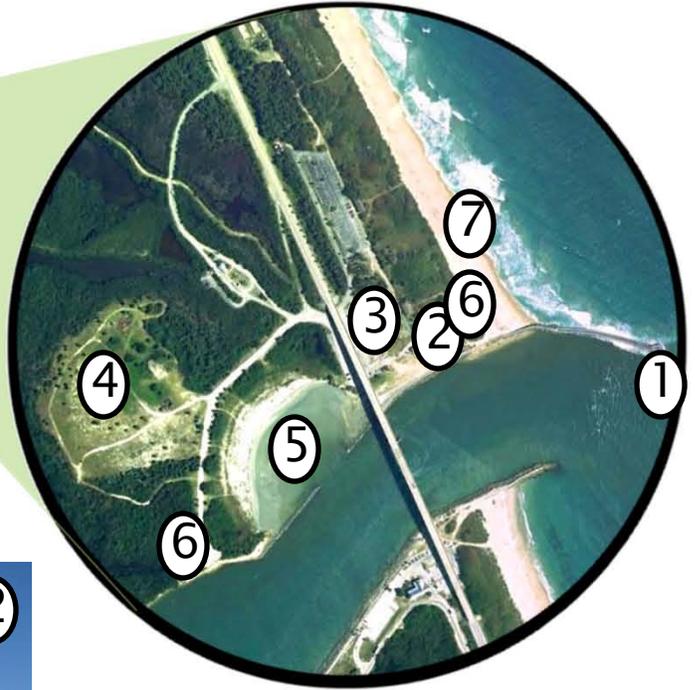
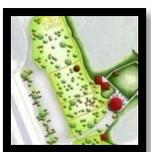
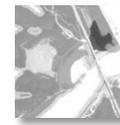
PHASE 2



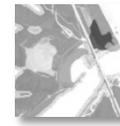
SPANISH HOUSE PARKING



CENTRAL DAY-USE



PHASE 1



ATLANTIC LOUNGE

Objectives— Limit habitat disturbance while accommodating more visitors as well as improved dining services that take advantage of good views.



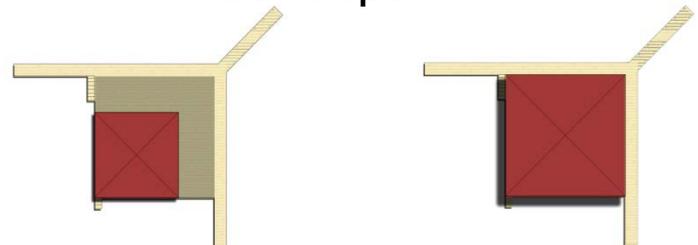
Program

- Two story café'/retail building
 - 2nd Floor Dining
 - 1st Floor Retail/Beach Rental
- Shaded Picnic Areas
- Playground & Sand volleyball
- Shaded Parking
- Interpretive signage along boardwalk system.

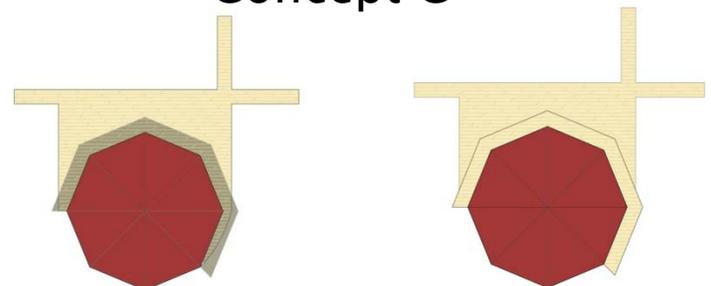
Concept A



Concept B



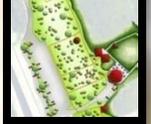
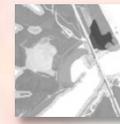
Concept C



1st Floor

2nd Floor

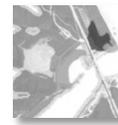
PHASE 1



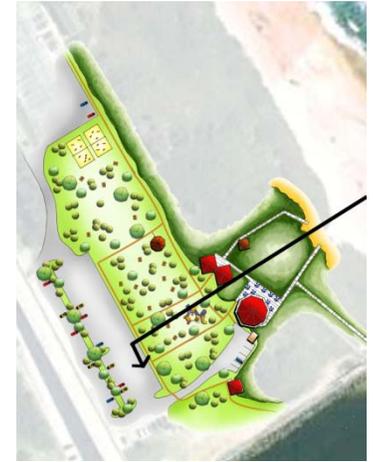
ATLANTIC LOUNGE



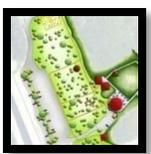
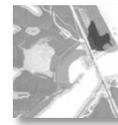
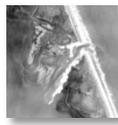
PHASE 1



ATLANTIC LOUNGE



PHASE 2



COVE EXPERIENCE

Goal- Formalize parking and access to the cove to limit disturbance on natural areas and provide for shaded areas.



Program-

- Formal Parking along road
- Designated pathways to the cove
- Pavilions along the beach
- 64 Parking Lot for overflow
- Restroom Facilities & Showers
- Interpretive signage along pedestrian paths to the cove

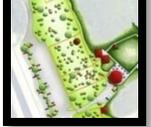
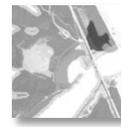


PHASE 2

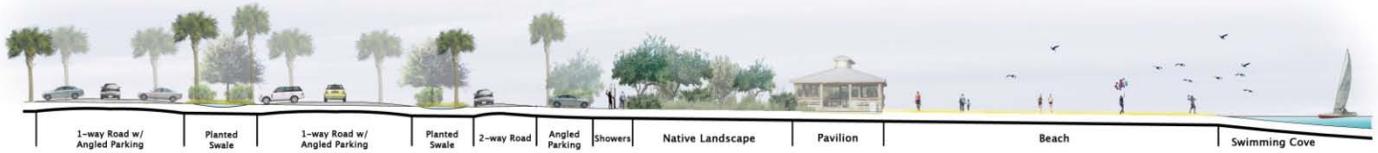
COVE EXPERIENCE



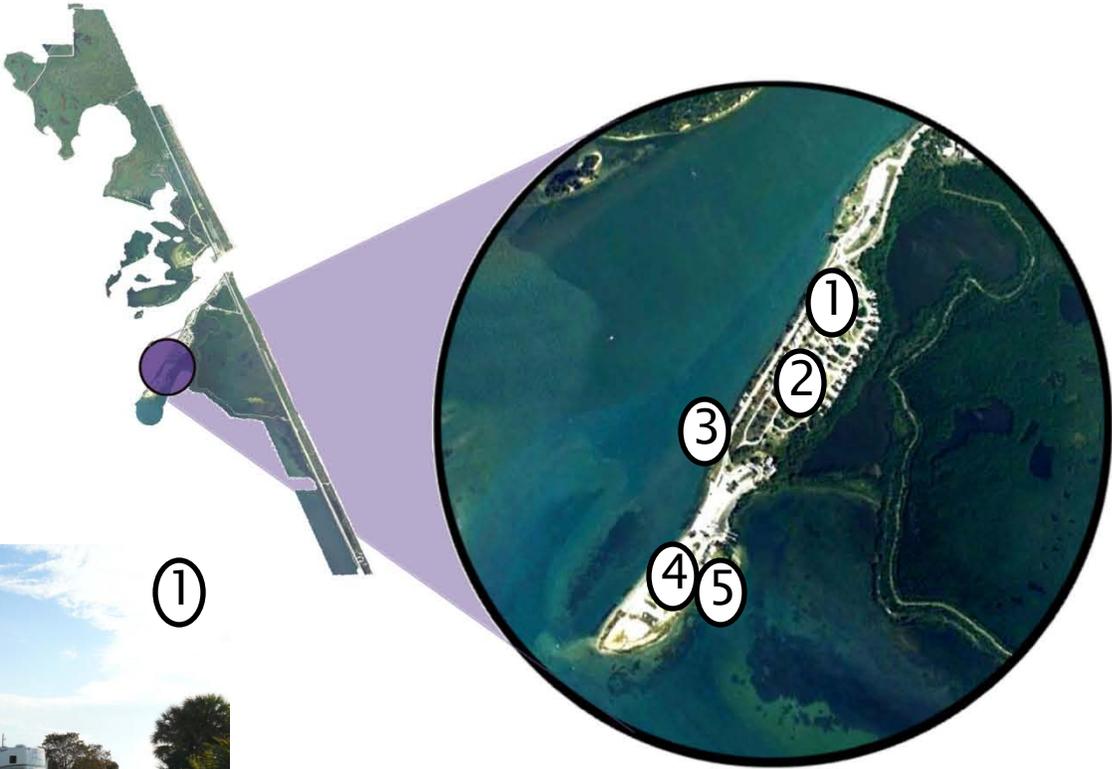
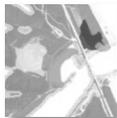
PHASE 2



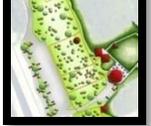
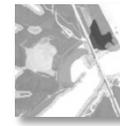
COVE EXPERIENCE



SOUTH CAMPING



PHASE 1



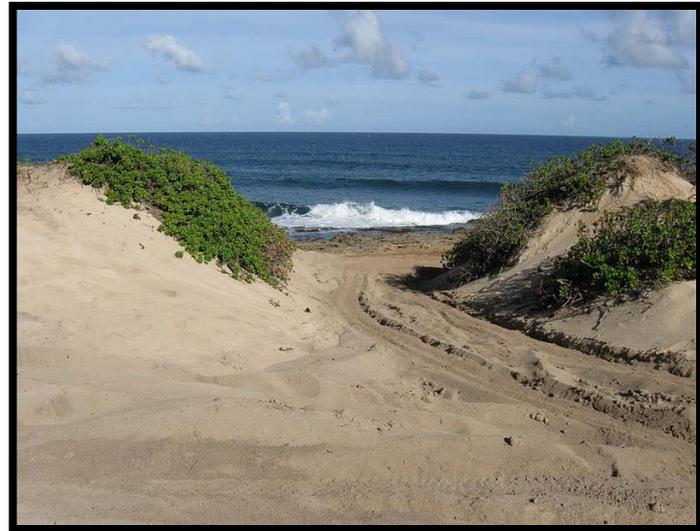
WILDLIFE PROTECTION

Goal- Protect the eastern shorebird habitat as well as the eastern dune habitats along A1A with an improved visual barrier.

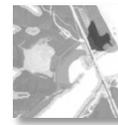


Program-

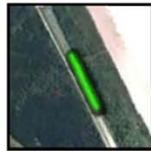
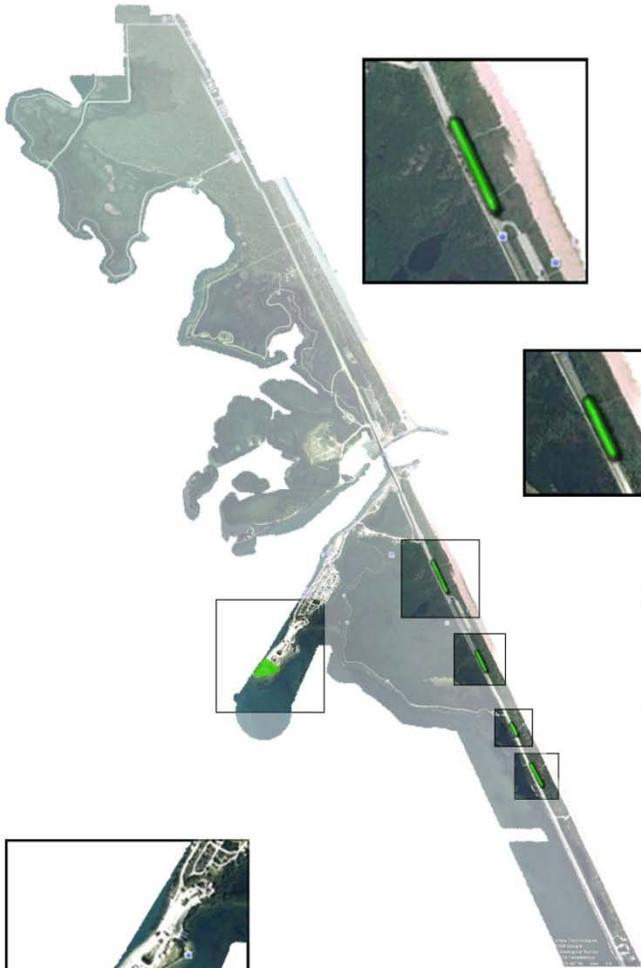
- Visually Appealing dune fencing along identified areas.
- Signage to enforce fencing.
- Signage providing interpretation.



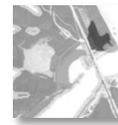
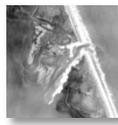
PHASE 1



WILDLIFE PROTECTION



PHASE 2



GREENER CAMPING

Goal- Increase number of campsites while improving experience.

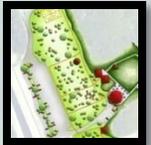
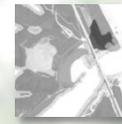
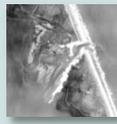


Program-

- More spacing between sites
- Native landscaping to shade
- Addition of designated tent campsites
- Preserve views to the inlet

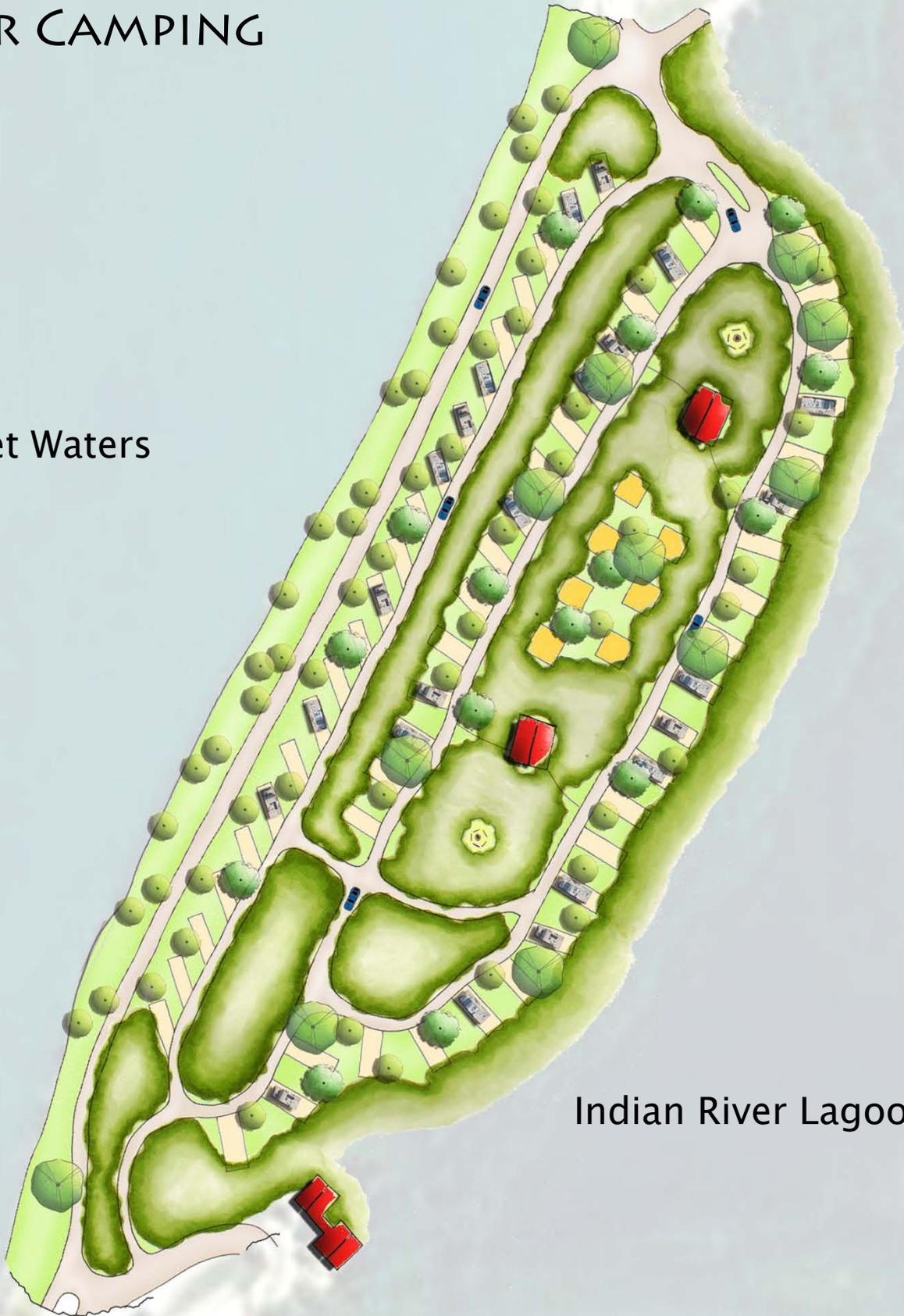


PHASE 2



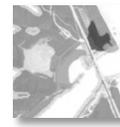
GREENER CAMPING

Inlet Waters

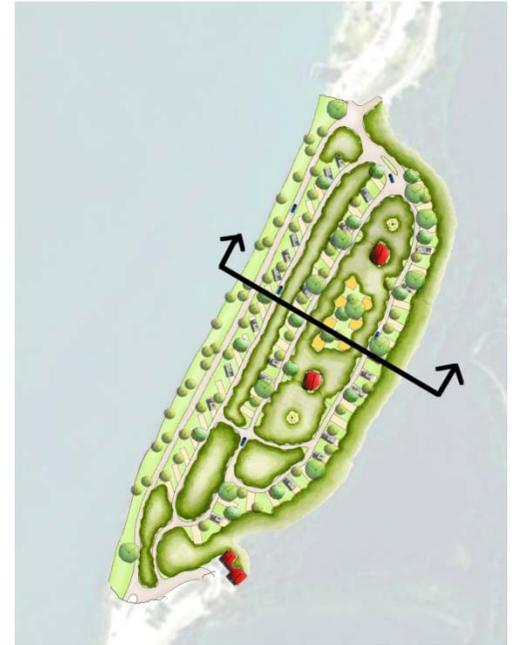


Indian River Lagoon

PHASE 2



GREENER CAMPING



SEBASTIAN INLET STATE PARK: "A VISION OF TOMORROW"



A MASTERPLAN FOR SEBASTIAN INLET STATE PARK