

Michael D. Chiumento  
Michael D. Chiumento III  
Paul M. Guntharp, Jr.

Philip J. Chanfrau  
*Of-Counsel*



CHIUMENTO  
& GUNTARP P.A.  
ATTORNEYS AT LAW

145 City Place, Suite 301  
Palm Coast, FL 32164  
Telephone: (386) 445-8900  
Fax: (386) 445-6702  
Website: [www.palmcoastlaw.com](http://www.palmcoastlaw.com)

*Hand-Delivered*

Mr. Tim Telfer  
Flagler County Administration  
1769 E. Moody Blvd.  
Suite 105  
Bunnell, FL 32110

RE: Solitude Condominium/Flagler County Environmentally Sensitive Lands Committee

Dear Tim:

As we discussed, our law firm has the pleasure of representing Consolidated Capital Funding II, LLC (the "Owner"). A few years ago, the Owner obtained development rights on a four (4) acre parcel of land located in The Hammock (Exhibit "A") to develop a condominium project known as Solitude Condominium. In the past few months, you and I have discussed submittal of the Property to the Land Acquisition Selection Advisory Committee for purchase. As explained, the Owner is willing to work with the County on both the price and the terms of the acquisition. For example, the Owner would be willing to provide short term financing in an effort to preserve the Property for beach access and expansion of the adjacent Washington Oak State Park.

In light of the above, please find enclosed the following documents:

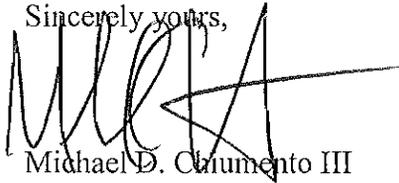
1. Owner's Authorization;
2. Aerial Photograph;
3. Approved Conceptual Site Plan;
4. Preliminary Environmental Site Assessment;
5. Geotechnical Evaluation;
6. Phase I Report.

March 5, 2010

Page 2

As always, we thank you for your cooperation. I know you have a meeting scheduled for March 8, 2010 at which I will be present. In the meantime, should you have any questions or comments, please feel free to contact me at your convenience.

Sincerely yours,

A handwritten signature in black ink, appearing to read "MDC", with a long horizontal line extending to the right from the end of the signature.

Michael D. Crumeto III

MDC:ks

Encl.

cc: Consolidated Capital Funding II, LLC

Map Help
**Flagler County Parcel Maps**
Flagler Home Search Page

**Zoom**

Zoom Out

Zoom In

Pan by Hand

Zoom to Box

Zoom County

Get Info

Measure

Area Tool

Zoom To Parcel

Center On Parcel

Print Page

Copyright © 2008, qPublic.net

**PARCEL INFORMATION TABLE**

Selected Parcel	37-10-31-1550-00000-0220 (Click for Complete Card)
Approximate Parcel Square Footage	168736
Property Use	VACANT COM

**OWNERSHIP INFORMATION**

Name	CONSOLIDATED CAPITAL
Mailing Address	FUNDING II LLC 2275 E HIGHWAY 100; BUNNELL, FL 32110
Situs/Physical Address	6645 OCEANSHORE BLVD N

**VALUES**

Land Value	2,598,750
Ag Land Value	0
Building Value	0
Misc Value	0
Just Value	2,598,750
Assessed Value	2,598,750
Exempt Value	0
Homestead?	N

**LAST 2 SALES**

Date	Price	Vacant?	Qual
11-2005	4,300,000	N	Q

Map Size:

**Owner's Authorized Representative  
To the Flagler County Board of County Commissioners  
for the Environmentally Sensitive Lands Program**

This form serves to advise that the individual named below is the authorized representative of the owner(s) for the real property described below, which is located in Flagler County, Florida, for any negotiations concerning conveyance of the property to the Flagler County Board of County Commissioners.

**AUTHORIZED REPRESENTATIVE(S):**

Name(s) and Title Michael D. Chiumento III, Esquire

Chiumento & Guntharp, P.A.

Address: 145 City Place, Suite 301

Palm Coast, FL 32164

Telephone: 386.445.8900 Fax: 386.445.6702 Email: michael3@palmcoastlaw.com

Owner Name (Please Print): Consolidated Capital Funding II, LLC

Owner Signature: *Michael M. Gilardi*

Date Signed: 3-2-10

Owner Name (Please Print): MICHAEL M GILARDI, Managing Member

Owner Signature: *Pamela J. Gilardi*

Date Signed: 3-3-10

Owner Name (Please Print): Pamela J. Gilardi, Managing Member

Owner Signature: \_\_\_\_\_

Date Signed: \_\_\_\_\_

Owner Name (Please Print): \_\_\_\_\_

Owner Signature: \_\_\_\_\_

Date Signed: \_\_\_\_\_

TO: Flagler County Board of County Commissioners

DATE: March 1, 2010

ESL PROJECT NAME: Solitude Condominium

PARCEL #(s): 37-10-31-1550-00000-0220

I do hereby state that as the property owner(s) of the above-referenced property, I am willing to consider a purchase offer from the Flagler County Environmentally Sensitive Lands program. Further, I (we) give permission to Flagler County Staff, the Flagler County Land Acquisition Selection Advisory Committee, and their authorized representatives access to the above referenced property.

Consolidated Capital Funding II, LLC  
Print Name of Property Owner

MICHAEL M GILARDI  
Print Name of Property Owner

*Patricia J. Klaut*  
Signature of Property Owner *Managing Member*

*Michael M Gilardi*  
Signature of Property Owner *Managing Member*

2275 E. Highway 100, Bunnell, FL 32110  
Property Owner's Address

( )  
Property Owner's Telephone Number

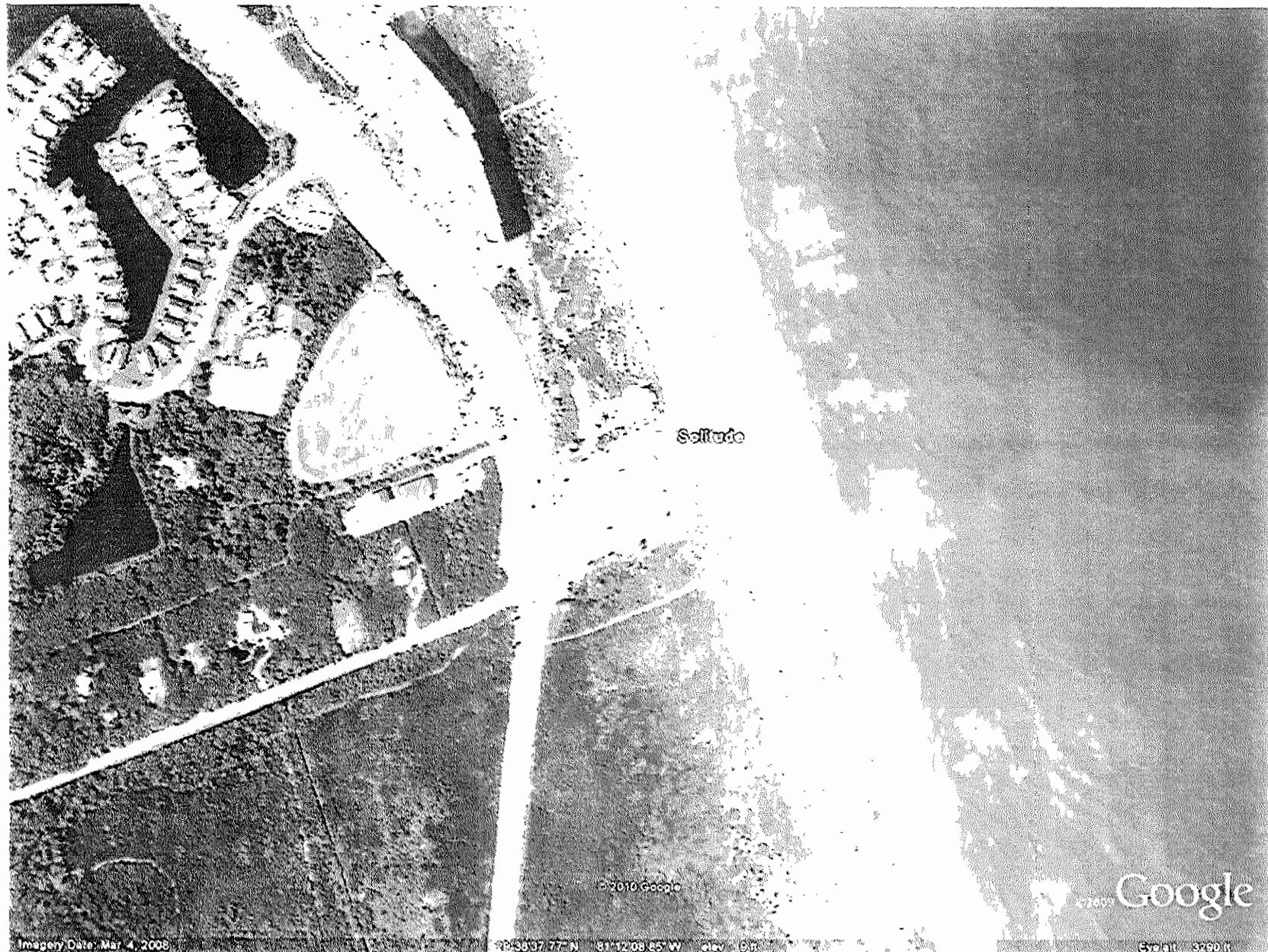
**Note:** A second signature line is provided if property is jointly-owned (i.e., husband and wife, etc.)

**Please return this statement to:**

**Tim Telfer**  
**Flagler County Board of County Commissioners**  
**1769 E. Moody Blvd., Suite 309**  
**Bunnell, FL 32110**  
**Fax: 386-313-4109**

*Signing the form places you under no obligation to accept any specific offer, or limit any other options you may consider during the interim.*





Saluda

© 2010 Google

Google

Imagery Date: Mar 4, 2008

48°53'07.77" N 81°12'08.85" W City: 00

Spot: 3290.R





**EMS SCIENTISTS, ENGINEERS, PLANNERS, INC.**

4475 U.S. 1 South, Suite 404, St. Augustine, FL 32086  
Ph: (904) 794-0244 Fax: (904) 794-0431

December 20, 2005

Sarah Cosper  
The Trio Group  
1009 Maitland Commons Boulevard, Suite 207  
Maitland, Florida 32751

RE: Preliminary Environmental Site Assessment (PESA) -  
Granada Campground Property, Flagler County, Florida

Ms. Cosper:

This letter summarizes the findings of the Environmental Site Assessment completed on 6/1/04 for the above-mentioned parcel. The parcel is located east of A1A in unincorporated Flagler County, Florida. The parcel is specifically located in Section 38, Township 10 South, and Range 31 East. The subject site is approximately  $\pm 4$  acres; of which  $\pm 3.5$  acres appear to be upland. The remaining  $\frac{1}{2}$  acre of the property, located east of the dune, is classified as shoreline (652)/Atlantic Ocean (571). The approximate property and wetland boundaries are shown on the attached aerial photograph (Figure 1).

## **ASSESSMENT METHODS**

### *Wetlands*

The site was inspected along the property boundaries and random belt transects were walked throughout the site by a 2-person team of environmental scientists to determine the approximate boundaries of jurisdictional wetlands. Due to time constraints, areas designated as having hydric soils and/or areas designated in the 600s (wetlands) category according to the Florida Geographic Data Library data were ground-truthed. The absence/presence of wetlands was based on vegetation, soil, and hydrologic criteria as outlined in the *Unified Wetland Delineation Methodology*, Chapter 62-340 of the Florida Statutes, for the State (field determined) and the *1987 Wetland Delineation Manual* for the Army Corp of Engineers.

### *Endangered and Threatened Species*

Prior to the initiation of fieldwork, a background literature search was conducted to determine the legally protected plant and animal species that have the potential to occur in Flagler County, Florida. Species lists were compiled by using a computer database maintained by EMS, which contains species occurrence by county and habitat type. The database was developed by consulting the most current observational and distributional records maintained by the Florida Natural Areas Inventory (FNAI), and by reviewing current scientific literature. Additional distribution and habitat information was obtained from the Florida Committee on Rare and Endangered Plants and Animals (FCREPA) publications, The Florida Fish and Wildlife Conservation Commission (FFWCC - formerly known as the Florida Game and Fresh Water Fish Commission), the Federal Endangered and Threatened list from the Jacksonville field office of the United States Fish and Wildlife Service (USFWS), Florida Audubon Society, and through consulting other published reference material.

Limited, random belt transects were walked throughout the property by a 2-person team of environmental scientists. Observations were made along each transect for any listed plant and animal species that have the potential to occur within the habitats found on the site. Habitat classification was determined by using the Florida Department of Transportation's Florida Land Use, Cover and Forms Classification System (FLUCFCS). The occurrence of listed animal species was documented through direct visual or aural observation, or through observations of distinctive signs, such as tracks, scat, burrows, nests or food remains. This study did not include any trapping or night observations.

## **SITE ASSESSMENT**

Prior to conducting the on-site preliminary environmental assessment, aerial photographs were reviewed and interpreted to generally determine the presence and/or approximate location of wetland habitats or other significant features within the subject property. Once the initial review of the aerial photographs was complete, designated areas of the property were ground-truthed during the assessment.

During the on-site assessment of the subject property no areas, west of the dune, were classifiable as wetland habitat. However, approximately 0.5 acres of the property, east of the dune, was classified as shoreline (652)/Atlantic Ocean (571). Other significant features that were observed during the site assessment included a dilapidated building at the southern boundary, a type of well or water treatment facility along the western boundary, and a sewage dump station adjacent to the main interior access road.

### *Wetland Habitat*

The site assessment concluded that the portion of the subject site west of the dune did not contain any wetland habitat. However, the portion of the subject site east of the dune was classified as shoreline (652) and Atlantic Ocean (571). These areas consisted of soil, vegetation, and animals commonly found throughout habitats of this type.

### *Wetland Habitat Delineation and Jurisdiction*

The identified ocean and shoreline are protected by Federal and State regulations. Local government ordinances regulate development within this area by implementation of set-back requirements. No other wetlands were observed on the project site.

### *Upland Habitat*

Approximately 3.5 acres of upland habitat was identified west of the shoreline and ocean. Due to the previous development 99% of the upland area has been cleared of the natural vegetation. The current vegetation consists of opportunistic species common throughout disturbed or cleared areas.

## **LISTED WILDLIFE SPECIES**

One species (the gopher tortoise), listed by the Florida Fish and Wildlife Conservation Commission (FFWCC) as a Species of Special Concern, was observed on or near the site during the site evaluation. One inactive tortoise burrow was found near the extreme southwest corner of the site near the sidewalk. Due to its location, it was unclear if the burrow was located within the property boundaries, and may be outside the boundary.

However, their close proximity to the property boundary will require further review and survey.

No scrub-jays were observed on the site at the time of the site visit. These birds may use the suitable habitat immediately adjacent to the site's southern boundary, and may use the site itself as part of a larger home territory. The presence or absence of these birds (protected as a Threatened Species by both the U.S. Fish and Wildlife Service and the FFWCC) can only be determined by a survey conducted over several days. This survey cannot be conducted in the colder months due to the birds' winter inactivity. Recent studies in the area suggest that scrub-jays may not occupy or utilize the site as part of a home territory. Despite this, a scrub-jay survey will be necessary prior to any development to determine whether the birds utilize the site. This can be performed by EMS when necessary.

Because of the site's location and adjacent habitat type, there is the potential that other protected animal species may utilize the site as well. A list of protected animal species with the potential to occur on the subject site has been provided as Table 1.

No listed plant species were found on the project site. A list of those protected plants that may occur on the site is included as Table 2.

## **POTENTIAL REGULATORY AGENCY JURISDICTION**

The following section briefly describes the roles of various government regulatory agencies with jurisdiction over lands or development practices within the project area. The SJRWMD and the ACOE directly regulate natural resources through the issuance of permits, but the USFWS and FFWCC have memorandums of agreement (MOA) with these permitting agencies that require their input and approval on specific issues, such as wildlife, prior to permit issuance.

### *Wetlands*

#### St Johns River Water Management District

The SJRWMD maintains jurisdiction and permitting authority over all stormwater related projects (part IV Chapter 373, F.S.). Included in this is a review of all jurisdictional wetlands (as defined by 62-340, F.A.C., see Section 2.1) and wildlife impacts within the proposed work area. The SJRWMD uses one permit called the Environmental Resource Permit (ERP) for all stormwater and wetland impacts (Chapters 40-1, 40-4, 40-40, 40-41, 40-42, 40-44 & 40-400, F.A.C). If the wetland and stormwater impacts are minor (less than an acre) a more simplified Standard General Environmental Resource Permit may apply. Regardless of the size, a SJRWMD permit will be required for any impacts to jurisdictional wetlands.

#### U.S. Army Corps of Engineers

The ACOE maintains regulatory authority over all navigable waters and contiguous wetlands (under their jurisdiction (33CFR328.3(b), 1984, Section 2.1) pursuant to Section 404 of the Clean Water Act, 1977 and Section 10 of the Rivers and Harbors Act, 1899.

As it stands today, the ACOE can regulate fill activities in Waters of the United States, which includes any canal, saltmarsh and/or wetlands occurring on the subject property. Any proposed fill, of wetlands for a residential subdivision, more than 0.1 acres is subject to an Individual. The ACOE is sensitive to piece-mealing and requires that all proposed impacts, both present and future, be identified and permitted at the same time.

### *Wildlife*

#### US Fish and Wildlife Service (USFWS) & Florida Fish and Wildlife Conservation Commission (FFWCC)

Once listed as endangered or threatened, a species becomes subject to protection and management by the USFWS and FFWCC. These agencies exercise direct regulatory control over the taking (which may include harassment, wounding, killing, possession or sale) of these species or their nests, and certain civil and criminal penalties may be imposed for violation of the prohibitions against these actions. If destruction or removal of an endangered or threatened species or its nest or eggs cannot be avoided or minimized, a developer must first secure a permit from the executive director of the FFWCC (pursuant to Rule 39-27.002(3), F.A.C.) and may also need a permit from the USFWS.

In addition to the specific permits for taking or relocation, a project's general impact upon endangered or threatened species, or species of special concern, will be evaluated by state and federal agencies as part of the application procedures for a variety of development permits.

The presence of endangered or threatened plant species involves primarily Federal agencies. Section 7(a)(2) of the Endangered Species Act requires Federal agencies to ensure that any action they authorize, fund or carry out does not jeopardize the continued existence of any endangered or threatened species. There is no effect on the activities of private citizens on their own lands unless such activities involve federal funding or federal permitting (e.g., ACOE dredge and fill permitting, and including permits to take threatened animals). In such cases, the issuing federal agency must insure that the activity will not jeopardize the continued existence of the listed plants before issuing the funds or permits.

### **CONCLUSION**

The site assessment of the subject property determined the development area (west of the dune) contains no wetland habitat. The shoreline and ocean east of the dune is wetland habitat. Development that does not impact this shoreline and ocean area will not impact wetlands and will not require wetland impact permits from the ACOE or SJRWMD.

Since a gopher tortoise burrow was found that may be within the site boundaries, a 25% survey should be performed prior the commencement of development. The property boundaries should be clearly marked before this survey is undertaken, so that it can be clearly determined if burrows near the property edges are within the boundaries.

A scrub-jay survey will be required prior to development. This can be performed in conjunction with the gopher tortoise survey during the warmer months of the year.

If you have any questions, or require any additional information, please do not hesitate to call me at (904) 794-0244.

Sincerely,

A handwritten signature in black ink, appearing to read "Ken Ceglady". The signature is fluid and cursive, with a long, sweeping tail on the final letter.

Ken Ceglady  
Environmental Consultant

cc: Ginger Sinn, EMS  
File

**Table 1: Protected wildlife species with the potential to occur on the Granada Campground in Flagler County, Florida.**

Species Name	Common Name	FFWCC	USFWS	FNAI	FCREPA	Likelihood of Occurrence	Habitat
<i>Apelocoma coerulescens</i>	Florida scrub-jay	T	T	S3	T	Low	Scrub and scrubby flatwoods
<i>Balaenoptera physalus</i>	Finback whale	E	E		E	Low	Oceanic
<i>Caretta caretta</i>	Atlantic loggerhead turtle	T	T	S3	T	Mod	Shallow, coastal waters
<i>Charadrius melodus</i>	Piping plover	T	T	S2	E	Low	Breeds on beach dunes; feeds on marine and estuarine tidal flats
<i>Chelonia mydas mydas</i>	Atlantic green turtle	E	E	S2	E	Low	Shallow, coastal waters
<i>Dendroica kirtlandii</i>	Kirtland's warbler	E	E	S1	E	Low	Migrant, utilizing various terrestrial and palustrine habitats
<i>Dermochelys coriacea</i>	Leatherback turtle	E	E	S2	R	Low	Oceanic; nests on sandy beaches and frontal dunes
<i>Drymarchon corais couperi</i>	Eastern indigo snake	T	T	S3	SSC	Low	Wide variety of habitats; winters in tortoise burrows in higher area.
<i>Egretta thula</i>	Snowy egret	SSC		S3	SSC	Low	Marshes, lakes, ponds and shallow, coastal habitats
<i>Eretmochelys imbricata imbricata</i>	Atlantic hawksbill turtle	E	E	S1	E	Low	Offshore, hard bottomed habitats
<i>Eubalaena glacialis</i>	Right whale	E	E		E	Low	Oceanic
<i>Falco peregrinus tundrius</i>	Arctic peregrine falcon	E		S2	E	Low	Wide variety of open habitats
<i>Falco sparverius paulus</i>	Southeastern American kestrel	T		S3	T	Low	Open, or partly open habitats with scattered trees
<i>Gopherus polyphemus</i>	Gopher tortoise	SSC		S3	T	Obs	Sandhills, scrub, hammocks, dry prairies, flatwoods, and ruderal
<i>Haematopus palliatus</i>	American oystercatcher	SSC		S2	T	Low	Sandy and rocky coasts and islands
<i>Lepidochelys kempi</i>	Atlantic (Kemp's) ridley turtle	E	E	S1	E	Low	Coastal, benthic habitats; nests almost exclusively in Mexico
<i>Megaptera novaeangliae</i>	Humpback whale	E	E		E	Low	Oceanic
<i>Pelecanus occidentalis carolinensis</i>	Eastern brown pelican	SSC		S3	T	Mod	Open, coastal habitats on islands
<i>Physeter macrocephalus</i>	Sperm whale	E	E		E	Low	Oceanic
<i>Pituophis melanoleucus mugitus</i>	Florida pine snake	SSC		S3	SU	Low	Sandhills, scrubby flatwoods, xeric hammocks and ruderal habitats
<i>Rana capito</i>	Gopher frog	SSC		S3	T	Low	Xeric uplands and pine flatwoods
<i>Rynchops niger</i>	Black skimmer	SSC		S3	SSC	Low	Coastal beaches and salt marshes
<i>Sterna antillarum</i>	Least tern	T		S3	T	Low	Open, flat beaches, river and lake margins

Notes:

FFWCC = Florida Fish and Wildlife Conservation Commission

E= Endangered; T= Threatened; SSC= Species of Special Concern

USFWS = US Fish and Wildlife Service

E= Endangered; T= Threatened; (S/A)= Similarity of Appearance; (E/P)= Experimental Population

FNAI = Florida Natural Areas Inventory

S1= Critically Imperiled Due to Extreme Rarity; S2= Imperiled Due to Rarity; S3= Very Rare and Local;  
S4= Apparently Secure; SH= Historical Occurrence; ?= Tentative Ranking

FCREPA = Florida Committee on Rare and Endangered Plants and Animals

E= Endangered; T= Threatened; SSC= Species of Special Concern; R= Rare; SU= Status Undetermined

Likelihood of Occurrence

Low= Low likelihood; Mod= Moderate likelihood; High= High likelihood; Obs= Observed by EMS;  
Obs\*= Observed by Others

Source: EMS scientists, engineers, planners, Inc. Endangered Species Database, 2005.

**Table 2: Protected plant species with the potential to occur on the Granada Campground site in Flagler County, Florida.**

<u>Species Name</u>	<u>Common Name</u>	<u>FDA</u>	<u>USFWS</u>	<u>FNAI</u>	<u>Likelihood of Occurrence</u>	<u>Habitat</u>
<i>Encyclia tampensis</i>	Butterfly orchid	CE			Low	Mangrove, cypress and hardwood swamps; hammocks
<i>Epidendrum conopseum</i>	Greenfly orchid	CE			Low	Moist hammocks, cypress and hardwood swamps; epiphytic
<i>Verbena maritima</i>	Coastal vervain	E			Mod	Coastal dunes and pinelands
<i>Zamia pumila</i>	Florida coontie	CE			Low	Hammocks, pinelands and Indian middens

Notes:

FDA = Florida Department of Agriculture

E= Endangered; T= Threatened; CE= Commercially Exploited

USFWS = US Fish and Wildlife Service

E= Endangered; T= Threatened

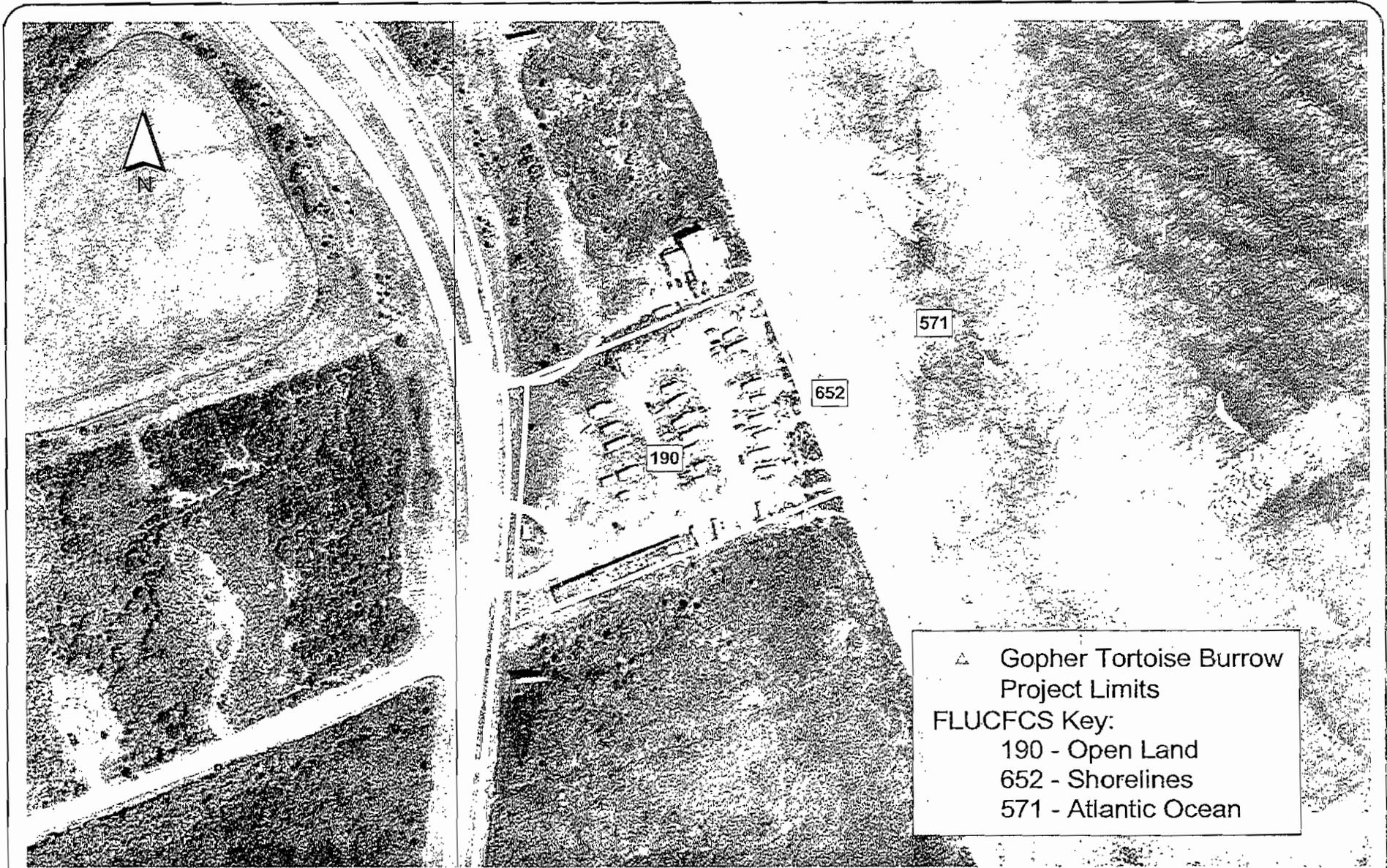
FNAI = Florida Natural Areas Inventory

S1= Critically Imperiled Due to Extreme Rarity; S2= Imperiled Due to Rarity; S3= Very Rare and Local;  
S4= Apparently Secure; SH= Historical Occurrence; ?= Tentative Ranking

Likelihood of Occurrence

Low= Low likelihood; Mod= Moderate likelihood; High= High likelihood; Obs= Observed by EMS;  
Obs\*= Observed by Others

Source: EMS scientists, engineers, planners, Inc. *Endangered Species Database*, 2005.



g:\projects\ems105211\av\granadacamp.apr



SCIENTISTS  
 ENGINEERS  
 PLANNERS  
 904.794-0244

GRANADA CAMPGROUND  
 FLORIDA LAND USE COVER AND CLASSIFICATION  
 FLAGLER COUNTY, FLORIDA

Date: 12/22/05 (bk)  
 Scale: 1" = 200'

Figure 1

# Land Management

1769 E. Moody Blvd Bldg 2  
Bunnell, FL 32110



[www.flaglercounty.org](http://www.flaglercounty.org)

Phone: (386)313-4066

Fax: (386)313-4101

July 9, 2014

Marnie Connor  
IRG Commercial Inc.  
217 North Westmonte Drive  
Suite 1004  
Altamonte Springs, FL 32714-3338

Re: May 16, 2014 Email  
6645 North Oceanshore Blvd., Palm Coast, Florida 32137

Dear Ms. Connor,

Recently I contacted your company regarding oceanfront property in Flagler County as a potential candidate for public acquisition. It was and continues to be my understanding that the property has an asking price that exceeds seven million dollars.

I am writing to inform you that we are no longer interested in the property. The property's current asking price greatly exceeds the resources of our program. I appreciate your time and communication regarding this subject.

Sincerely,



Tim Telfer  
Public Lands and Natural Resources Manager

Cc: Craig Coffey, Flagler County Administrator  
Environmentally Sensitive Lands Advisory Committee

**Charles Ericksen, Jr.**  
District 1

**Frank Meeker**  
District 2

**Barbara Revels**  
District 3

**Nate McLaughlin**  
District 4

**George Hanns**  
District 5

## **Solitude Condos – Beach Access**

### **Attachments**

1. Project Application
2. Staff Preliminary Assessment Report
3. Aerial photograph, Location Map and/or USGS Quadrangle Map
4. Location Map on latest Public Lands, Conservation and Easement Map layers
5. Future Land Use Map/Description and Zoning Map/Description
6. FEMA (Federal Emergency Management Agency) Floodplain Maps and National Wetlands Inventory Map
7. FNAI (Florida Natural Areas Inventory) report
8. Property Appraiser's parcel information (from webpage)
9. Additional information determined of importance (for example, specific historical information) – included is a 2005 environmental site assessment conducted by EMS inc. Not included but available for review are geotechnical and phase 1 reports.

Michael D. Chiumento  
Michael D. Chiumento III  
Paul M. Guntharp, Jr.

Philip J. Chaufray  
*Of-Counsel*



CHIUMENTO  
& GUNTHARP P.A.  
ATTORNEYS AT LAW

145 City Place, Suite 301  
Palm Coast, FL 32164  
Telephone: (386) 445-8900  
Fax: (386) 445-6702  
Website: www.palmcoastlaw.com

*Hand-Delivered*

Mr. Tim Telfer  
Flagler County Administration  
1769 E. Moody Blvd.  
Suite 105  
Bunnell, FL 32110

RE: Solitude Condominium/Flagler County Environmentally Sensitive Lands Committee

Dear Tim:

As we discussed, our law firm has the pleasure of representing Consolidated Capital Funding II, LLC (the "Owner"). A few years ago, the Owner obtained development rights on a four (4) acre parcel of land located in The Hammock (Exhibit "A") to develop a condominium project known as Solitude Condominium. In the past few months, you and I have discussed submittal of the Property to the Land Acquisition Selection Advisory Committee for purchase. As explained, the Owner is willing to work with the County on both the price and the terms of the acquisition. For example, the Owner would be willing to provide short term financing in an effort to preserve the Property for beach access and expansion of the adjacent Washington Oak State Park.

In light of the above, please find enclosed the following documents:

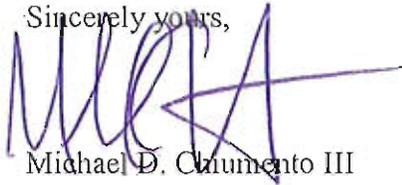
1. Owner's Authorization;
2. Aerial Photograph;
3. Approved Conceptual Site Plan;
4. Preliminary Environmental Site Assessment;
5. Geotechnical Evaluation;
6. Phase I Report.

March 5, 2010

Page 2

As always, we thank you for your cooperation. I know you have a meeting scheduled for March 8, 2010 at which I will be present. In the meantime, should you have any questions or comments, please feel free to contact me at your convenience.

Sincerely yours,

A handwritten signature in blue ink, appearing to read "MDC", with a long horizontal line extending to the right.

Michael D. Ciumento III

MDC:ks

Encl.

cc: Consolidated Capital Funding II, LLC

Map Help
**Flagler County Parcel Maps**

[Flagler Home](#)
[Search Page](#)

Copyright © 2008, qPublic.net

Zoom Out

Zoom In

Pan by Hand

Zoom to Box

Zoom County

Get Info

Measure

Area Tool

Zoom To Parcel

Center On Parcel

Print Page

Show:

Roads

Yearly Sales

Sales for year: 2007 2008 2009

Flood Zones

Soil Types

Lots

Parcel Digits

2009 County Aerial Photography



Aerial Photography

Your maps are loading

qpublic.net

Map Size:



NORTH

NOCEANSHORE BLVD

NOCEANSHORE BLVD

OLD AIA

SOUTH

EAST

WEST

0      220      440      660      880 ft

**PARCEL INFORMATION TABLE**

Selected Parcel	37-10-31-1550-0000-0220 (Click for Complete Card)
Approximate Parcel Square Footage	168736
Property Use	VACANT COM

**OWNERSHIP INFORMATION**

Name	CONSOLIDATED CAPITAL
Mailing Address	FUNDING II LLC 2275 E HIGHWAY 100; BUNNELL, FL 32110
Situs/Physical Address	6645 OCEANSHORE BLVD N

**VALUES**

Land Value	2,598,750
Ag Land Value	0
Building Value	0
Misc Value	0
Just Value	2,598,750
Assessed Value	2,598,750
Exempt Value	0
Homestead?	N

**LAST 2 SALES**

Date	Price	Vacant?	Qual
11-2005	4,300,000	N	Q

**Owner's Authorized Representative  
To the Flagler County Board of County Commissioners  
for the Environmentally Sensitive Lands Program**

This form serves to advise that the individual named below is the authorized representative of the owner(s) for the real property described below, which is located in Flagler County, Florida, for any negotiations concerning conveyance of the property to the Flagler County Board of County Commissioners.

**AUTHORIZED REPRESENTATIVE(S):**

Name(s) and Title Michael D. Chiumento III, Esquire

Chiumento & Guntharp, P.A.

Address: 145 City Place, Suite 301

Palm Coast, FL 32164

Telephone: 386.445.8900 Fax: 386.445.6702 Email: michael3@palmcoast.law.com

Owner Name (Please Print): Consolidated Capital Funding II, LLC

Owner Signature: *Michael M. Gilardi*

Date Signed: 3-2-10

Owner Name (Please Print): MICHAEL M GILARDI, Managing Member

Owner Signature: *Pamela J. Gilardi*

Date Signed: 3-3-10

Owner Name (Please Print): Pamela J. Gilardi, Managing Member

Owner Signature: \_\_\_\_\_

Date Signed: \_\_\_\_\_

Owner Name (Please Print): \_\_\_\_\_

Owner Signature: \_\_\_\_\_

Date Signed: \_\_\_\_\_

TO: Flagler County Board of County Commissioners

DATE: March 1, 2010

ESL PROJECT NAME: Solitude Condominium

PARCEL #(s): 37-10-31-1550-00000-0220

I do hereby state that as the property owner(s) of the above-referenced property, I am willing to consider a purchase offer from the Flagler County Environmentally Sensitive Lands program. Further, I (we) give permission to Flagler County Staff, the Flagler County Land Acquisition Selection Advisory Committee, and their authorized representatives access to the above referenced property.

Consolidated Capital Funding II, LLC  
Print Name of Property Owner

MICHAEL M GILARDI  
Print Name of Property Owner

*Pamela J. Helms*  
Signature of Property Owner *Managing Member*

*Michael M Gilardi*  
Signature of Property Owner *Managing Member*

2275 E. Highway 100, Bunnell, FL 32110  
Property Owner's Address

( )  
Property Owner's Telephone Number

**Note:** A second signature line is provided if property is jointly-owned (i.e., husband and wife, etc.)

**Please return this statement to:**

Tim Telfer  
Flagler County Board of County Commissioners  
1769 E. Moody Blvd., Suite 309  
Bunnell, FL 32110  
Fax: 386-313-4109

*Signing the form places you under no obligation to accept any specific offer, or limit any other options you may consider during the interim.*





**Flagler County Government  
Environmentally Sensitive Lands  
Staff Report**

Eligible for listing Y \_\_\_ N \_\_\_

---

**TO:** Land Acquisition Selection Advisory Committee

**FROM:** Tim Telfer

**DATE:** March 29, 2010

**SUBJECT:** Solitude Condos - Beach Access

---

- I. **Location and Legal Description:** Northeast Flagler County; east of A1A, Parcel: 37-10-31-1550-00000-0220
- II. **Owner(s)/Applicant:** Owner: Consolidated Capital Funding II, LLC  
Applicant: Chiumento & Guntharp – Michael Chiumento III
- III. **Parcel Size:** Total: +/-3.9 ac  
  
Probable Uplands: +/-3.9 ac  
Probable Wetlands: 0 ac
- IV. **Existing Zoning & Future Land Use Classification:**
- a. Zoning: R-C 3.03.013. **Residential/limited commercial use district.** *Purpose and intent.* This district is primarily intended for application to parcels within the A1A Scenic Corridor. The district may be used to implement the mixed use low intensity category of the Future Land Use Plan. Commercial uses are limited to those having a low impact to established residential uses and the overall character of the corridor; i.e., they are not major generators of vehicular traffic, do not rely on exterior sales or storage, and are of accordant scale to the primary residential use of the district. Permitted uses are to be harmonious in appearance and have landscaped open space meeting or exceeding the requirements of this Land Development Code.
- b. Land Use: Mixed Use: Low Intensity low/medium density 1.0 to 7.0 residential units per gross acre. Retail and office, maximum FAR of .2. Residential uses shall occupy a minimum of 35% and a maximum of 70% of the development area. Retail and office uses shall occupy a minimum of 15% and a maximum of 30% of the

development area. Open space uses shall occupy a minimum of 25% of the development site.

FAR – Floor Area Ratio, The gross floor area of all floors permitted on a site divided by the area of the site, usually expressed in decimals of one (1) to two (2) places

V. **Present Use:** Vacant. Largely cleared of vegetation. Past uses included the location of the Granada Campground.

VI. **Meets Florida Natural Areas Inventory criteria for designation as a Locally Significant Natural Area:**

Yes	<u>  X  </u>
No	<u>      </u>

VII. **Program Objectives:**

Primary Program Objectives

a) *Preserve wildlife habitats and protect the health and diversity of wildlife, especially threatened and endangered species of plants and animals.*

Federally Listed – Florida scrub jay (*Aphelocoma coerulescens*) and eastern indigo snake (*Drymarchon couperi*) documented as being in the general vicinity of the FNAI label point (not necessarily on this property, but close by).

Please also note that the FNAI report states that the site does qualify as a Locally Significant Natural Area (LSNA) (this provides an additional five points on a Florida Communities Trust application) based on the occurrence of Loggerhead (*Chelonia mydas*) and Green (*Caretta caretta*) turtles. You will also note that these species were not located on the FNAI map found on the fifth page of the report. Staff contacted FNAI on 3/31/10 to discuss this issue. FNAI reported that they have made the determination to award the LSNA designation based on their habitat modeling and consultation with the FWC's Fish and Wildlife Research Institute.

A 2005 environmental assessment conducted by EMS, Inc. noted an inactive gopher tortoise burrow located near the southern property line.



Florida Natural Areas Inventory  
Biodiversity Matrix Report



Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing
Matrix Unit ID: 50210					
<b>Documented</b>					
Beach dune		G3	S2	N	N
Maritime hammock		G3	S2	N	N
<b>Likely</b>					
<i>Aphelocoma coerulescens</i>	Florida Scrub-Jay	G2	S2	LT	LT
<i>Carella carella</i>	Loggerhead	G3	S3	LT	LT
<i>Chelonia mydas</i>	Green Turtle	G3	S2	LE	LE
Coastal strand		G3	S2	N	N
<i>Drymarchon couperi</i>	Eastern Indigo Snake	G3	S3	LT	LT
<i>Glandularia maritima</i>	Coastal Vervain	G3	S3	N	LE
Mesic flatwoods		G4	S4	N	N
<i>Mycteria americana</i>	Wood Stork	G4	S2	LE	LE
Scrub		G2	S2	N	N
<b>Potential</b>					
<i>Acipenser oxyrinchus oxyrinchus</i>	Atlantic Sturgeon	G3T3	S1	C	LS
<i>Asplenium heteroresiliens</i>	Wagner's Spleenwort	GNA	S1	N	N
<i>Calopogon multiflorus</i>	Many-flowered Grass-pink	G2G3	S2S3	N	LE
<i>Centrosema arenicola</i>	Sand Butterfly Pea	G2Q	S2	N	LE
<i>Chamaesyce cumulicola</i>	Sand-dune Spurge	G2	S2	N	LE
<i>Charadrius melodus</i>	Piping Plover	G3	S2	LT	LT
<i>Dendroica diacolor paludicola</i>	Florida Prairie Warbler	G5T3	S3	N	N
<i>Demochelys coriacea</i>	Leatherback	G2	S2	LE	LE
<i>Eretmochelys imbricata</i>	Hawksbill	G3	S1	LE	LE
<i>Gopherus polyphemus</i>	Gopher Tortoise	G3	S3	N	LT
<i>Lechea cernua</i>	Nodding Pinweed	G3	S3	N	LT
<i>Lechea divaricata</i>	Pine Pinweed	G2	S2	N	LE
<i>Litsea aestivalis</i>	Pondspice	G3	S2	N	LE
<i>Matelea floridana</i>	Florida Spiny-pod	G2	S2	N	LE
<i>Nemastylis floridana</i>	Celestial Lily	G2	S2	N	LE
<i>Neovison vison lutensis</i>	Atlantic Salt Marsh Mink	G5T3	S3	N	N
<i>Pavonia spinifex</i>	Yellow Hibiscus	G4G5	S2	N	N
<i>Trichechus manatus</i>	Manatee	G2	S2	LE	LE
<i>Ursus americanus floridanus</i>	Florida Black Bear	G5T2	S2	N	LT*

b) *Promote improved water quality and preserve the Floridan aquifer and water recharge areas.*

Discharge area.

c) *Preserve rare natural communities or wildlife habitats/ecosystems.*

Beach Dune (FLUCCS 0710) S2  
Maritime Hammock (FLUCCS 0322) S2

d) *Preserve unique cultural, historic, scenic and significant geologic features.*

e) *Promote economic development through the creation of nature tourism property, infrastructure, and opportunities.*

Property would provide additional beach access.

- f) *Promote public use and enjoyment of acquired lands including public access to water bodies for recreation activities.*

Property would provide additional beach access.

Secondary Program Objectives

- a) *Preserve green space as passive recreation in close proximity to development to provide refuge for residents, visitors, and wildlife.*
- b) *Reduce capital acquisition and land management costs by partnering with other agencies.*  
No known opportunities at this time.
- c) *Enhance existing recreation facilities throughout the County by acquiring adjoining properties.*
- d) *Establish wildlife corridors throughout the county promoting wildlife protection, habitat preservation, and migration.*
- e) *Establish recreational trail corridors throughout the County promoting alternative transportation modes, nature viewing, and fitness / exercise opportunities.*
- f) *Restore damaged habitats that can have substantial positive environmental impacts upon being restored.*

VIII. **Program Objectives met:**

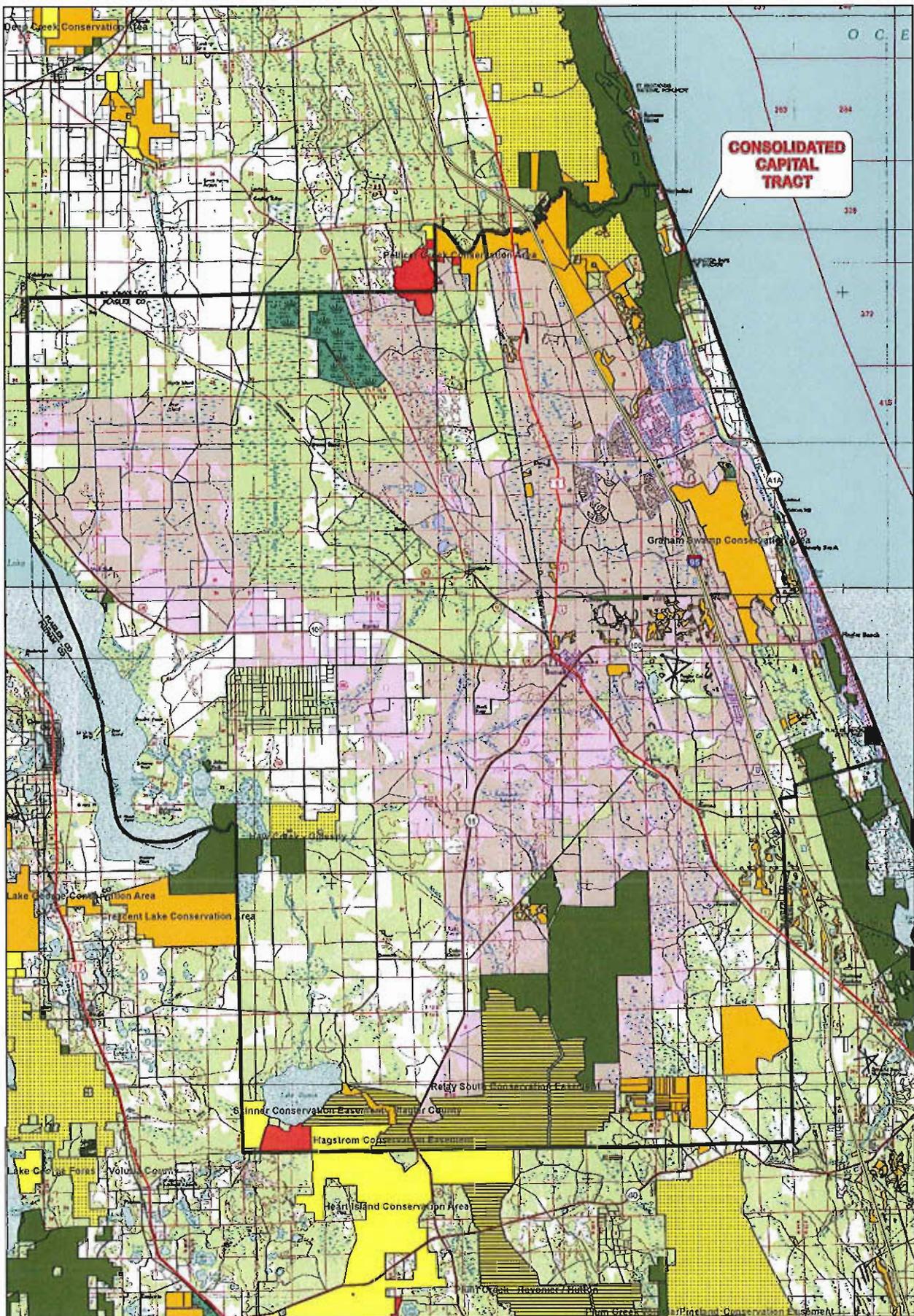
Primary Program Objectives (must meet three to be listed)

- a) \_\_\_\_\_
- b) \_\_\_\_\_
- c) \_\_\_\_\_
- d) \_\_\_\_\_
- e) \_\_\_\_\_
- f) \_\_\_\_\_

**Attachments**

1. Project Application
2. Staff Preliminary Assessment Report
3. Aerial photograph, Location Map and/or USGS Quadrangle Map
4. Location Map on latest Public Lands, Conservation and Easement Map layers
5. Future Land Use Map/Description and Zoning Map/Description

6. FEMA (Federal Emergency Management Agency) Floodplain Maps and National Wetlands Inventory Map
7. FNAI (Florida Natural Areas Inventory) report
8. Property Appraiser's parcel information (from webpage)
9. Additional information determined of importance (for example, specific historical information)



**CONSOLIDATED  
CAPITAL  
TRACT**

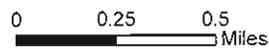


0 1 2 3 4 5  
Miles

## Flagler County Public Lands

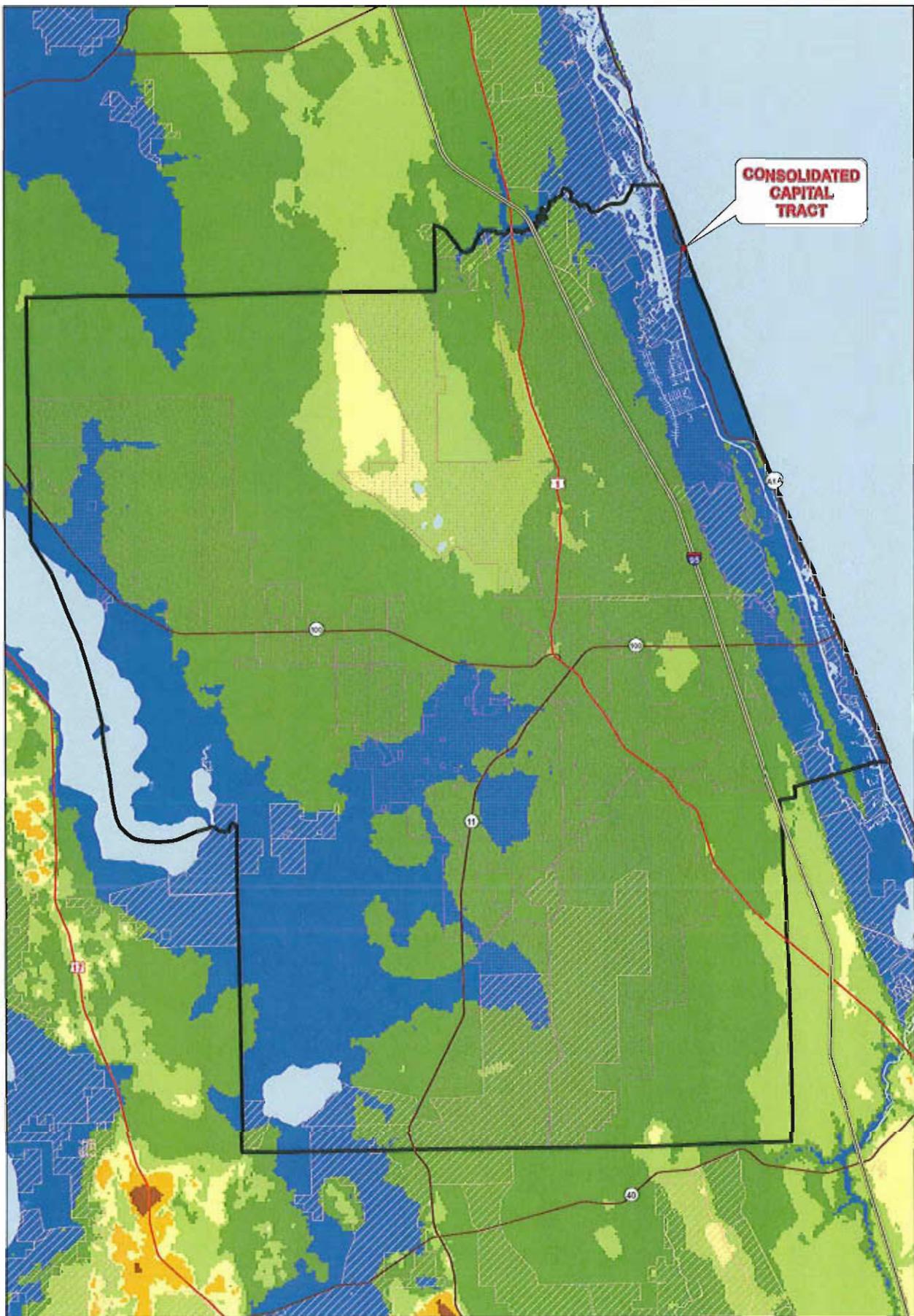
The product is for informational purposes and may not have been prepared for, or be suitable for, legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.  
20090329\_garting

- Legend**
- Mitigation Banks
  - Regulatory Easement
  - Full fee
  - Joint fee
  - Less than fee
  - Potential Acquisition
  - Other Public Lands
  - Item County
  - Cities 2009
  - Interstate\_95
  - US\_Hwys
  - StateHwys



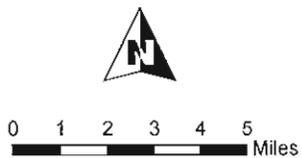
## Flagler County Public Lands

This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the veracity of the information.  
20100229\_gstarling



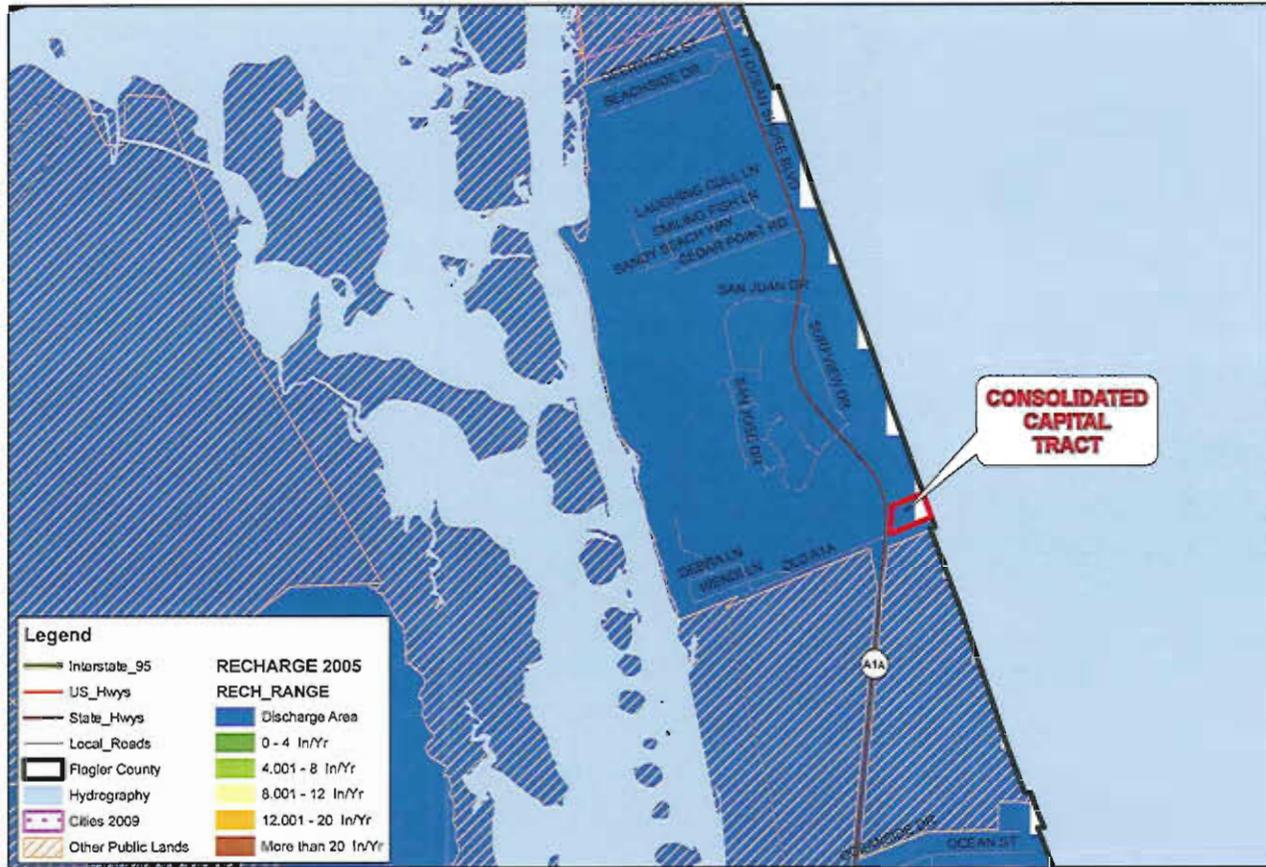
**CONSOLIDATED  
CAPITAL  
TRACT**

## Flagler County Recharge 2005



This product is for informational purposes and may not have been prepared for, or be suitable for, legal engineering, or surveying purposes. Users of this information should review or consult the primary data and information source to ascertain the usability of the information. 20100209\_gstating

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li> Interstate_95</li> <li> US_Hways</li> <li> StateHways</li> <li> Flagler County</li> <li> Hydrography</li> <li> CIP 2009</li> <li> Other Public Lands</li> </ul> | <p><b>RECHARGE 2005</b><br/><b>RECH_RANGE</b></p> <ul style="list-style-type: none"> <li> Discharge Area</li> <li> 0 - 4 In/Yr</li> <li> 4 001 - 8 In/Yr</li> <li> 8 001 - 12 In/Yr</li> <li> 12 001 - 20 In/Yr</li> <li> More than 20 In/Yr</li> </ul> |
|---|---|

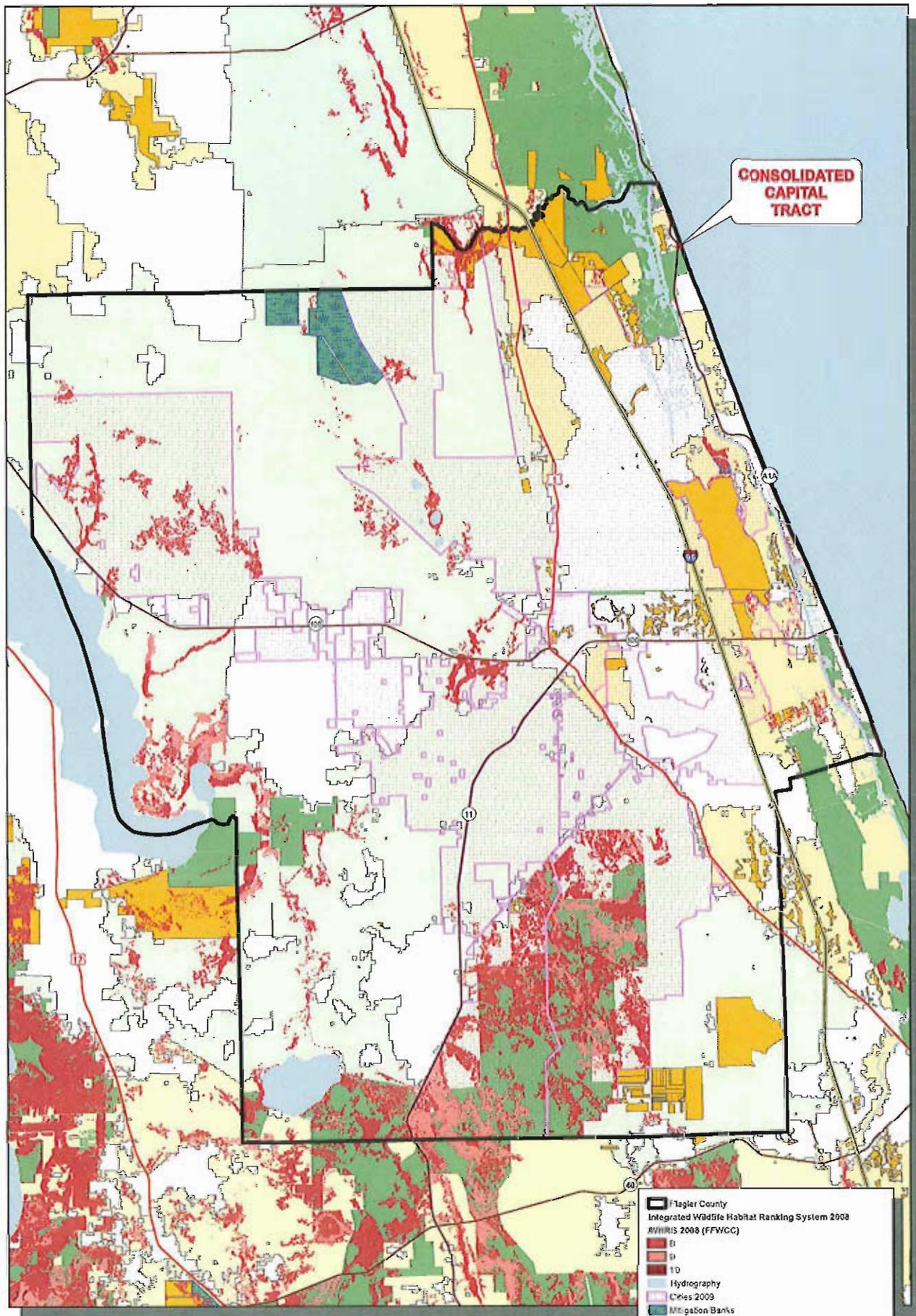


0 0.25 0.5 Miles



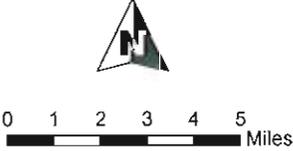
## Flagler County Recharge 2005

This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.  
20100329\_gstarling



**CONSOLIDATED  
CAPITAL  
TRACT**

## Flagler County Wildlife Habitat



This product is for informational purposes and may not have been prepared for, or be suitable for, legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information. 20100208\_gsteking

Flagler County  
 Integrated Wildlife Habitat Ranking System 2008  
 IWHRS 2008 (FFWCC)

- 8
- 9
- 10

Hydrography

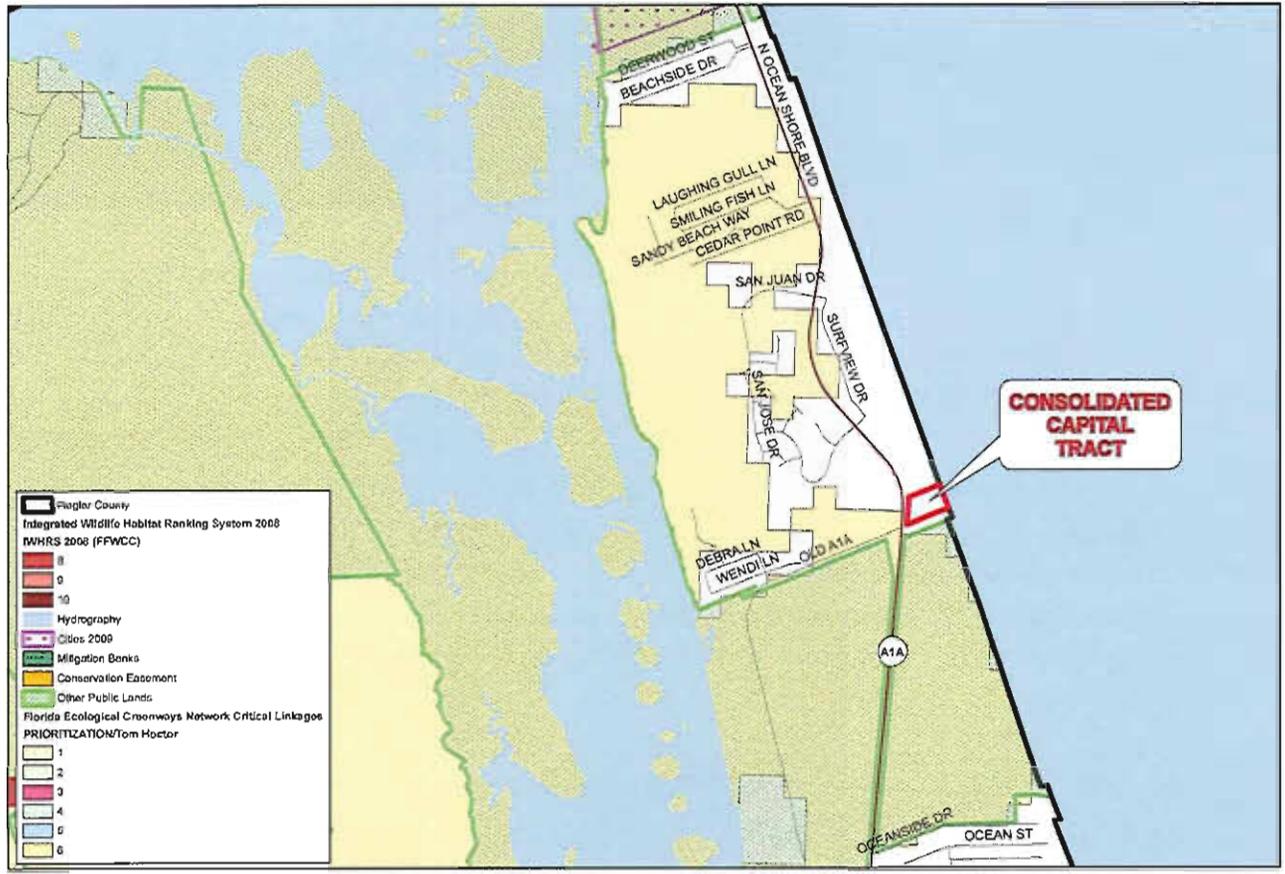
Cities 2009

- Mitigation Banks
- Conservation Easement
- Other Public Lands

Florida Ecological Greenways Network Critical Linkages

PRIORITIZATION/Tom Hoctor

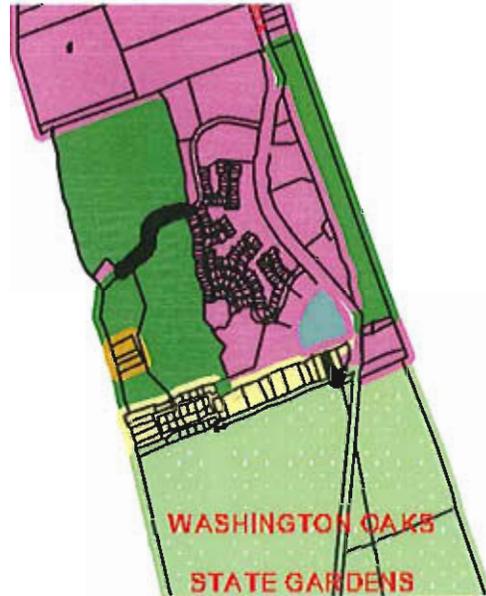
- 1
- 2
- 3
- 4
- 5
- 6



### Flagler County Wildlife Habitat

This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the liability of the information. 20100320\_gstating

## Future Land Use Map

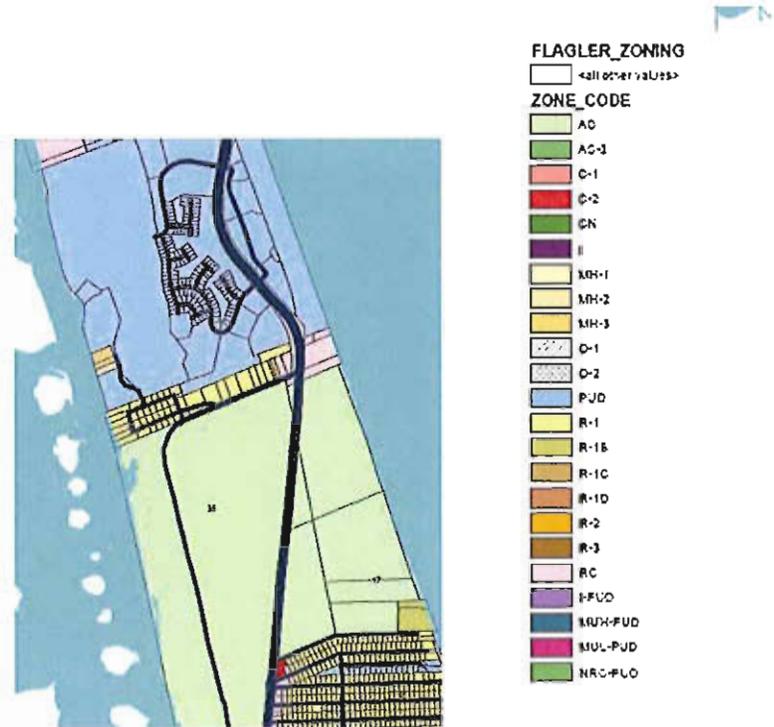


Land Use: Mixed Use: Low Intensity low/medium density

1.0 to 7.0 residential units per gross acre. Retail and office, maximum FAR of .2. Residential uses shall occupy a minimum of 35% and a maximum of 70% of the development area. Retail and office uses shall occupy a minimum of 15% and a maximum of 30% of the development area. Open space uses shall occupy a minimum of 25% of the development site.

FAR – Floor Area Ratio, The gross floor area of all floors permitted on a site divided by the area of the site, usually expressed in decimals of one (1) to two (2) places

## Zoning Map



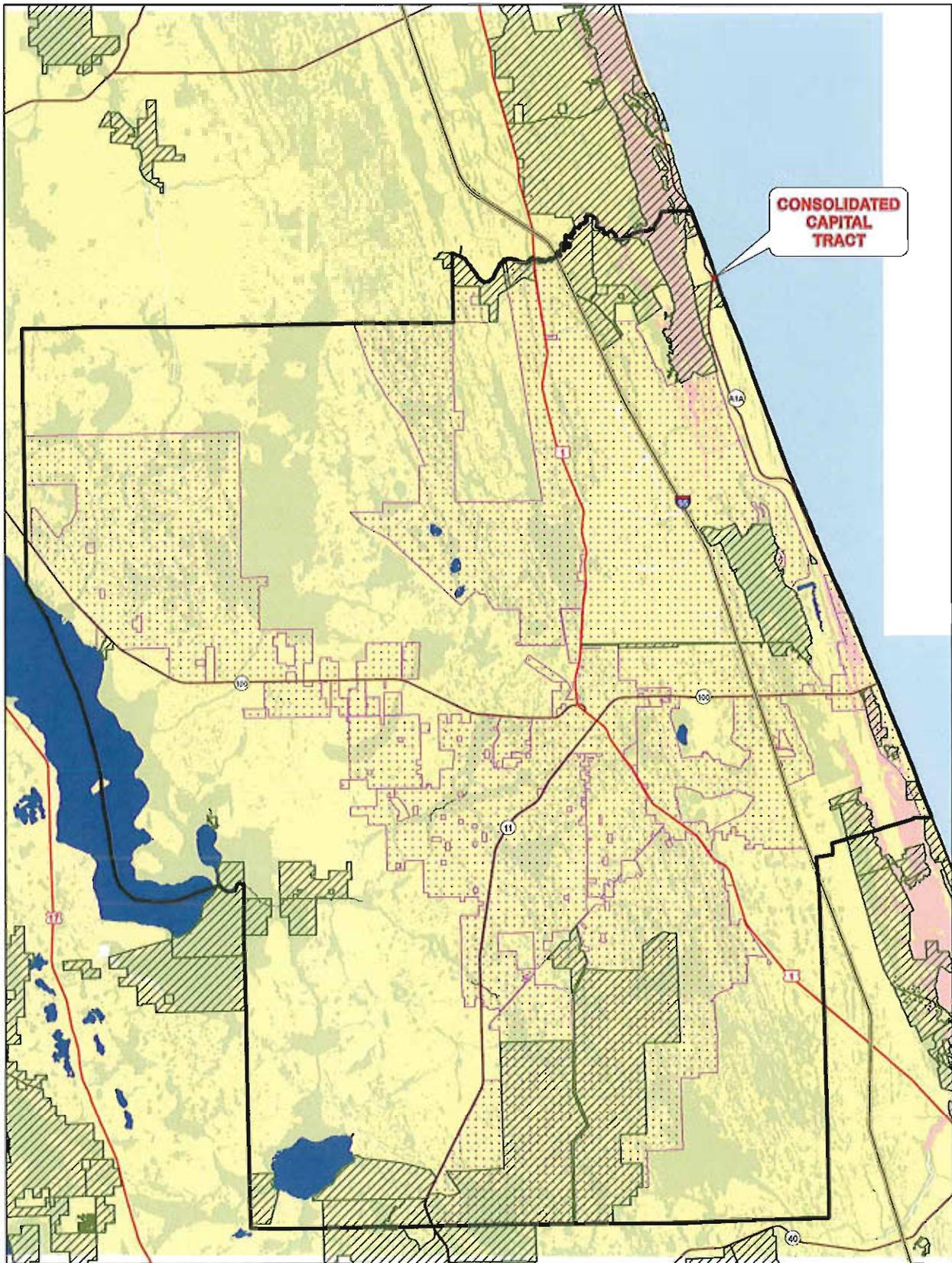
### Zoning: R-C 3.03.013. **Residential/limited commercial use**

**district.** *Purpose and intent.* This district is primarily intended for application to parcels within the A1A Scenic Corridor. The district may be used to implement the mixed use low intensity category of the Future Land Use Plan. Commercial uses are limited to those having a low impact to established residential uses and the overall character of the corridor; i.e., they are not major generators of vehicular traffic, do not rely on exterior sales or storage, and are of accordant scale to the primary residential use of the district. Permitted uses are to be harmonious in appearance and have landscaped open space meeting or exceeding the requirements of this Land Development Code.



PARCEL INFORMATION TABLE	
<b>Selected Parcel</b>	<b>37-10-31-1550-00000-0220</b>
Approximate Parcel Square Footage	168736
Property Use	VACANT COM
OWNERSHIP INFORMATION	
Name	CONSOLIDATED CAPITAL
Mailing Address	FUNDING II LLC 2275 E HIGHWAY 100; BUNNELL, FL 32110
Situs/ Physical Address	6645 OCEANSHORE BLVD N
VALUES	
Land Value	<b>2,598,750</b>

<b>Ag Land Value</b>				<b>0</b>
<b>Building Value</b>				<b>0</b>
<b>Misc Value</b>				<b>0</b>
<b>Just Value</b>				<b>2,598,750</b>
<b>Assessed Value</b>				<b>2,598,750</b>
<b>Exempt Value</b>				<b>0</b>
<b>Homestead?</b>				<b>N</b>
<b>LAST 2 SALES</b>				
<b>Date</b>	<b>Price</b>	<b>Vacant?</b>	<b>Qual</b>	
<b>11-2005</b>	<b>4,300,000</b>	<b>N</b>	<b>Q</b>	



**CONSOLIDATED  
CAPITAL  
TRACT**



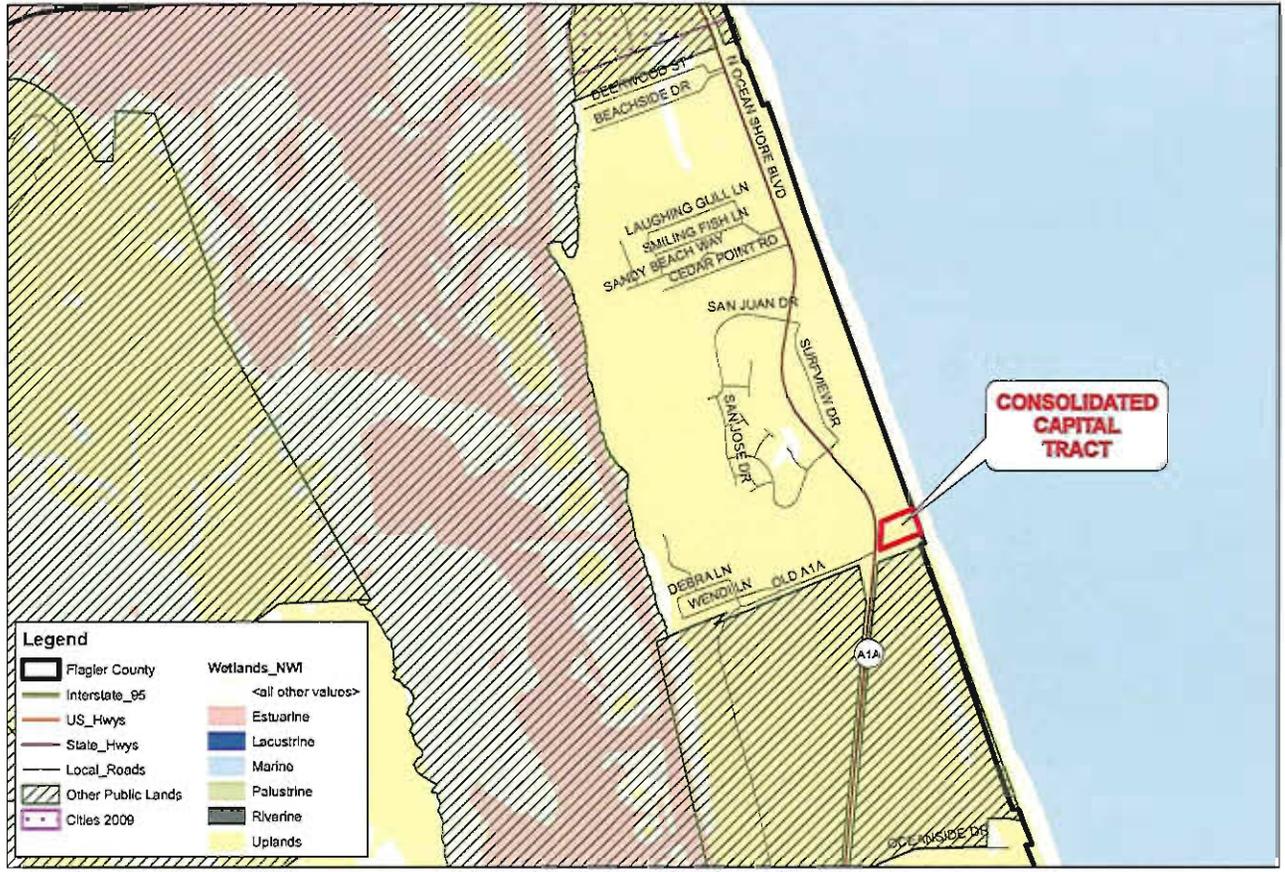
## Flagler County NWI Wetlands

0 1 2 3 4 5  
Miles

This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.  
20100329\_gis/flag

### Legend

- |                    |                           |
|--------------------|---------------------------|
| Flagler County     | Wetlands_NWI<br>Estuarine |
| Interstate_95      | Lacustrine                |
| US_Hwys            | Marine                    |
| StateHwys          | Palustrine                |
| Other Public Lands | Riverine                  |
| Cities 2009        | Uplands                   |



**Flagler County  
NWI Wetlands**

This product is for informational purposes and may not have been prepared for, or be suitable for, legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.  
20100329\_gyt/ark



1018 Thomasville Road  
Suite 200-C  
Tallahassee, FL 32303  
850-224-8207  
fax 850-681-9364  
www.fnai.org

Tim Telfer  
Flagler County Administration  
1769 East Moody Blvd., Suite 309  
Bunnell, FL 32110

March 31, 2010

Dear Mr. Telfer,

Thank you for your request for information from the Florida Natural Areas Inventory (FNAI). We have compiled the following information for your project area.

**Project:** Solitude Condos  
**Date Received:** March 25, 2010  
**Location:** Township 10S, Range 31E, Section 38  
Flagler County

### Locally Significant Natural Area Status

We have determined that this site **does** meet the criteria for a Locally Significant Natural Area (LNA) for purposes for Florida Communities Trust proposal evaluations. The attached table details how the site matches the FNAI criteria for LNA status.

### Element Occurrences

A search of our maps and database indicates that currently we have several Element Occurrences mapped within the vicinity of the study area (see enclosed map and element occurrence table). Please be advised that a lack of element occurrences in the FNAI database is not a sufficient indication of the absence of rare or endangered species on a site.

### Federally Listed Species

Our data indicate two federally listed species are present on or very near your site (see enclosed map and element occurrence table for details), including Florida scrub jay (*Aphelocoma coerulescens*) and eastern indigo snake (*Drymarchon couperi*). This statement should not be interpreted as a legal determination of presence or absence of federally listed species on a property.

*The Element Occurrences data layer includes occurrences of rare species and natural communities. The map legend indicates that some element occurrences occur in the general vicinity of the label point. This may be due to lack of precision of the source data, or an element that occurs over an extended area (such as a wide ranging species or large natural community). For animals and plants, Element Occurrences generally refer to more than a casual sighting; they usually indicate a viable population of the species. Note that some element occurrences represent historically documented observations which may no longer be extant. Extirpated element occurrences will be marked with an 'X' following the occurrence label on the enclosed map.*



Florida Resources  
and Environmental  
Analysis Center

Institute of Science  
and Public Affairs

The Florida State University

*Tracking Florida's Biodiversity*

**Likely and Potential Rare Species**

In addition to documented occurrences, other rare species and natural communities may be identified on or near the site based on habitat models and species range models (see enclosed Biodiversity Matrix Report). These species should be taken into consideration in field surveys, land management, and impact avoidance and mitigation.

*FNAI habitat models indicate areas, which based on land cover type, offer suitable habitat for one or more rare species that is known to occur in the vicinity. Habitat models have been developed for approximately 300 of the rarest species tracked by the Inventory, including all federally listed species.*

*FNAI species range models indicate areas that are within the known or predicted range of a species, based on climate variables, soils, vegetation, and/or slope. Species range models have been developed for approximately 340 species, including all federally listed species.*

*The FNAI Biodiversity Matrix Geodatabase compiles Documented, Likely, and Potential species and natural communities for each square mile Matrix Unit statewide.*

**Florida Scrub-jay Survey – U.S. Fish and Wildlife Service**

This survey was conducted by staff and associates of the Archbold Biological Station from 1992 to 1996. An attempt was made to record all scrub-jay (*Aphelocoma coerulescens*) groups, although most federal lands were not officially surveyed. Each map point represents one or more groups.

This data layer indicates that there are potential scrub-jay populations on or very near your site. For additional information:

Fitzpatrick, J.W., B. Pranty, and B. Stith, 1994, Florida scrub jay statewide map, 1992-1993. U. S. Fish and Wildlife Service Report, Cooperative Agreement no. 14-16-004-91-950.

The Inventory always recommends that professionals familiar with Florida's flora and fauna should conduct a site-specific survey to determine the current presence or absence of rare, threatened, or endangered species.

Please visit [www.fnai.org/trackinglist.cfm](http://www.fnai.org/trackinglist.cfm) for county or statewide element occurrence distributions and links to more element information.

The database maintained by the Florida Natural Areas Inventory is the single most comprehensive source of information available on the locations of rare species and other significant ecological resources. However, the data are not always based on comprehensive or site-specific field surveys. Therefore, this information should not be regarded as a final statement on the biological resources of the site being considered, nor should it be substituted for on-site surveys. Inventory data are designed for the purposes of conservation planning and scientific research, and are not intended for use as the primary criteria for regulatory decisions.

Information provided by this database may not be published without prior written notification to the Florida Natural Areas Inventory, and the Inventory must be credited as an information source in these publications. FNAI data may not be resold for profit.

This report is made available at no charge due to funding from the Florida Department of Environmental Protection, Division of State Lands.

Thank you for your use of FNAI services. If I can be of further assistance, please give me a call at (850) 224-8207.

Sincerely,  
**Alicia C. Newberry**

Alicia C. Newberry  
GIS/Data Services Analyst

Encl



## Locally Significant Natural Area Criteria

Date: 31-Mar-10  
 Site Name: Solitude Condos  
 County: Flagler  
 Requested by: Tim Telfer  
 Total Site Acres: 0

Site must meet any 1 of the 4 Criteria below to qualify as an LNA:

	Minimum Acres Needed to Qualify	Acres on Site	Criterion Met	Notes
<b>1. FNAIHAB Priorities 1-3</b>				
plants	5	0	No	
invertebrates	5	0	No	
birds	10	0	No	
reptiles	10	0	No	
amphibians	10	0	No	
fish	10	0	No	
mammals	20	0	No	
<b>2. Natural Communities</b>				
upland glade	1	0	No	
pine rockland	1	0	No	
scrub	5	0	No	
rockland hammock	5	0	No	
seepage slope	1	0	No	
coastal uplands	1	0	No	
sandhill upland lake	1	0	No	
sandhill	20	0	No	
dry prairie	20	0	No	
upland hardwood	50	0	No	
pine flatwoods	50	0	No	
<b>3. Potential Natural Areas</b>				
Priorities 1-4	20	0	No	

#### 4. FNAI Element Occurrences

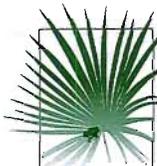
EO must be Srank S1-S3, AND EITHER (EO Rank A, B, C OR Grank G1-G3); AND Last Obs < 20 years

Sname	State Rank	EO Rank	Global Rank	Last Obs Date
<i>Chelonia mydas</i>	S2	n/a	G3	7/27/2006
<i>Caretta caretta</i>	S3	n/a	G3	7/27/2006

NOTE: All acreages for Criteria 1-3 are calculated from FNAI GIS data layers. These data are primarily based on remotely sensed information such as satellite imagery and aerial photography. FNAI makes every effort to maintain the most accurate statewide data available, but no statewide data will be 100% accurate for every site.

Documentation for LNA criteria and all data is attached to this report.

This document revised 9 September 2008.



1018 Thomasville Road  
Suite 200-C  
Tallahassee, FL 32303  
(850) 224-8207  
(850) 881-9364 Fax  
www.fnai.org

FLORIDA  
**Natural Areas**  
INVENTORY

**Element Occurrences**

- Animals
- Plants
- Communities
- Other
- Data Sensitive

Point Indicates General Vicinity of Element

U.S. Fish & Wildlife Service Scrub Jay Survey 1992-96

**Conservation Lands**

- Federal
- State
- Local
- Private
- State Aquatic Preserves

**Land Acquisition Projects**

- Florida Forever Board of Trustees Projects
- FNAI Rare Species Habitat
- FNAI Biodiversity Matrix Square Mile Units

- County Boundary
- Interstate
- Turnpike
- Major Highway
- Local Road
- Railroad [Inactive railroads shown in Gray]
- Water



**NOTE**  
Map should not be interpreted without accompanying documents.

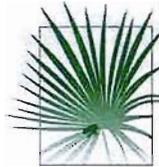
**Solitude Condos**

Site boundaries are approximate.

**Flagler County**



Map produced by ACN  
Map Date: 31 MAR 2010



1018 Thomasville Road  
Suite 200-C  
Tallahassee, FL 32303  
(850) 224-8207  
(850) 681-9364 Fax  
www.fnai.org

FLORIDA  
Natural Areas  
INVENTORY

## Florida Natural Areas Inventory

### ELEMENT OCCURRENCES DOCUMENTED ON OR NEAR Solitude Condos



Map Label	Scientific Name	Common Name	Global State Federal State Observation				Date	Description	EO Comments
			Rank	Rank	Status	Listing			
CROTADAM*99	<i>Crotalus adamanteus</i>	Eastern Diamondback Rattlesnake	G4	S3	N	N	1989-12-12	No general description given	1989-12-12: Adult ca. 4.5 feet, observed in dunes (U94MOL01FLUS).
PAVOSPIN*3	<i>Pavonia spinifex</i>	Yellow Hibiscus	G4G5	S2	N	N	1979-09-09	OPEN SHADY AREA BENEATH LIVE OAKS IN SHELL MOUND HAMMOCK.	LARGE BUT LOCAL COLONY. FLOWERS BRIGHT YELLOW.
SCRUB****453	Scrub		G2	S2	N	N	1950-pre	SAND PINE SCRUB (GRADING TO MARITIME HAMMOCK).	OVERSTORY OF SANDPINE MIXED WITH SAND LIVE OAK AND REDBAY. UNDERSTORY OF SHRUBS: RUSTY LYONIA, CHAPMAN'S OAK, MYRTLE OAK, YAUPON, WAX MYRTLE, WILD OLIVE, MAGNOLIA (SEE ATTACHED SPECIES LIST).
PLATAJAJ*66	<i>Platalea ajaja</i>	Roseate Spoonbill	G5	S2	N	LS	1990-06-26	Tidal marsh	1990-06-26: J.A. Hovis, GFC - observed 19 adults; Brian Peters from Ft. Matanzas National Monument reports spoonbills have been in this area for the past couple of months.
APHECOER*53	<i>Aphelocoma coerulescens</i>	Florida Scrub-jay	G2	S2	LT	LT	1981-10	DUNE SCRUB [=COASTAL STRAND]	1980-10; 1981-10: 1-3 SCRUB JAYS
MUSTOLIV*20	<i>Mustela frenata olivacea</i>	Southeastern Weasel	G5T4	S3?	N	N	198?	Primary dune, scrub palmetto.	198?: S. Bacchus, IND, observation. Observed while cooking dinner at tent entrance. Weasel walking past tent, jumped in air when it saw observer. Ate shrimp tossed to it. Returned several times in night and scratched at tent where dirty cooking pot was I
GLANMARI*45	<i>Glandularia maritima</i>	Coastal Vervain	G3	S3	N	LE	1992-04-25	Path through coastal strand; sand with high percentage shell by volume.	East of A1A just south of Marineland: several plants in bloom along path through strand to beach east of A1A. Sand coarse, tan, very shelly.
COASSTRA*10	Coastal strand		G3	S2	N	N	2004	LOW DENSE COASTAL STRAND DOMINATED BY SAW PALMETTO NEAREST THE WATER (F92JOH07).	2004: Update to last obs date was based on interpretation of aerial photography (previous value was 1992-04-25) (U05FNA02FLUS). E OF A1A JUST S OF MARINELAND: DENSE LOW CANOPY OF SAW PALMETTO NEAREST THE COAST GRADING UPWARD TO SHRUBS ALONG A1A, INCLUDIN



1018 Thomasville Road  
Suite 200-C  
Tallahassee, FL 32303  
(850) 224-8207  
(850) 681-9364 Fax  
www.fnai.org

FLORIDA  
Natural Areas  
INVENTORY

## Florida Natural Areas Inventory

### ELEMENT OCCURRENCES DOCUMENTED ON OR NEAR Solitude Condos



Map Label	Scientific Name	Common Name	Global State Federal State Observation				Date	Description	EO Comments
			Rank	Rank	Status	Listing			
SCRUB****750	Scrub		G2	S2	N	N	1992-04-25	Spray-pruned oak scrub.	4-5' tall canopy of dense shrubs with ca 1' of dead twigs protruding above the canopy surface - recent growth presumably killed by salt spray off the ocean. Sand live oak ( <i>Quercus geminata</i> ) is the most abundant species, followed by <i>Serenoa repens</i> . Other
BEACDUNE*195	Beach dune		G3	S2	N	N	2004	Beach cordgrass dune (no sea oats noted).	2004: Update to last obs date was based on interpretation of aerial photography (previous value was 1992-04-25) (U05FNA02FLUS). East of A1A just south of Marineland: coquina outcrops all along the lower beach. The upper beach consists of sand with large
COASSTRA*1	Coastal strand		G3	S2	N	N	2004	1992: BAND OF SAW PALMETTO (SERENOA REPENS) BETWEEN BEACH AND OAK SCRUB INLAND. ASSOCIATED SPECIES INCLUDE BUMELIA TENEX, ILEX VOMITORIA, AND SABAL PALMETTO.	2004: Update to last obs date was based on interpretation of aerial photography (previous value was 1992-04-26) (U05FNA02FLUS).
MARCNSUB*2	Marine consolidated substrate		G3	S3	N	N	1984	COQUINA LIMESTONE IN INTERTIDAL ZONE.	SPECIES REPRESENTATIVE OF CAROLINIAN PROVINCE, INCL. LIMPETS ANEMONIES (2 SPP.), BARNACLES (5 SPP.), RIBBED MUSSELS, AND MANY SPP. OF ALGAE (FROM GREEN, BLUE-GREEN, AND RED GROUPS).
SCRUB****346	Scrub		G2	S2	N	N	2004	DENSE, SPRAY-PRUNED STAND DOMINATED BY SAND LIVE OAK (F92JOH08).	2004: Update to last obs date was based on interpretation of aerial photography (previous value was 1992-04-26) (U05FNA02FLUS). 6-10' CANOPY OF DENSE SPRAY-PRUNED SHRUBS HEAVILY DOMINATED BY QUERCUS GEMINATA. ASSOCIATED SPECIES INCLUDE: QUERCUS MYTIFOLIA
MARIHAMM*221	Maritime hammock		G3	S2	N	N	2004	Maritime hammock.	2004: Update to last obs date was based on interpretation of aerial photography (previous value was 1992-04-26) (U05FNA02FLUS). Mature live oak hammock 30-50' high with considerable pignut hickory and magnolia admixed. Understory species include: redbay,

## Florida Natural Areas Inventory

### ELEMENT OCCURRENCES DOCUMENTED ON OR NEAR Solitude Condos



*Global State Federal State Observation*

<i>Map Label</i>	<i>Scientific Name</i>	<i>Common Name</i>	<i>Rank</i>	<i>Rank</i>	<i>Status</i>	<i>Listing</i>	<i>Date</i>	<i>Description</i>	<i>EO Comments</i>
COASSTRA*28	Coastal strand		G3	S2	N	N	2004	A WIND-PRUNED THICKET, FROM CREST & BACKSIDE OF PRIMARY DUNE DOWN TO A LOW SWALE BEHIND.	2004: Update to last obs date was based on interpretation of aerial photography (previous value was 1992-04-26) (U05FNA02FLUS). DENSE STAND OF SAW PALMETTO ON LEE SLOPE OF FOREDUNE EXTENDING INLAND TO SCRUB ZONE. ASSOCIATED SPECIES INCLUDE: BUMELIA TENAX
BEACDUNE*194	Beach dune		G3	S2	N	N	2004	Short, steep, soft beach of very shelly sand with coquina outcrops in swash zone.	2004: Update to last obs date was based on interpretation of aerial photography (previous value was 1992-04-26) (U05FNA02FLUS). Low dune above steeply dipping beach covered by beach cordgrass ( <i>Spartina patens</i> ), plus beach elder ( <i>Iva imbricata</i> ), and sea p
GOPHPOLY*112	<i>Gopherus polyphemus</i>	Gopher Tortoise	G3	S3	N	LT	1983-	IN SANDHILLS AND FLATWOODS	FAIR-SIZED POPULATION, BUT NO SIZE ESTIMATE
GOPHPOLY*113	<i>Gopherus polyphemus</i>	Gopher Tortoise	G3	S3	N	LT	1984	THROUGHOUT AREA.	NO POP. ESTIMATE, BUT COMMONLY OBSERVED.
ALLIMISS*35	<i>Alligator mississippiensis</i>	American Alligator	G5	S4	SAT	LS	1983-	IN PELLICER CREEK	NO POP. ESTIMATE, BUT SEVERAL
DRYMCOUP*207	<i>Drymarchon couperi</i>	Eastern Indigo Snake	G3	S3	LT	LT	1980-	No general description given	INDIGO OBSERVED BY DICK FRANZ IN 1980 (MOLER INTERVIEW OF FRANZ, 1981-10-20)
CROTADAM*40	<i>Crotalus adamanteus</i>	Eastern Diamondback Rattlesnake	G4	S3	N	N	1995-08-28	Maritime Hammock.	1995-05-12: 1 AOR (U95DOR01). 1995-08-28: One snake (3-4 ft.) killed by mower (U95THO01). 1994-11-07: One subadult (ca. 3 ft.) D.O.R. [?] (U94DOR04). 1994-10-15: One snake observed in parking lot of picnic area (U94DOR03). 1994-09-13: One D.O.R. [?] obser
HALILEUC*1088	<i>Haliaeetus leucocephalus</i>	Bald Eagle	G5	S3	N	N	2001	2005-07-12: Source does not provide a description.	Nest status: Active, 2001; Not active, 2003, 2002; Unknown status or not assessed, 2000, 1999;(U03FWC01FLUS)
HALILEUC*1091	<i>Haliaeetus leucocephalus</i>	Bald Eagle	G5	S3	N	N	2003	2005-07-12: Source does not provide a description.	Nest status: Active, 2003; Unknown status or not assessed, 2002, 2001, 2000, 1999;(U03FWC01FLUS)



1018 Thomasville Road  
Suite 200-C  
Tallahassee, FL 32303  
(850) 224-8207  
(850) 681-9364 Fax  
www.fnai.org

FLORIDA  
Natural Areas  
INVENTORY

## Florida Natural Areas Inventory

### ELEMENT OCCURRENCES DOCUMENTED ON OR NEAR Solitude Condos



Map Label	Scientific Name	Common Name	Global State Federal State Observation				Date	Description	EO Comments
			Rank	Rank	Status	Listing			
MARIHAMM*44	Maritime hammock		G3	S2	N	N	2004	MATURE MARITIME HAMMOCK WITH TEMPERATE CANOPY AND UNDERSTORY (F92JOH08).	2004: Update to last obs date was based on interpretation of aerial photography (previous value was 1992-04-26) (U05FNA02FLUS). TALL (40-60') MATURE MARITIME HAMMOCK EXTENDING THE LENGTH OF THE WESTERN PORTION OF THE PARK SHOWS DISTINCT CANOPY/UNDERSTORY
HALILEUC*608	<i>Haliaeetus leucocephalus</i>	Bald Eagle	G5	S3	N	N	2003	No general description given	Nest status 1999-2003: Continuously active; Status 1995-98: Active - 1998, 1997, 1996; Unknown/not assessed - 1995; (U03FWC01FLUS). Previous data (note different format) NEST; 1991: PRODUCED 2 YOUNG.
PEPEHUMI*11	<i>Peperomia humilis</i>	Terrestrial Peperomia	G5	S2	N	LE	2009-02-24	2009-02-24: Adjacent to trail through Shell Mound/Maritime hammock community. Formerly part of an RV campground that is now a preserve managed by the county. (PNDELA01FLUS)	2009-02-24: Over 100 plants vegetative plants distributed over 0.1 acres of Shell Mound/Maritime hammock on edge of hammock trail spur leading to the river beach. Associated species include <i>Quercus virginiana</i> and <i>Rhamnus caroliniana</i> . (PNDELA01FLUS)



1018 Thomasville Road  
Suite 200-C  
Tallahassee, FL 32303  
(850) 224-8207  
(850) 681-9364 Fax

# Florida Natural Areas Inventory

## Biodiversity Matrix Report



Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing
<b>Matrix Unit ID: 50210</b>					
<b>Documented</b>					
Beach dune		G3	S2	N	N
Maritime hammock		G3	S2	N	N
<b>Likely</b>					
<i>Aphelocoma coerulescens</i>	Florida Scrub-jay	G2	S2	LT	LT
<i>Caretta caretta</i>	Loggerhead	G3	S3	LT	LT
<i>Chelonia mydas</i>	Green Turtle	G3	S2	LE	LE
Coastal strand		G3	S2	N	N
<i>Drymarchon couperi</i>	Eastern Indigo Snake	G3	S3	LT	LT
<i>Glandularia maritima</i>	Coastal Vervain	G3	S3	N	LE
Mesic flatwoods		G4	S4	N	N
<i>Mycteria americana</i>	Wood Stork	G4	S2	LE	LE
Scrub		G2	S2	N	N
<b>Potential</b>					
<i>Acipenser oxyrinchus oxyrinchus</i>	Atlantic Sturgeon	G3T3	S1	C	LS
<i>Asplenium heteroresiliens</i>	Wagner's Spleenwort	GNA	S1	N	N
<i>Calopogon multiflorus</i>	Many-flowered Grass-pink	G2G3	S2S3	N	LE
<i>Centrosema arenicola</i>	Sand Butterfly Pea	G2Q	S2	N	LE
<i>Chamaesyce cumulicola</i>	Sand-dune Spurge	G2	S2	N	LE
<i>Charadrius melodus</i>	Piping Plover	G3	S2	LT	LT
<i>Dendroica discolor paludicola</i>	Florida Prairie Warbler	G5T3	S3	N	N
<i>Dermodochelys coriacea</i>	Leatherback	G2	S2	LE	LE
<i>Eretmodochelys imbricata</i>	Hawksbill	G3	S1	LE	LE
<i>Gopherus polyphemus</i>	Gopher Tortoise	G3	S3	N	LT
<i>Lechea cernua</i>	Nodding Pinweed	G3	S3	N	LT
<i>Lechea divaricata</i>	Pine Pinweed	G2	S2	N	LE
<i>Litsea aestivalis</i>	Pondspice	G3	S2	N	LE
<i>Matelea floridana</i>	Florida Spiny-pod	G2	S2	N	LE
<i>Nemastylis floridana</i>	Celestial Lily	G2	S2	N	LE
<i>Neovison vison lutensis</i>	Atlantic Salt Marsh Mink	G5T3	S3	N	N
<i>Pavonia spinifex</i>	Yellow Hibiscus	G4G5	S2	N	N
<i>Trichechus manatus</i>	Manatee	G2	S2	LE	LE
<i>Ursus americanus floridanus</i>	Florida Black Bear	G5T2	S2	N	LT*

**Definitions:** Documented - Rare species and natural communities documented on or near this site.  
 Documented-Historic - Rare species and natural communities documented, but not observed/reported within the last twenty years.  
 Likely - Rare species and natural communities likely to occur on this site based on suitable habitat and/or known occurrences in the vicinity.  
 Potential - This site lies within the known or predicted range of the species listed.

## GLOBAL AND STATE RANKS

Florida Natural Areas Inventory (FNAI) defines an **element** as any rare or exemplary component of the natural environment, such as a species, natural community, bird rookery, spring, sinkhole, cave, or other ecological feature. FNAI assigns two ranks to each element found in Florida: the **global rank**, which is based on an element's worldwide status, and the **state rank**, which is based on the status of the element within Florida. Element ranks are based on many factors, including estimated number of occurrences, estimated abundance (for species and populations) or area (for natural communities), estimated number of adequately protected occurrences, range, threats, and ecological fragility.

## GLOBAL RANK DEFINITIONS

- G1** Critically imperiled globally because of extreme rarity (5 or fewer occurrences or less than 1000 individuals) or because of extreme vulnerability to extinction due to some natural or man-made factor.
- G2** Imperiled globally because of rarity (6 to 20 occurrences or less than 3000 individuals) or because of vulnerability to extinction due to some natural or man-made factor.
- G3** Either very rare and local throughout its range (21-100 occurrences or less than 10,000 individuals) or found locally in a restricted range or vulnerable to extinction from other factors.
- G4** Apparently secure globally (may be rare in parts of range).
- G5** Demonstrably secure globally.
- G#?** Tentative rank (e.g., G2?)
- G#G#** Range of rank; insufficient data to assign specific global rank (e.g., G2G3)
- G#T#** Rank of a taxonomic subgroup such as a subspecies or variety; the G portion of the rank refers to the entire species and the T portion refers to the specific subgroup; numbers have same definition as above (e.g., G3T1)
- G#Q** Rank of questionable species - ranked as species but questionable whether it is species or subspecies; numbers have same definition as above (e.g., G2Q)
- G#T#Q** Same as above, but validity as subspecies or variety is questioned.
- GH** Of historical occurrence throughout its range, may be rediscovered (e.g., ivory-billed woodpecker)
- GNA** Ranking is not applicable because element is not a suitable target for conservation (e.g. as for hybrid species)
- GNR** Not yet ranked (temporary)
- GNRTNR** Neither the full species nor the taxonomic subgroup has yet been ranked (temporary)
- GX** Believed to be extinct throughout range
- GXC** Extirpated from the wild but still known from captivity/cultivation
- GU** Unrankable. Due to lack of information, no rank or range can be assigned (e.g., GUT2).

## STATE RANK DEFINITIONS

Definition parallels global element rank: substitute "S" for "G" in above global ranks, and "in Florida" for "globally" in above global rank definitions.

**FEDERAL AND STATE LEGAL STATUSES (U.S. Fish and Wildlife Service – USFWS)  
PROVIDED BY FNAI FOR INFORMATION ONLY.**

For official definitions and lists of protected species, consult the relevant state or federal agency.

**FEDERAL LEGAL STATUS**

Definitions derived from U.S. Endangered Species Act of 1973, Sec. 3. Note that the federal status given by FNAI refers only to Florida populations and that federal status may differ elsewhere.

- LE** Listed as Endangered Species in the List of Endangered and Threatened Wildlife and Plants under the provisions of the Endangered Species Act. Defined as any species which is in danger of extinction throughout all or a significant portion of its range.
- LE,XN** A non essential experimental population of a species otherwise Listed as an Endangered Species in the List of Endangered and Threatened Wildlife and Plants. LE,XN for *Grus americana* (Whooping crane), Federally listed as XN (Non essential experimental population) refers to the Florida experimental population only. Federal listing elsewhere for *Grus americana* is LE.
- PE** Proposed for addition to the List of Endangered and Threatened Wildlife and Plants as Endangered Species.
- LT** Listed as Threatened Species, defined as any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.
- LT,PDL** Species currently listed Threatened but has been proposed for delisting.
- PT** Proposed for listing as Threatened Species.
- C** Candidate Species for addition to the list of Endangered and Threatened Wildlife and Plants, Category 1. Federal listing agencies have sufficient information on biological vulnerability and threats to support proposing to list the species as Endangered or Threatened.
- SAT** Threatened due to similarity of appearance to a threatened species.
- SC** Species of Concern, species is not currently listed but is of management concern to USFWS.
- N** Not currently listed, nor currently being considered for addition to the List of Endangered and Threatened Wildlife and Plants.

**FLORIDA LEGAL STATUSES (Florida Fish and Wildlife Conservation Commission – FFWCC/  
Florida Department of Agriculture and Consumer Services – FDACS)**

**Animals:** Definitions derived from “Florida’s Endangered Species and Species of Special Concern, Official Lists” published by Florida Fish and Wildlife Conservation Commission - FFWCC, 1 August 1997, and subsequent updates.

- LE** Listed as Endangered Species by the FFWCC. Defined as a species, subspecies, or isolated population which is so rare or depleted in number or so restricted in range of habitat due to any man-made or natural factors that it is in immediate danger of extinction or extirpation from the state, or which may attain such a status within the immediate future.
- LT** Listed as Threatened Species by the FFWCC. Defined as a species, subspecies, or isolated population which is acutely vulnerable to environmental alteration, declining in number at a rapid rate, or whose range or habitat is decreasing in area at a rapid rate and as a consequence is destined or very likely to become an endangered species within the foreseeable future.
- LT\*** Indicates that a species has LT status only in selected portions of its range in Florida. LT\* for *Ursus americanus floridanus* (Florida black bear) indicates that LT status does not apply in Baker and Columbia counties and in the Apalachicola National Forest. LT\* for *Neovison vison* pop. 1 (Southern mink, South Florida population) state listed as Threatened refers to the Everglades population only (Note: species formerly listed as *Mustela vison* mink pop. 1. Also, priorly listed as *Mustela evergladensis*).
- LS** Listed as Species of Special Concern by the FFWCC, defined as a population which warrants special protection, recognition, or consideration because it has an inherent significant vulnerability to habitat modification,

environmental alteration, human disturbance, or substantial human exploitation which, in the foreseeable future, may result in its becoming a threatened species.

- LS\*** Indicates that a species has LS status only in selected portions of its range in Florida. LS\* for *Pandion haliaetus* (Osprey) state listed as LS (Species of Special Concern) in Monroe County only.
- PE** Proposed for listing as Endangered.
- PT** Proposed for listing as Threatened.
- PS** Proposed for listing as a Species of Special Concern.
- N** Not currently listed, nor currently being considered for listing.

**Plants:** Definitions derived from Sections 581.011 and 581.185(2), Florida Statutes, and the Preservation of Native Flora of Florida Act, 5B-40.001. FNAI does not track all state-regulated plant species; for a complete list of state-regulated plant species, call Florida Division of Plant Industry, 352-372-3505 or please visit: <http://DOACS.State.FL.US/PI/Images/Rule05b.pdf>

- LE** Listed as Endangered Plants in the Preservation of Native Flora of Florida Act. Defined as species of plants native to the state that are in imminent danger of extinction within the state, the survival of which is unlikely if the causes of a decline in the number of plants continue, and includes all species determined to be endangered or threatened pursuant to the Federal Endangered Species Act of 1973, as amended.
- PE** Proposed by the FDACS for listing as Endangered Plants.
- LT** Listed as Threatened Plants in the Preservation of Native Flora of Florida Act. Defined as species native to the state that are in rapid decline in the number of plants within the state, but which have not so decreased in such number as to cause them to be endangered. LT\* indicates that a species has LT status only in selected portions of its range in Florida.
- PT** Proposed by the FDACS for listing as Threatened Plants.
- N** Not currently listed, nor currently being considered for listing.



FLORIDA  
**Natural Areas**  
INVENTORY

**1018 Thomasville Road  
Suite 200-C  
Tallahassee, FL 32303  
(850) 224-8207  
(850) 681-9364 Fax  
[www.fnai.org](http://www.fnai.org)**



**Florida Natural Areas Inventory**  
**Criteria for**  
**“Locally Significant Natural Area” Status**  
**for FCT Applications**  
rev. 9 September 2008

FCT and FNAI have determined that in order for a site to receive 5 points for the “FNAI question” on the FCT proposal, it must be considered a “Locally Significant Natural Area” (LNA) by FNAI. FNAI will evaluate each site and consider the site a LNA if it meets any one of the following four criteria:

NOTE: for criteria 1-3, minimum acreages need not apply if the site is adjacent to an existing Managed Area (federal, state, local, or private conservation land in the FNAI Managed Areas database, or a state aquatic preserve) and the resource in question continues onto the adjacent Managed Area.

1. Site contains FNAI Rare Species Habitat Conservation Priorities (FNAIHAB) priorities 1, 2, or 3. In order to qualify, the site must contain a minimum acreage based on the species habitat included: plants or invertebrates, minimum 5 acres; birds, reptiles, amphibians, fish, minimum 10 acres; mammals, minimum 20 acres. Meeting the minimum acreage for any one species type is sufficient.
2. Site contains one of the following natural communities at or above the respective minimum acreage: upland glade, 1 acre; pine rockland, 1 acre; scrub, 5 acres; rockland hammock, 5 acres; seepage slope, 1 acre; coastal uplands, 1 acre; sandhill, 20 acres; sandhill upland lake, 1 acre; dry prairie, 20 acres; upland hardwood forest, 50 acres; mesic pine flatwoods, 50 acres. Determination will be based on natural community GIS models.
3. Site contains a minimum of 20 acres of a FNAI Potential Natural Area (PNA), priority 1, 2, 3, or 4.
4. Site contains a FNAI Element Occurrence (EO) with a State rarity rank of S1, S2, or S3, and an EO Rank of A, B, or C. If the EO lacks an EO Rank, it must have a Global rank of G1, G2, or G3. The LastObs date of the EO must be less than 20 years old. An EO will be counted as occurring on a site if:
  - a. Locational Uncertainty is Negligible; or
  - b. Representation Accuracy is High or Very High; or
  - c. Entire EO polygon lies within the site boundary.

FNAI will provide a site map and letter to the applicant explaining clearly whether the site meets the criteria for a Locally Significant Natural Area, and if so which criteria are met by the site.

Due to frequent updates of FNAI data and analyses, the LNA criteria may be adjusted slightly from year to year by FNAI. However, FNAI will make no substantial changes to the process without conferring with FCT.

## **FNAI Rare Species Habitat Conservation Priorities**

### **Measure definition**

The FNAI Habitat Conservation Priorities data layer prioritizes places on the landscape that would protect both the greatest number of rare species and those species with the greatest conservation need. We developed the data layer by first selecting species with the greatest conservation need in Florida and developing habitat maps around known occurrences of those species. The Inventory currently has more than 23,000 occurrence records for Florida's rare and endangered species in the form of point locations. For this data layer we wanted to identify habitat areas, based on these point locations that represent the geographic extent of the species occurrence on the landscape. We created habitat polygons only around known occurrences, rather than creating polygons of potential habitat where no occurrence records exist. In using this method, we are able to definitively say that acquisition of a habitat area serves to protect a particular species because we have documentation of the species at that site. The habitats were then ranked based on quality/suitability for the species and the species were weighted based on conservation need. The weighted habitat maps for 248 species were then overlaid to determine overall conservation priorities for Florida's rarest species. The process of selecting species, creating habitat maps, weighting species by conservation need, and building the overlay model is discussed below.

### **Selection of Species**

The Inventory tracks approximately 1,100 rare species in Florida. In order to determine which species to include in this analysis, we considered each species' Global Rank, and the percentage of each species' element occurrences that are protected on conservation lands.

#### Global Rank

NatureServe and the Natural Heritage Program Network, of which FNAI is a part, assign a Global Rank (GRANK) to each species. This rank reflects the worldwide status of a species, from critically imperiled globally (rank = G1) to demonstrably secure globally (rank = G5). This rank is determined by many factors, including the estimated number of element occurrences, abundance, range, number of adequately protected element occurrences, relative threat of destruction, and ecological fragility. We initially included all species ranked G1 through G3 and all federally listed species regardless of GRANK as potential candidates for habitat modeling.

#### Percentage of protected element occurrences

The percentage of protected element occurrence records indicates how well a species is represented on conservation lands relative to other species. For example, if species A has only 10% of its occurrences protected vs. 50% for species B, then species A is considered to have greater conservation need. If 100% of the known occurrences are protected on conservation lands, the species was not included on the target list.

Based on these two factors, the following rules were applied to determine the final list of species to be included in the analysis:

Table 2-1. Criteria for Selecting Target Species

<b>G1 species</b>	
Included	ALL
Excluded	IF 100% protected at baseline (Oct 2001) AND 100% protected in Apr 2005
<b>G2 species</b>	
Included	IF less than 10 EOs are protected on managed areas at baseline or in Apr 2005 OR less than 67% of EOs are protected on managed areas at baseline or in Apr 2005
Excluded	IF >20 populations* are protected on managed areas at baseline
<b>G3 species</b>	
Included	IF less than 33% EOs are protected on managed areas at baseline or in Apr 2005
Excluded	IF >20 populations* are protected on managed areas at baseline
<b>Federally Listed</b>	
Included	ALL
Excluded	IF 100% protected at baseline (Oct 2001) AND 100% protected in Apr 2005 OR excluded as recommended by scientists on case by case basis

\* populations defined by overlapping buffers.

FNAI scientists reviewed the entire target list and recommended deletions if habitat acquisition in Florida was not a conservation need for the species. Several species were removed from the target list based on this review. Species for which all known occurrences are found on conservation lands also were excluded from the analysis. Federally listed species were automatically included on the target list unless all occurrences are on conservation lands.

### Updates to Selected Species

The FNAI Habitat Conservation Priorities are updated every 1 to 2 years based on the most recent element occurrence information. Species may be added or removed from the previous version based on whether they currently meet the selection criteria. Database changes that can influence selection criteria are: 1) GRANK changes- scientists may change the global rank of a species based on new status information; 2) tracking changes- based on new information, FNAI scientists may determine that species not previously tracked should be tracked or vice versa; 3) additional documented occurrences on private lands that may result in species having a greater conservation need; 4) additional documented occurrences on conservation lands that were in existence in October 2001, resulting in a decreased conservation need at baseline.

The current target list contains 248 species, comprised of 142 plants, 64 vertebrates, and 42 invertebrates. All target species included in the analysis are listed in Appendix D.

### Creation of Habitat Maps

Each element occurrence record is a point on the landscape that represents a known location of a particular species. In order to delineate the actual habitat area that an element occurrence represents, it is necessary to combine point information with information about the natural communities or landcover type in the vicinity of the occurrence. The most detailed and current landcover information available is the 1995 - 2000 WMD landcover data. For our standard mapping method, we chose to use this data for the basic habitat polygons and cross-check it with other landcover information such as the FWC satellite imagery. We estimated the extent of habitat likely to be occupied based on the biology the species. For

some species, including aquatic species, wide-ranging species, and well-studied species for which information outside our point occurrences is more useful, modifications or alternatives to our standard mapping method were used. The standard mapping method and alternative methods are described in more detail below.

### Standard method

In the standard method for developing habitat maps we used ArcView to select suitable landcover polygons within an appropriate distance of a known element occurrence. Buffers to element occurrence points were created based on the biology of each species. For example, Sherman's fox squirrel requires large tracts of land and areas of at least 25,000 km<sup>2</sup> ha are recommended for habitat protection (Kantola 1992). No such information existed for mangrove fox squirrel but we assumed that the two subspecies have similar habitat requirements and thus used a 5000 m radius buffer around occurrence points for mangrove fox squirrel. We relied on published information as well as the scientific expertise of FNAI staff to determine appropriate buffers. These biological buffers were designed for seconds precision occurrence records (for explanation of precision see FNAI Element Occurrences under Basemap Data Layers section); for minutes precision records, for which there is greater locational uncertainty, the original buffer was expanded by one mile. General precision records were not included in the analysis. The seconds precision buffers are listed in Appendix E.

For some species, the known extent of the population, rather than a distance radius, was used to delineate habitat. For example, for most island or keys species all appropriate habitat on the island where the species occurs was selected. FNAI has also mapped boundaries in addition to points for some occurrences. Where these boundaries existed, we used them as the habitat extent. These variations are noted in Appendix E in the radius descriptions.

WMD landcover polygons were intersected with the buffers for each species so that all landcover polygons within the buffer, or any contiguous polygons intersecting the buffer were selected. The selected landcover polygons became the draft habitat map for each species. An example of the standard mapping method is shown in Fig. 2-1. FNAI scientists reviewed these draft habitat maps and identified the appropriate landcover types and habitat extent for each species. The habitat associated with each occurrence was ranked as high, medium, or low based on quality/suitability for the species. For example, a large intact block of "longleaf-xeric oak" might receive a high rank for a sandhill species, whereas a pine plantation or sandhill highly fragmented by agriculture might receive a medium or low rank. These ranks were given numeric scores in the overlay process.

Examples of the final habitat map for *Silene polypetala* showing the habitat categories selected and the habitat rankings are shown in Figs. 2-2 and 2-3.

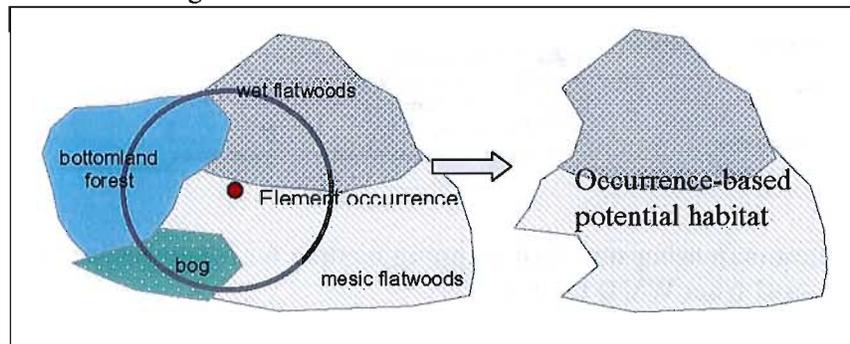


Figure 2-1. Example of the standard mapping method applied to a species that is restricted to flatwoods habitat.

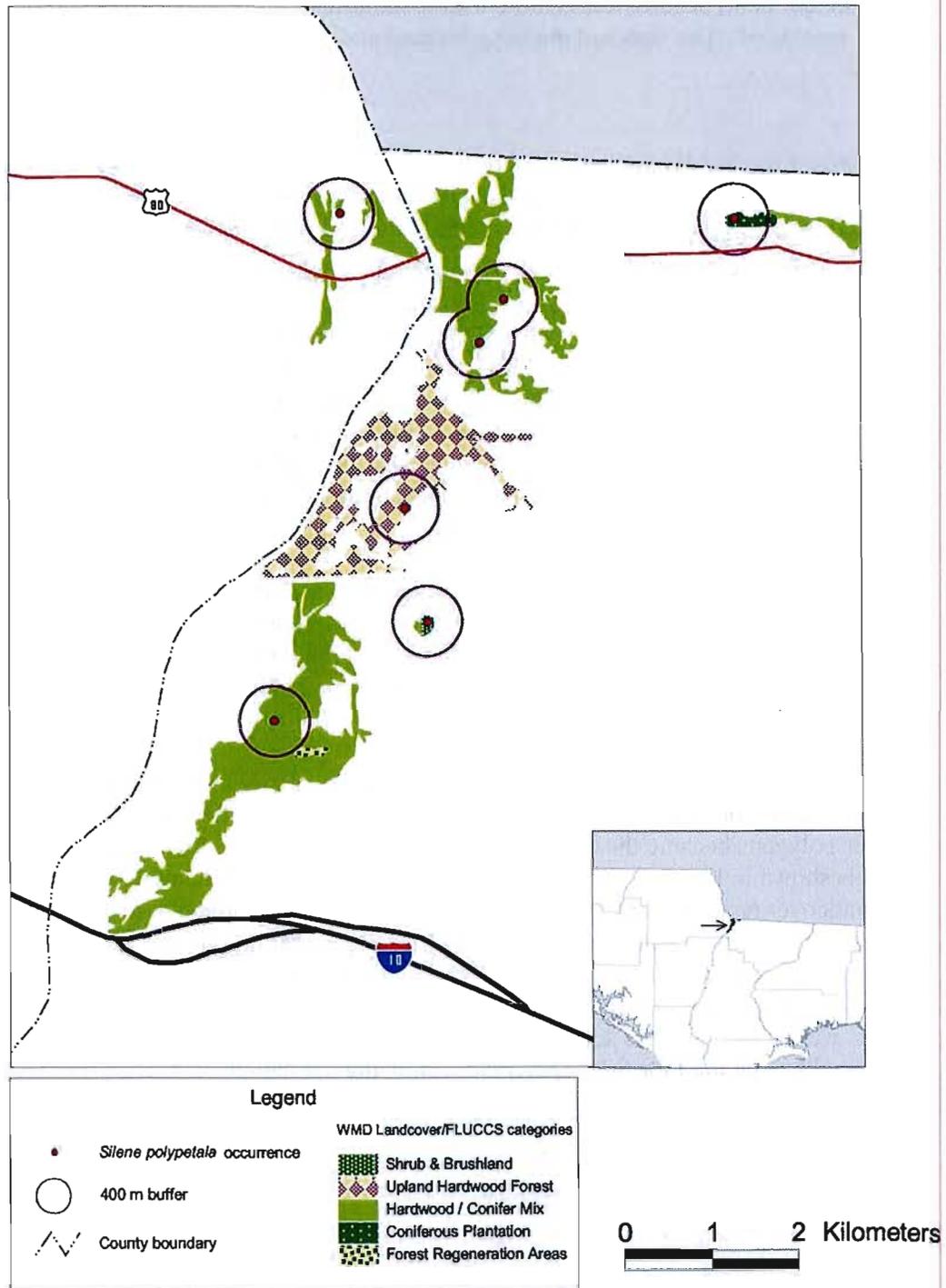


Figure 2-2. Final habitat map using standard mapping method for *Silene polypetala* showing habitat categories selected from WMD landcover.

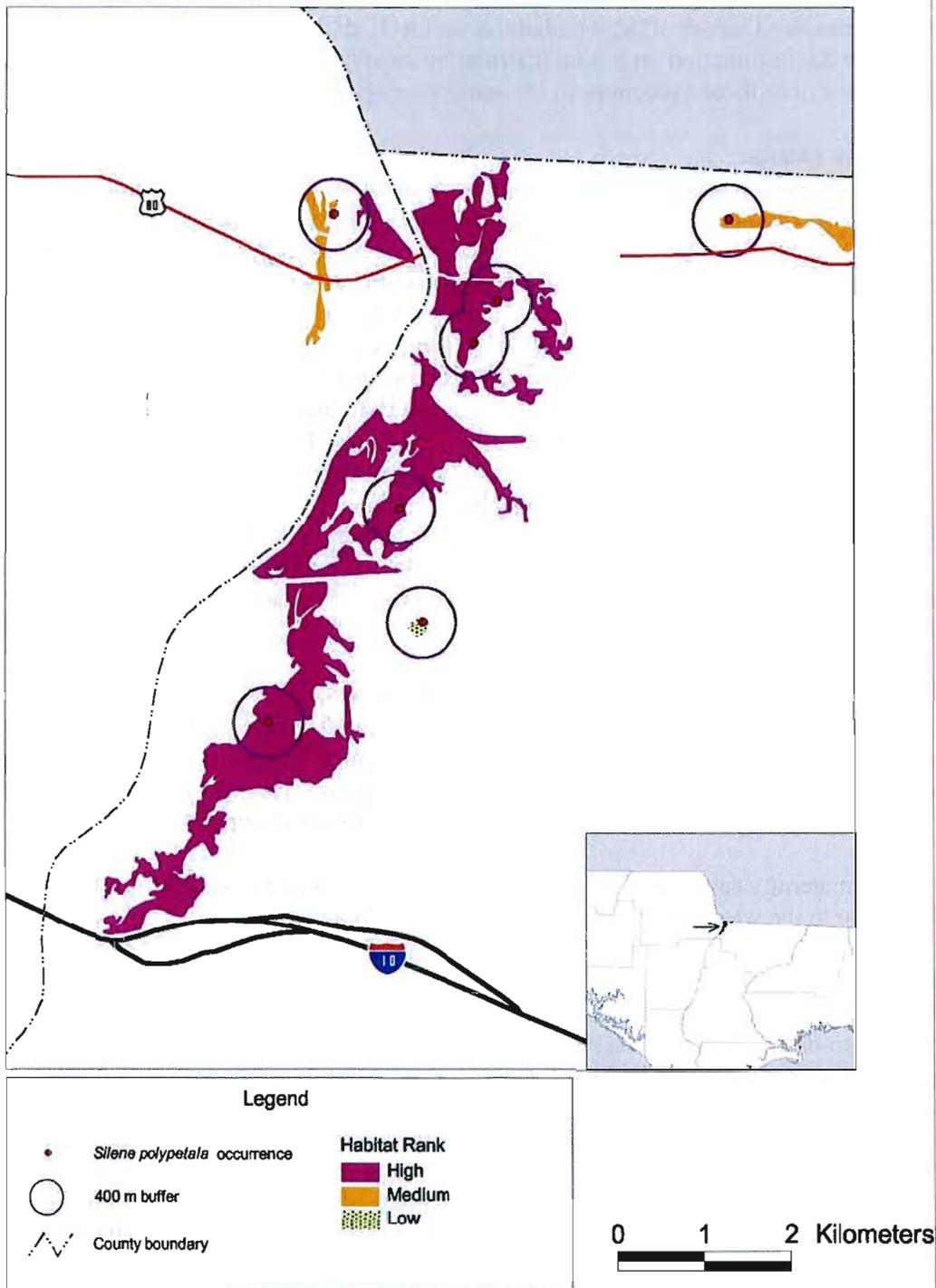


Figure 2-3. Final habitat map using standard mapping method for *Silene polypetala* showing habitat ranked according to quality/suitability for the species.

### Alternative Methods

An alternative to the standard mapping method was used for aquatic species, wide-ranging species for which we identified a prioritized subset of the total habitat, and well-studied species (e.g. scrub jay, sea turtles, etc.) for which much information on habitat distribution exists outside the FNAI occurrence data. The following section describes these exceptions to the standard mapping method.

#### *Aquatic, spring, and cave species*

Most of Florida's water bodies are state-owned sovereign lands and thus not candidates for a land acquisition program. Conservation needs for many aquatic species, however, extend to the terrestrial habitats buffering these waters; therefore, for fish, freshwater mussels, and other aquatic invertebrates, we identified upland areas that, if acquired, would serve to protect the aquatic habitats in which these species occur. For stream-dwelling species, the linear extent of the stream or river in which each species occurs was delineated. If the extent was unknown, we cut off the extent 1 mile downstream of the most downstream occurrence. The same method applied to upstream occurrences when the upstream extent was unknown. For species inhabiting lakes or ponds the habitat extent included the entire water body. The aquatic habitat was then buffered by 100 m. This buffer was chosen based on research, which determined that a buffer up to 92 m is necessary on either side of a stream to provide required wildlife habitat elements (Leedy et al. 1978). All "natural" uplands (see Appendix C) within 100 m were selected as areas necessary for habitat protection and included as habitat in the model. All wetlands within or contiguous to the 100 m buffer were also selected because of the important role of wetlands in improving or maintaining water quality in adjacent natural waterways (Department of Environmental Protection 1997).

For aquatic cave species, all habitat within 250 m of the element occurrence, excluding water bodies and intensive urban land use (FLUCCS categories not categorized as "natural" or "semi-natural"; see Appendix C), was included in the model. A buffer of 250 m was deemed a reasonable protection zone for aquatic caves and springs. For spring-dwelling species, the spring, or spring run was buffered by 250 m. For gray bat, *Myotis grisescens*, the only terrestrial cave species on the target list, natural landcover within 400 m of known maternity caves was included as habitat in the model because this buffer helps ensure a forested corridor to the water bodies over which these bats forage.

#### *Grasshopper sparrow*

We did not use the standard mapping method for grasshopper sparrow habitat because ongoing survey work provided more up-to-date information on the status of the birds and their habitat than that currently in the FNAI database. In order to delineate habitat for grasshopper sparrow we first identified large polygons (i.e., managed areas boundaries, potential natural areas, or hand-digitized polygons based on the known or estimated extent of sparrow populations) that contained dry prairie habitat. These polygons correspond in large part to the polygons of remaining grasshopper sparrow habitat surveyed by Shriver and Vickery (1999), although we included 3 additional areas of known habitat. Within these polygons we used a combination of FWC satellite imagery ("dry prairie" category) and WMD landcover data ("shrub and brushland" FLUCCS code for SWFWMD; "palmetto prairie" FLUCCS code for SFWMD) to specifically capture dry prairie. We excluded the habitat that Shriver and Vickery (1999) considered unoccupied and poor quality and the unoccupied habitat in Hendry County that was considered to be marginal. We did include some areas of unoccupied habitat if birds were known from the site historically or if large intact areas of dry prairie remained. Shriver and Vickery (1999) recommend that acquisition of all remaining dry prairie habitat should be a conservation priority for

grasshopper sparrow. Quality/suitability ranks for the habitat were assigned based on occurrences of grasshopper sparrows in combination with the habitat classification of Shriver and Vickery (1999). Occupied habitat received a high rank in our analysis. Unoccupied habitat classified as high quality by Shriver and Vickery received a medium rank in our analysis, and unoccupied habitat classified as marginal by Shriver and Vickery received a low rank.

#### *Florida scrub-jay*

The scrub-jay habitat is based on polygons from the 1992-93 Statewide Mapping Project (SMP) delineating scrub patches and occupied scrub-jay territories (Fitzpatrick et. al. 1994). We used only those patches that were occupied according to the SMP and subsequent update by Mr. Bill Pranty\* of Archbold Biological Station (\*currently with Audubon of Florida). For territories that existed outside scrub patches (“suburban jays” as defined by Stith 1999) we used territory polygons delineated by Stith (1999) in his acquisition map models. The habitat patches were ranked by considering the disturbance classification of each patch as determined by the 1992- 93 SMP, the number of scrub-jay territories present, and the metapopulation vulnerability rankings and acquisition target recommendations of Stith (1999).

#### *Sea turtles and plovers*

The five sea turtles known from Florida are loggerhead, green turtle, leatherback, hawksbill, and Kemp’s ridley. We included the beach polygons from WMD landcover data that corresponded to the extent of nesting beaches for each species as delineated by Florida Fish and Wildlife Conservation Commission, Florida Marine Research Institute (2000). The habitat was ranked based on relative density of nests (Florida Fish and Wildlife Conservation Commission, 2000), hence suitability/importance, for each species.

Two plovers are included in this analysis: snowy plover, which nests on the Gulf coast of Florida; and piping plover, which winters along the Atlantic and Gulf coasts. We included the beach polygons from WMD landcover data that corresponded to the extent of nesting (for snowy plover) or wintering (for piping plover) beaches as determined by FNAI element occurrence records.

#### *Bald eagle*

We buffered bald eagle nest points (Florida Fish and Wildlife Conservation Commission, 1999 – 04 Bald Eagle survey data) by 2 km, the USFWS recommended buffer zone (1987; primary zone = approx. 400 m, plus secondary protection zone = 1600 m). All urban land use polygons (FLUCCS categories not categorized as “natural” or “semi-natural”; see Appendix C) were removed from the resulting map. We chose to focus only on habitat associated with nesting because nests are more of a limiting factor for bald eagles than foraging areas. The habitat was ranked primarily according to density of nests in an area. The habitat was buffered by 1000 m and where these buffers were contiguous for at least 30 nests, the habitat was ranked high. This included areas known to be important for bald eagles such as the lakes in southeastern Alachua County, Lake George, the lakes of Seminole and southern Volusia Counties, the chain of lakes on the Osceola-Polk county border, and coastal Citrus and northern Hernando Counties. We also gave a high rank to the habitat around Charlotte Harbor, although there were fewer than 30 contiguous sites. All other sites with 3 – 30 contiguous sites received a medium rank and the more isolated sites received a low rank.

### *Red-cockaded woodpecker*

We delineated habitat for red-cockaded woodpeckers (RCW) by first identifying large polygons (i.e., managed areas boundary or hand-digitized polygons based on known or estimated extent of population) around RCW colonies. The colonies were represented by FNAI element occurrence data and data provided by Jim Cox et. al. (1995). The polygons around colony sites represented areas needed to protect cavity trees, not necessarily foraging areas. We then selected pine landcover types, using a combination of FWC satellite imagery and WMD landcover data, that were within or contiguous to the larger polygon boundaries.

### *Black Creek crayfish*

Black Creek crayfish are known from the North and South Forks of Black Creek and their tributaries (Franz and Franz 1979). As habitat, we used the “wetland forested mixed” WMD landcover polygons, which followed the Black Creek drainage very closely.

### *Snail kite*

We used our standard habitat mapping method in combination with areas designated as critical habitat for snail kite (USFWS, 1981). With the standard method we captured freshwater marshes and the shallow vegetated edges of lakes using WMD landcover with a 10 km radius of the element occurrence. We also captured the same habitat types within the “critical habitat” boundaries.

### *Wood stork*

For wood storks we applied the standard habitat mapping method, capturing all wetlands within a 30 km radius of rookery sites. This differs from most other habitat maps in two respects: (1) the large size of the buffer, and (2) the broad criteria for selecting appropriate habitat polygons. The large buffer was chosen because wood storks feed far from the nesting colony (mostly between 5 and 40 miles) and feeding habitat is the primary limiting factor (Ogden 1990). Wood stork decline is attributed to loss and degradation of feeding habitat. The 30 km buffer was used to capture core foraging areas based on Cox et al. (1994). Habitat was then ranked based on proximity to the nesting colony. Wetlands within 15 km of a rookery were ranked as high and those at a distance of 15–30 km were ranked as medium. All wetland habitat polygons within these buffers were selected. Wood storks will feed in almost any shallow wetland depression where fish tend to be concentrated (Ogden 1990). Ogden (1990) also emphasizes the importance of protecting many different wetlands, with both long and short annual hydroperiods, in order to maintain the wide range of feeding site options required by wood storks.

### *Sandhill crane*

We used multiple sources of information to map sandhill crane habitat. First, we buffered FNAI element occurrences by 1,200 meters (2,800 meters for minute precision; general precision were excluded). This buffer distance was based on the published homerange size of 447 hectares for sandhill cranes (Rodgers et al. 1996). For a starting basemap, we used all WMD landcover natural and semi-natural polygons. In this case we also included FLUCCS type 2150, Field Crops, as cranes are known to forage in these areas. The above WMD polygons were selected if they intersected a) EO buffers; b) EO boundary polygons; or c) FWC breeding bird atlas blocks (Kale et. al 1992) with probable or confirmed sandhill cranes. From this selection, the following landcover types were removed: low density residential (FLUCCS 1000 – 1200), forested uplands and wetlands (4000 – 4999; 6100 – 6399), and spoil, borrow, and fill areas (7420 – 7440). Finally, scrub was removed using the scrub community data layer developed by FNAI for this assessment (see Under-represented Natural Communities section in this report).

Further review of sandhill crane habitat in the Everglades and Loxahatchee National Wildlife Refuge areas led to further refinements. In this region, several WMD landcover wetlands polygons were initially included because they intersected FWC breeding bird atlas blocks. However, these polygons are quite extensive, and continue into areas where sandhill cranes were not reported in the breeding bird atlas project. We therefore included only portions of those polygons within the actual breeding bird atlas blocks where cranes are probable or confirmed.

#### *Eastern indigo snake*

Moler (1992) reported homeranges of 215 – 250 acres for eastern indigo snakes. Assuming a population of 50 snakes at 250 acres, an area of 12,500 acres would be needed to sustain the population. We buffered FNAI element occurrences of indigo snake by 4.4 km to achieve an area of 15,000 acres, knowing that not all of the acreage would be suitable habitat. Within the buffers, we selected all “natural” and “semi-natural” landcover types, except the following: saltmarsh (6420), aquatic vegetation (6440-6450), non-vegetated wetlands (6500-6890), beaches (7100), and spoil (7430 – 7440). We did not include isolated populations if the amount of available habitat selected by the buffer was less than 10,000 acres for inland populations, or less than 1,000 acres for coastal populations.

Many landcover polygons selected by the buffers were exceedingly large and stretched for a large area beyond the buffer. We therefore selected all polygons where less than 20% of the polygon area was within the buffer. These polygons were clipped by the buffer so that they did not extend beyond it.

#### *Species experts*

For species that receive much conservation attention and for which better information than FNAI occurrence data may exist, we consulted with species experts. We conducted workshops for Florida black bear and manatee, in which experts identified lands that should be acquisition priorities. A similar process was used to identify priority habitat for Florida panther. Randy Kautz, FWC, coordinated with experts familiar with panther habitat in southwest Florida to create this habitat data layer and provide it for use in the model. For these wide-ranging species, we included this prioritized subset of lands in the model, rather than all habitat used by these species. The workshops are described in more detail below. We also consulted experts on habitat priorities for fish, freshwater mussels, scrub-jay, sea turtles, and red-cockaded woodpeckers. In addition, we used information from published sources. All sources are identified in Appendix E.

#### Wide-ranging species

Identification of land acquisition priorities for wide-ranging species such as Florida black bear, Florida panther, and manatee is problematic because of the large areas needed and the limited amount of land acquisition funding. Cox et al. (1994) identified 1.04 and 1.65 million acres of SHCAs as being necessary to support viable populations of panther and black bear, respectively. Given that it is unlikely that Florida Forever can purchase all the land needed for even one of these wide-ranging species and also meet other biodiversity conservation needs, it was necessary to identify and rank those lands most important to conserve these species.

#### *Florida black bear workshop*

The Florida black bear workshop was held on May 11, 2000 at Florida Natural Areas Inventory. The workshop was attended by the following: John Kasbohm (U.S. Fish and Wildlife Service [USFWS]), Harold Morrow (USFWS), Tom Hctor (University of Florida), Dale Jackson (FNAI), Amy Knight (FNAI), Jon Oetting (FNAI), Christine Small (Defenders of Wildlife), Thomas Eason (FWC), Terry

Gilbert (FWC), Walter McCown (FWC), Jayde Roof (FWC), Robert Kawula (FWC), Dan Sullivan (FWC), Cory Morea (FWC), and Randy Kautz (FWC). In addition, written input was received from David Maehr (University of Kentucky) and John Wooding (private consultant). The meeting was in part facilitated by Randy Kautz, FWC, who provided base maps and agreed to compile the results of the workshop. He also summarized the workshop results in an informal report (Kautz, 2000). That report, as excerpted here, will serve as official documentation for the workshop.

From Kautz (2000):

Workshop attendees agreed to use the black bear potential habitats and SHCAs mapped by Cox et al. (1994) as the basis for ranking. The attendees reached consensus that the population of black bears on and around the Ocala National Forest (NF) is the population in greatest jeopardy of loss of habitat to development and, therefore, is highest priority for protection. The attendees also acknowledged that the Apalachicola NF population of black bears is expanding to the east, and that habitat in the vicinity of the Aucilla River (Jefferson County) and south through the Big Bend region is important to this expanding population. Over the long-term, protection of habitats in the Big Bend region has the potential to provide a landscape linkage to the small and isolated Chassahowitzka population in Citrus and Hernando counties. General consensus was reached on the following points: (1) the black bear population centered around Eglin Air Force Base (AFB) appears to be small, but development pressure in this area is not too great at the present time; (2) although protection of the landscape connection between Osceola NF and Okefenokee Swamp National Wildlife Refuge (NWR) is important, habitats in this area are under less development pressure than other areas; and (3) black bear habitat in the vicinity of Big Cypress National Preserve (NP) is under intensive development pressure, but these habitats would be conserved by land acquisition efforts aimed at the endangered Florida panther. Finally, workshop attendees reached consensus that black bear habitat in Glades County and a landscape linkage between Ocala and Osceola national forests are important but lower priority habitat conservation needs.

After reviewing a map of black bear SHCAs and discussing black bear habitat conservation needs, workshop attendees reached consensus on the following priorities (Figure 1), ranked and scored in order: (1) the black bear SHCA south of Ocala NF in the Wekiva River area; (2) the black bear SHCA south and east of Ocala NF in southern Flagler and northern Volusia counties; (3) the black bear SHCA in the vicinity of the Aucilla River; (4) the black bear SHCA northeast, north, and northwest of Ocala NF, and black bear potential habitat between US 98 and the coast through the Big Bend region; (5) the black bear SHCA north of Big Cypress NP; (6) the black bear SHCAs around Eglin AFB, Apalachicola NF, and Osceola NF; and (10) black bear potential habitat in Glades County, and potential habitat forming a landscape linkage between Ocala and Osceola national forests. Note that workshop attendees purposely did not assign ranks of 7-9 to any areas of potential black bear habitat, choosing instead to assign a ranking of 10 to both the Glades County potential habitat and the landscape linkage between Ocala and Osceola national forests. These latter areas were deemed important habitats for black bear conservation, but the ranking of 10 was intended to indicate that they are of lower priority. In addition, workshop attendees indicated that those areas of potential black bear habitat in Taylor, Dixie, Levy, and Citrus counties between US 98 and the coast would be ideal candidates for conservation easements designed to maintain the existing land use (i.e., pine plantations).

### *Florida panther*

The habitat model for Florida panther is based on the Landscape Conservation Strategy for Florida Panther in South Florida (Florida Panther Subteam of the Multi-species/Ecosystem Recovery Implementation Team for South Florida, 2002) and includes a primary zone, secondary zone, and dispersal zone. The habitat zones were prioritized based on the recommendations of this report: Primary zone is Priority 1; dispersal zone is Priority 2; secondary zone is Priority 3. In order to be consistent with the occurrence-based habitat modeling approach for used for other species, we further modified the habitat model so that land use polygons not considered natural or semi-natural (such as citrus grove) that did not intersect any panther radio-tracking points (or element occurrences) were removed.

### *Manatee workshop*

The manatee workshop was held on May 12, 2000 at the Alachua County Public Library in Gainesville, Florida. The workshop was attended by the following: Bob Bonde (U.S. Geological Survey, Caribbean Science Center [USGS]), Lynn Lefebvre (USGS), Jim Reid (USGS), Cam Shaw (U.S. Fish and Wildlife Service [USFWS]), Jim Valade (USFWS), Kent Smith (FWC), Leslie Ward (Florida Marine Research Institute [FMRI]), Tom Pitchford (FMRI), and Amy Knight (FNAI). The participants represented expertise from around the state.

The manatee group proposed that there be three categories of protection for manatees: 1) watersheds; 2) recharge areas for springs; and 3) buffers to important surface waters. The members conceded, however, that full watershed protection for manatees was outside the scope of a ten-year land acquisition program. The group, therefore, focused on important manatee sites that are currently unprotected.

The group first identified waterways and springs that are important habitat for manatees. Members of the group nominated sites and categorized them as sites where it is important to establish upland buffers, or to protect recharge, or both. Forty-two “buffer” sites and 7 “recharge” sites were identified. The group then prioritized the sites into six groups based on relative importance to manatees and potential threats.

In order to map recharge areas, FNAI agreed to consult with groundwater experts to obtain paper or digital maps of recharge areas critical to the seven spring systems identified by the group. Subsequent discussions with experts from the water management districts, U. S. Geological Survey, and Department of Environmental Protection, including members of the Springs Task Force, revealed that this information was not readily available. Although some recharge information for some springs does exist, it is not consistent statewide. In addition, some of the recharge areas that have been mapped are large and do not fit the goal of habitat mapping that we were trying to achieve with this process. Several weeks after the workshop we informed the participants of these difficulties and reached consensus among the members that we would only map the buffers for these waters.

At the workshop the group agreed that the buffer should capture floodplain wetlands and at least 1000 feet of uplands around the water body. The rationale for the 1000’ buffer was a Pollutant Loading Assessment of Sarasota Bay that reports that a 900-foot setback from surface waters for septic systems would protect the Bay from additional nutrient loading (Sarasota Bay National Estuary Program, 1992). This was the buffer used in the Version 1.1 of the Conservation Needs Assessment. This mapping method, however, is not consistent the method we used for other aquatic species. In order to make the manatee habitat more consistent with that mapped for other rare aquatic species we we used 1995 Water

Management District Land Cover data to identify natural uplands within 100m of target water bodies. We then selected wetlands using the WMD land cover that were within and/or contiguous with the 100m buffer. Because in some cases a single wetland polygon could cover many thousands of acres, we only included wetlands that were within 300m of the water body. We also removed “non-natural” landcover polygons (Appendix C) from the final habitat. The 49 final prioritized sites are listed in Table 2-2.

Table 2-2. Manatee habitat areas identified and prioritized for acquisition by manatee workshop participants.

Site Name	Priority	Site Name	Priority
Blue Spring	1	Little Manatee River	3
Caloosahatchee River	1	Loxahatchee River	3
Chassahowitzka Complex	1	Rookery Bay	3
Crystal River/Kings Bay	1	St. Lucie River	3
Estero Bay	1	Terra Ceia	3
Homosassa Springs	1	Tiger Island to Amelia River	3
Matlacha Pass	1	Lower Suwannee River	3
St. Johns River	1	Nassau River	4
Turtle Bay/Bull Bay	1	St. Mary's River	4
Warm Mineral Springs	1	Weekiwachee	4
Merritt Island, esp. west side	1	Biscayne Bay	5
Jupiter Sound	2	Eau Gallie Creek	5
Lake Worth	2	Spring Creek	5
Little River & Southeast Canals	2	Spruce Creek	5
Manatee River	2	Turkey Creek	5
Myakka River	2	Turnbull Bay	5
Peace River	2	Wakulla/St. Marks	5
Sarasota Bay to Lemon Bay	2	Anclote River	6
Sebastian Creek	2	Apalachicola River	6
St. Lucie Inlet to N. Jensen Beach	2	Pithlachascotee	6
Tomoka River	2	Steinhatchee River	6
Tomoka to Merritt Island	2	Sulphur Spring	6
Vero to Ft. Pierce Inlet	2	Wacasassa River	6
Alafia River	3	Withlacoochee River	6
East side of Old Tampa Bay	3		

### Habitat Overlay Process

The goal of the overlay process is to prioritize places on the landscape that would protect both the greatest number of rare species and those species with the greatest conservation need. In order to achieve this, habitat for each species was weighted based on the species' conservation need. The conservation needs weight and overlay methods are described below.

#### Conservation Needs Ranking

Prior to weighting habitat, the 248 species were assigned a conservation needs ranking based on rarity and current protection status on public lands. This method differs from the original scoring method for selecting target species in that we were able to use the habitat acreages, which are more informative than point occurrences, and we did not consider the federal listing status in ranking species according to conservation need. The ranking method considered a species' GRANK, acres of total habitat, and percentage of habitat on conservation lands. The points assigned for each of these criteria are shown Table 2-3. The conservation needs rank was calculated by summing the points for each criteria.

Table 2-3. Criteria and points used to score species by conservation need.

<b>GRANK</b>	
G1	10
G2	8
G3	6
G4-G5	3
<b>Percent protected</b>	
0-10%	10
11-25%	8
26-40%	6
41-60%	4
61-90%	2
>90%	0
<b>Total habitat acres</b>	
0-100	10
100-1,000	9
1,000-10,000	8
10,000-100,000	7
100,000-1,000,000	6
>1,000,000	5

In order to ensure that the special status of true G1 species (not sub-species with G1 rank) was reflected in the conservation needs ranking, an additional point was given to those species. Another adjustment was made to the scoring for species with large area requirements. Because the point system assigns diminishing points as total habitat acres increase, it is biased against those species that require large areas for survival. Therefore, those species received an additional 3 points. Species that received additional points for having the large-area requirements are so noted in Appendix D.

The species were then grouped into 5 groups, A through E, based on their conservation needs ranking. Species in group A represented those species with the highest conservation need, primarily G1 species whose habitat is currently unprotected. Species in Group B are primarily G1 and G2 species with some

degree of habitat protection (generally <30%). Species in Group C are a mix of G1 – G3 species with a moderate degree of habitat protection (generally 30 – 60%). Species in Group D are a mix of G1- G3 species whose habitat is >50% protected. Species in Group E are primarily G2 and G3 species whose habitat is fairly well protected (generally >65%). All scores and final conservation needs groups are given in Appendix D.

Weighting of Habitat

The habitat for all species within a group received the same weight factor in the overlay process. The weight factor was assigned on a scale of 1 – 10 with Group A species receiving a weight of 10. We determined the weight factors by considering the conservation need of species in each group relative to those in the other groups. For example, we decided that the protection need for species in group A (weight = 10) was more than twice that of species in group C (weight = 4). Thus, a patch of habitat that supports a single species in Group A would still rank higher than a patch that supports two overlapping species in Group C. Weight factors for all groups are shown in Table 2-4.

Table 2-4. Weight factors for species grouped according to conservation need.

Group	Ranking Points	Weight factor
A	27 - 30	10
B	24 - 26	7
C	21 - 23	4
D	18 - 20	2
E	0 - 17	1

*Habitat quality/suitability score*

As discussed in the map creation section, all habitat polygons associated with a specific occurrence were assigned a quality/suitability rank of high, medium, or low. These ranks were translated into numeric scores of 10, 6, and 3, respectively.

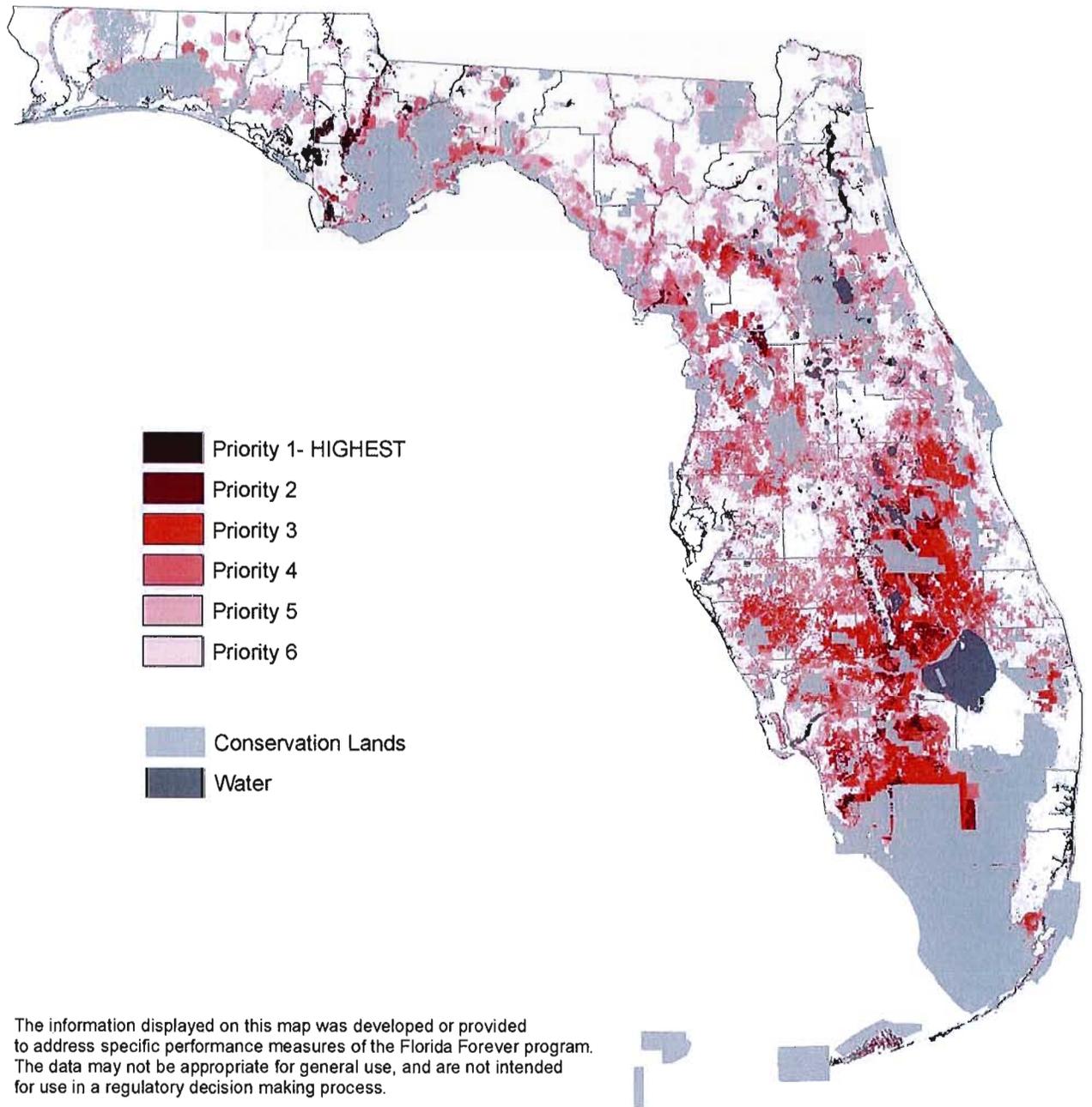
*Overlay method*

The habitat maps for each species were originally created as individual ArcView shapefiles. In order to do the mathematical overlay, these data first had to be converted to grid files. This conversion resulted in 248 separate grid files, one for each species, with a cell size of 30 m<sup>2</sup>. Each cell retained a value of 10, 6, or 3 based on its habitat quality/suitability score.

The habitat grids within each conservation need category were added and the resulting grid was multiplied by the conservation need weight factor for that category. The resulting 5 weighted grids were then added together. This resulted in a habitat model with cell values ranging from 2 to 584. The model values were then grouped into 6 priority classes. The Priority 1 class captures all of the highest ranked habitat for the species with the greatest conservation need (group A); priority 2 class captures the entire highest ranked habitat for group B species; priority 3 captures the highest ranked habitat for group C species; priority 4 captures the highest ranked habitat for group D species; priority 5 captures the highest ranked habitat for group E species; priority 6 includes all remaining habitat. The value range and acres for each class are given in Table 2-5. A map of this data layer is shown in Fig. 2-4.

Table 2-5. Acres and value range for 30 m grid cells within each priority class of the FNAI Rare Species Habitat Conservation Priorities.

B2: FNAI Habitat Conservation Priorities	Value Range	Total Acres	Baseline Acres Protected July 2001
Priority 1	100 - 584	480,900	184,000
Priority 2	70 - 99	1,444,200	933,000
Priority 3	40 - 69	4,405,500	1,667,100
Priority 4	20 - 39	5,004,100	1,867,800
Priority 5	10 - 19	5,100,300	1,782,200
Priority 6	2 - 9	2,222,800	457,100
<b>TOTAL</b>		<b>18,657,800</b>	<b>6,891,100</b>



**Figure 2-4. FNAI Rare Species Habitat Conservation Priorities**  
 Source: Florida Natural Areas Inventory

## Under-represented Natural Communities

**Measure B4:** The number of acres acquired of under-represented native ecosystems.

**Source:** Florida Natural Areas Inventory

### Measure Definition

Depending on the classification system followed, Florida features as many as 81 different natural community types (FNAI 1990). Many of these community types, particularly wetland communities, are relatively well-represented on existing conservation lands, and therefore are less of a priority for land acquisition than some of Florida's rarest communities that are currently not well-protected.

### Methods

The 1997 *Florida Preservation 2000 Program Remaining Needs and Priorities Report* (Brock 1997) identified natural community types that were inadequately represented on conservation lands in Florida. Since that time, the Office of Environmental Services (OES), Florida Department of Environmental Protection, has regularly reported progress toward protecting additional acres of natural communities through land acquisition. Based on the OES criteria, a natural community is considered to be inadequately represented on conservation lands if less than 15% of the original extent of that community is currently found on existing conservation lands.

Table 4-1 lists those communities that were included in the data layer for measure B4, based on the OES criteria. The original acreages were calculated from a map of historic vegetation produced by Davis (1967). Remaining acreages were calculated based on the individual natural community data layers developed for this measure, as described below. Seepage slopes and upland glades were not identified as distinct communities on the original Davis map, so we are unable to report the percent of original acreage remaining. However, seepage slopes are known to be a rare community type that supports a large number of rare endemic plant species. Recent estimates suggest that less than 1% of the original extent of seepage slope communities remain (FNAI 1990). Upland Glade is also a very rare community (ranked G1/S1 by FNAI) that supports endemic plant species. In 2007, we added sandhill upland lake and dry prairie as under-represented types. Although we do not have a historic map of sandhill upland lake, we can assume that this community is under-represented because the associated sandhill community is under-represented.

**Table 4-1. Natural community types considered to be under-represented.**

	ORIGINAL	REMAINING	PERCENT REMAINING	PROTECTED	PERCENT OF ORIGINAL PROTECTED
Pine Rocklands	224,000	24,840	11	20,600	9
Upland Glades	n/a	1,600	-	220	-
Tropical Hardwood Hammock	296,000	19,100	6	11,600	4
Scrub	979,000	375,490	38	286,800	29
Dry Prairie	1,205,000	983,700	82	221,300	18
Seepage Slope	n/a	4,700	-	3,800	-
Sandhill	6,943,000	768,100	11	317,900	5
Sandhill Upland Lake	n/a	95,000	-	15,000	-
Upland Hardwood Forest	1,635,000	230,300	14	18,800	1
Pine Flatwoods	12,558,000	2,928,200	23	1,066,300	8

Taken as a whole, the scrub community type appears to be fairly well protected based on Table 4-1. However, much of the scrub on conservation lands is located in the Ocala National Forest. If scrub other

than that in the Ocala region is considered, 84% of the original scrub extent is unprotected. Scrub is also a community that supports a large number of endemic species, particularly in the Lake Wales Ridge region.

Dry prairie also exceeds the 15% threshold. However, this community type is rare and experts agree it should be considered under-represented. It is critical habitat for the endemic Florida grasshopper sparrow.

For each community type, we developed a preliminary data layer showing community extent. Where overlap existed among the preliminary layers, a set of rules was developed to assign overlap areas to a single community. The process is explained below.

### Seepage Slope

No existing land cover data includes seepage slope/bog as a distinct community type. Therefore, several plant species were chosen as indicators of the occurrence of seepage slope communities. These same plant assemblages are characteristic of coastal wet prairie in the panhandle, which is also included as part of the seepage slope/bog layer. The following species, along with seepage slope occurrence records, were included as indicators of seepage slope/bog communities in this analysis:

<i>Sarracenia leucophylla</i>	white-top pitcherplant
<i>Sarracenia rubra</i>	sweet pitcherplant
<i>Lachnocaulon digynum</i>	bog button
<i>Plantanthera integra</i>	yellow fringeless orchid
<i>Pinguicula ionantha</i>	violet-flowered butterwort
<i>Parnassia caroliniana</i>	Carolina grass-of-parnassus
<i>Asclepias viridula</i>	southern milkweed
<i>Justicia crassifolia</i>	thick-leaved water-willow
<i>Ruellia noctiflora</i>	white-flowered wild petunia
<i>Xyris drummondii</i>	Drummond's yellow-eyed grass
<i>Xyris scabrifolia</i>	Harper's yellow-eyed grass

Element occurrences for these species were selected from the FNAI database. Occurrences were excluded if their descriptions indicated that habitat was significantly disturbed. Minute and general precision occurrences were also excluded, since point occurrences at these levels of precision cannot be associated with a specific location on the landscape. A 100 m buffer was created around the remaining occurrences. Within this buffer, polygons of landcover types from the 1995 WMD landcover data that were included in the "natural" and "semi-natural" land cover subsets (see Tables 1 and 2) were selected to form the preliminary Seepage Slope community boundary for each occurrence. In addition, we included extensive wet prairie polygons in southern Escambia county (based on DEP/Division of Recreation and Parks natural community map and 2004 aerial photography) and Garcon Point area of southern Santa Rosa county (based on 2004 aerial photography).

### Upland Hardwood Forest

Comparing current with historic distributions of upland hardwood communities can be misleading, because pine-dominant communities are known to succeed to hardwood-dominant communities in the absence of fire (Platt and Schwartz 1990). With widespread fire-suppression across much of Florida in recent decades, the distribution of hardwood communities has likely spread into historic pine forests. We therefore considered only the historic distribution of hardwoods, based on Davis (1967), in developing our remaining upland hardwood natural community data layer. In calculating historic acreage of upland hardwood forests, we divided the historic distribution from Davis into temperate and tropical hardwoods, based on

Figure 7.1 of Platt and Schwartz (1990). Only the temperate hardwoods were considered in the present Upland Hardwood Forest category.

Within Davis' Hardwood Forest and Mixed Hardwood and Pine categories, polygons from the 1995 WMD landcover data that corresponded to FLUCCS categories 420 – 439 (except 422, 424, and 426) were selected. Next, areas identified as wetlands in the National Wetlands Inventory, and areas identified as pine forest categories (Pinelands, Sand Pine, Sandhill) in the FWC satellite imagery, were removed.

Finally, FNAI PNAs (see page 4) were overlaid onto the remaining areas, and only those areas within PNAs were selected as the preliminary Upland Hardwoods data layer. This layer represents areas of relatively intact undisturbed upland hardwoods within the historic temperate upland hardwood forest distribution.

### Pine Rocklands

For the purposes of this analysis, the distribution of pine rocklands was determined to be pinelands within the Miami Rock Ridge Pinelands and Long Pine Key in Miami-Dade County, and the Florida Keys in Monroe County. An area of limestone outcropping also occurs in the Big Cypress Swamp in Monroe County (Snyder et al. 1990) but was not included in this analysis. That area does not include the suite of endemic plant species found in the rocklands of Miami-Dade County and the Keys.

Several landcover and/or habitat data layers have been developed or updated since the original pine rocklands mapping work in 2000. Pine rocklands were therefore revised based on the following criteria:

1. Miami-Dade County developed a GIS file of ownership parcels in the county that contained pine rocklands. Each of these parcels was inspected using 2004 DOQQ aerial photography, and pine rockland polygons were digitized. These polygons were considered sufficient to be designated pine rocklands, without confirmation from other data sources.
2. Pine rocklands on Long Pine Key in the Everglades were inspected using 1999 WMD landcover (FLUCCS 410-411) and 2004 DOQQ aerial photography. The FLUCCS pine polygons were found to correspond closely to pine rocklands on Long Pine Key, so these polygons were considered sufficient to be designated pine rocklands, without confirmation from additional data sources. Note that WMD landcover elsewhere in the range of pine rocklands was not considered sufficient to be designated pine rocklands (see section 4b below).
3. The following two data layers were considered sufficient to identify pine rocklands *only if* they were confirmed by one additional data source:
  - a. Monroe County recently developed a ground-truthed landcover data set for the Monroe County Keys. This landcover included a category of polygons labelled "pinelands".
  - b. Element Occurrence polygons for Pine rockland or pine rockland-dependent species from the FNAI Element Occurrence database.
4. The following three data layers were also used to confirm pine rocklands identified by the data listed in section 3 above. These layers were not considered sufficient to identify pine rocklands even if overlapping with the other layers in this section:
  - a. "Pinelands" category from the 2003 FWC landsat landcover.

- b. 1999 WMD landcover FLUCCS categories 410-411 (see exception in section 2 above).
- c. Monroe County landcover data, “freshwater pine” category.

### Tropical Hardwood Hammock

In Florida, temperate hardwood forests grade into tropical hardwood hammocks over a broad area that, generally speaking, extends along the Gulf coast from Pinellas County south to Lee County, across the peninsula south of Lake Okeechobee, and along the Atlantic Coast from Martin County north to Volusia County (Platt and Schwartz 1990). Originally, all hardwood forests identified from this region southward were classified as Tropical Hardwood Hammocks. However, in December 2005, this category was revised to specifically refer to “rockland hammocks” – those tropical hardwood hammocks occurring within the Miami Rock Ridge and Long Pine Key in Miami-Dade County, the Florida Keys, and a small additional area of tropical hammock identified from a limestone outcrop area in the Big Cypress Swamp. Other “tropical hardwood hammocks” along the southwest and southeast coasts of Florida will now be included in the Coastal Uplands data layer. Consequently, Tropical Hardwood Hammock is now classified as a G2 community (rockland hammock), rather than G3 (maritime and other hammock types).

Like pine rocklands, several landcover and/or habitat data layers have been developed or updated since the original tropical hardwood hammock mapping work in 2000. Tropical Hardwood Hammock was therefore revised in December 2005 based on the following criteria:

1. Miami-Dade County developed a GIS file of ownership parcels in the county that contained tropical hardwood (rockland) hammocks. Each of these parcels was inspected using 2004 DOQQ aerial photography, and hammock polygons were digitized. These polygons were considered sufficient to be designated tropical hardwood hammock, without confirmation from other data sources.
2. FNAI scientists conducted field surveys and mapped natural communities on the Florida Keys Wildlife and Environmental Area (managed by FWC) in 2005. Polygons mapped as “rockland hammock” were also considered sufficient to be designated tropical hardwood hammock, without confirmation from other data sources.
3. The following three data layers were considered sufficient to identify tropical hardwood hammock *only if* they were confirmed by one additional data source:
  - a. Monroe County recently developed a ground-truthed landcover data set for the Monroe County Keys. This landcover included a category of polygons labelled “hammocks”. Additional categories from this dataset were used as outlined in section 4b below.
  - b. “Tropical Hardwood Hammock” category from the 2003 FWC landsat landcover.
  - c. Rockland hammock Element Occurrence polygons from the FNAI Element Occurrence database.
4. The following three data layers were also used to confirm tropical hardwood hammock identified by the data listed in section 3 above. These layers were not considered sufficient to identify hammock even if overlapping with the other layers in this section:
  - a. “Hardwood Hammocks & Forests” category from the 2003 FWC landsat landcover.

b. "Hammock (CRB) [presumably refers to coastal rock barren]", "ridge hammock", and "buttonwood" categories from Monroe County landcover dataset.

c. 1999 WMD landcover FLUCCS category 420 (upland hardwood).

### Sandhill

We first selected sandhill from the 2003 FWC Landsat vegetation cover and longleaf pine – xeric oak from the WMD land cover and combined these into a preliminary sandhill polygon shapefile. Because the FWC satellite imagery does not distinguish between natural (undisturbed) pinelands and pine plantations, only the polygons within FNAI PNAs were included. We then did a visual inspection of sandhill land cover that fell outside of PNAs and added several sites based on that review. Within the Ocala National Forest we also inspected the 2003 FWC Landsat shrub and brushland and bare soil/clearcut categories using 2004 DOQQs. Where appropriate these were reclassified as sandhill. Finally, we removed isolated fragments that were less than 5 acres.

### Sandhill Upland Lake

Distinguishing sandhill upland lakes from other lake types is difficult. No differentiation of lake types exists in available land cover data. We attempted to identify relatively pristine sandhill upland lakes by applying criteria to the lakes category of WMD land cover. First, we selected lakes that were within historic sandhill or scrub based on the Davis (1967) map or within 60 m of current sandhill or scrub based on the under-represented natural community maps. Because sandhill lakes are typically lentic water bodies without significant surface inflows and outflows, we eliminated lakes that were associated with 1<sup>st</sup> or 2<sup>nd</sup> order streams based on the National Hydrography Dataset. Next we established a size range of 1 – 1000 acres that should fit the majority of sandhill lakes. The lower limit attempts to separate permanent lakes from more temporary depression ponds. The upper limit approaches the maximum size of sandhill lakes on current protected areas but also attempts to limit the sandhill lakes to those that can be acquired by the state and that are not sovereign submerged lands. Finally, we eliminated lakes for which >33% of the perimeter was not a 'natural' land cover type. Although we believe this data layer captures the majority of sandhill upland lakes, we acknowledge that it likely contains other lake types and excludes some high quality sandhill lakes.

### Scrub

Several potential data sources for scrub community distribution exist; however none of these is comprehensive. The FWC satellite imagery includes categories for Xeric Oak Scrub and Sand Pine Scrub, but known scrub communities exist in other FWC categories, such as Shrub and Brushland. The Archbold Biological Station produced a GIS polygon layer of scrub communities, but that work concentrated on habitat for scrub-jays in central Florida, so many coastal scrubs, especially those in northern Florida, are not included. This data layer also includes communities that are disturbed by agricultural or suburban development. We have also found that some of these polygons are sometimes generously drawn and include many other community types. Thus, we have elected not to use the Archbold layer. FNAI tracks high quality Scrub element occurrences as point locations. Some of these occurrences have polygon boundaries, but this data layer is not complete statewide. In addition, there is good local ground-truthed information for many scrub sites. Used in combination these data layers can result in a statewide scrub distribution. The following data sets were combined to produce the final scrub layer:

- 1) Xeric Oak Scrub and Sand Pine Scrub from 2003 FWC Landsat vegetation.
- 2) Mixed Pine Hardwood from 2003 FWC Landsat vegetation that intersect FNAI scrub element occurrences; each polygon was inspected using 1999 DOQQs.

- 3) Coastal Scrub, Sand Pine, and Xeric Oak categories of WMD Land Cover that contain FNAI scrub element occurrence points.
- 4) FNAI scrub natural community occurrence boundaries that contain FNAI scrub element occurrence points.
- 5) WMD Land Cover categories excluding open water and non-natural categories clipped by FNAI scrub polygons from the element occurrence database.
- 6) Coastal Scrub, Sand Pine, and Xeric Oak categories of WMD Land Cover that contain approximate scrub types from the 2003 FWC Landsat vegetation (shrub and brushland, bare soil/clearcut, hardwood hammocks, mixed pine hardwood).
- 7) Approximate scrub types from the 2003 FWC Landsat vegetation (shrub and brushland, bare soil/clearcut, hardwood hammocks, mixed pine hardwood) that occur within Archbold Scrub polygons and within scrub-jay habitat polygons provided by Charlotte County.
- 8) Scrub polygons delineated during FNAI field projects (mostly ground-truthed with some aerial photo interpretation)
- 9) Scrub sites provided by Broward County and Division of Forestry.
- 10) Within the Lake Wales Ridge and Ocala National Forest we inspected the 2003 FWC Landsat shrub and brushland and bare soil/clearcut categories using 2004 DOQQs. Where appropriate these were reclassified as scrub.

Isolated single and paired pixels were excluded from the final layer.

#### Dry Prairie

Existing FWC and WMD land cover overestimate the extent of dry prairie by including open pine flatwoods in the dry prairie classification. To overcome this limitation we used a combination of data sources along with review of aerial photography. The following data sets and methods were used to produce the final dry prairie layer:

- 1) Dry prairie polygons from the FNAI element occurrence database.
- 2) Dry prairie polygons delineated during FNAI field surveys (mostly ground-truthed with some aerial photo interpretation).
- 3) Dry prairie polygons delineated by DEP/Division of Recreation Parks in natural community maps for the lands they manage.
- 4) Grasshopper sparrow areas delineated on Avon Park Air Force Range Navy Air-to-Ground Training EIS.
- 5) The WMD Land Cover categories that have high potential for dry prairie (2120- unimproved pasture, 3100- herbaceous/dry prairie, 3200- upland shrub and brushland, 3210- palmetto prairies) where they intersect with dry prairie from the 2003 FWC Landsat vegetation. These areas were only included if they fell within the pre-settlement dry prairie boundary developed by Bridges (2006).
- 6) Most areas identified in the previous step were reviewed by ecologists who have field surveyed dry prairie and are familiar with the aerial photograph signatures for dry prairie. Additional areas within the Bridges (2006) boundary that were not identified in the previous step were also reviewed with 2004 aerial photography. We removed and added areas of dry prairie based on this review.

#### Upland Glades

Existing upland glades were mapped as part of a 2005 survey effort. These polygons were buffered by 100m to capture transitional areas around the glades. The original polygons plus buffers comprise the final data layer.

### Pine Flatwoods

We identified pine flatwoods by selecting Pinelands and Dry Prairie from the 2003 FWC Landsat vegetation that fell within WMD land cover classes 410 (upland coniferous forest, primarily in NFWFMD) and 411 (mesic flatwoods). The dry prairie was selected because the 2003 FWC Landsat vegetation classifies many open pinelands as dry prairie. True dry prairie was excluded based on the dry prairie data layer described above. We also added mesic and scrubby flatwoods delineated during FNAI field projects. Using 2004 aerial photographs, we also reviewed the FWC mixed pine-hardwood category where it intersected WMD flatwoods but concluded that it was not consistently flatwoods. Finally, we removed any areas identified as flatwoods north of the Cody Scarp. The exclusion areas were identified primarily from the Physiographic Map of Florida (White 1970; Puri and Vernon 1964) and include Western Highlands, Marianna Lowlands, Grand Ridge, Tallahassee Hills and New Hope Ridge. These areas are more likely to be upland pine forest. The Cody Scarp was estimated from isolated single and paired pixels were excluded from the final layer.

### Overlap

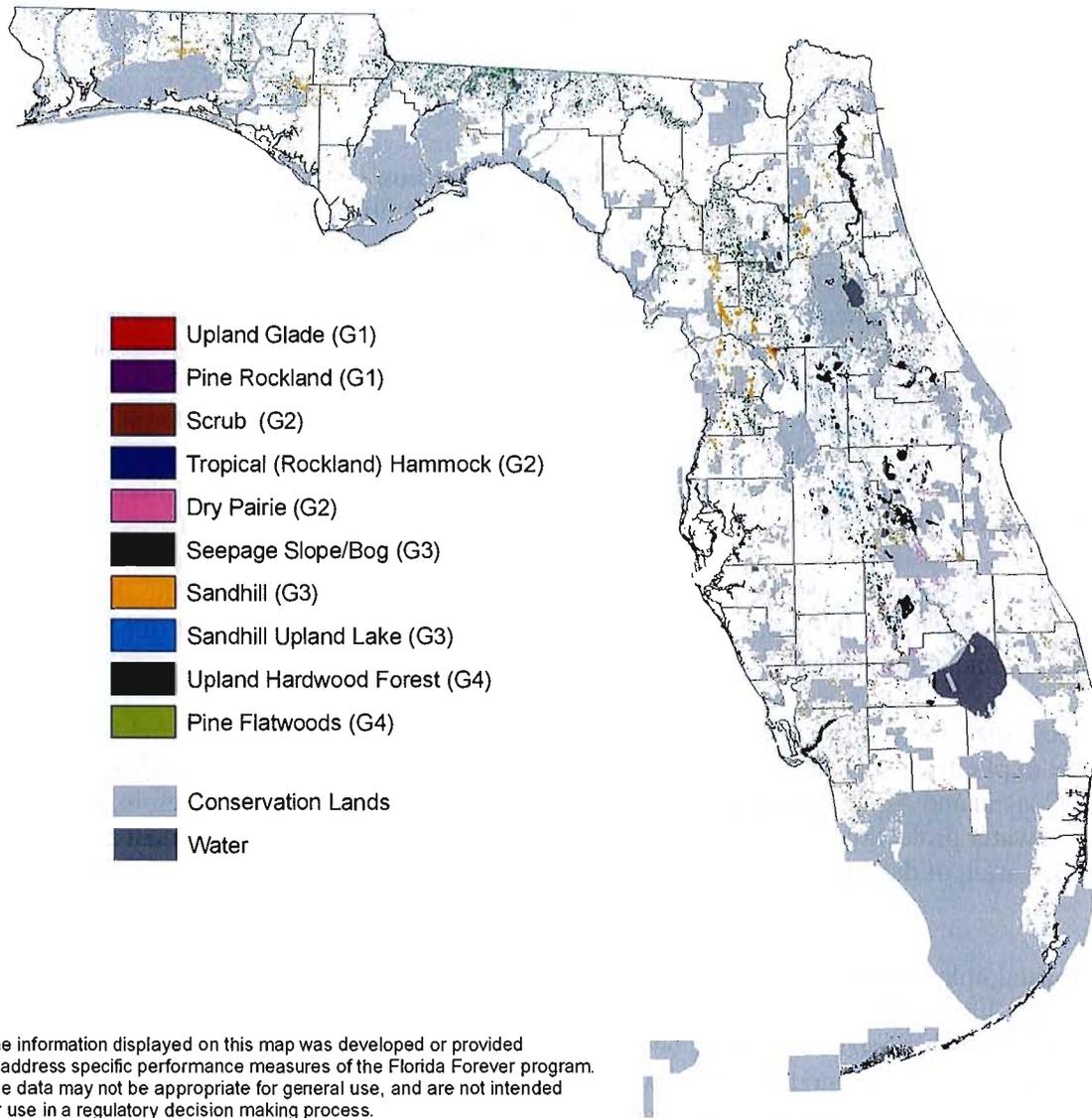
Once the preliminary data layer was complete for each individual natural community type, some areas of overlap were found among the layers. Areas of overlap were assigned to a single community type based on the following rules. These rules were determined based on our confidence with the precision obtained with each individual community layer, and the narrowness of the community definition. In general, data layers with higher precision and narrower definition took precedence over those with lower precision and broader definition. For example, Upland Glades is a more narrowly defined community than Upland Hardwoods, and the Upland Glades data layer was based on location-specific (higher precision) occurrence records, whereas Upland Hardwoods were developed based on broader (lower precision) patterns of distribution.

1. Upland Glades, Seepage Slope, Tropical Hardwood Hammock, Pine Rocklands, Dry Prairie, and Sandhill Upland Lake were assigned over all other types (there is no overlap among these communities).
2. Sandhill was assigned over Scrub, Upland Hardwood, and Pine Flatwoods.
3. Scrub was assigned over Upland Hardwood and Pine Flatwoods.
4. Overlap between Upland Hardwood and Pine Flatwoods was removed from both categories (the small amount of overlap was spot-checked on DOQQs and appears to actually be mixed hardwood-conifer forest).

The number of acres for each community type is given in Table 4-2. A map of this data layer is shown in Fig. 4-1.

Table 4-2. Total acres and baseline acres protected in July 2001 at the onset of the Florida Forever program.

B4: Under-represented Natural Communities	Total Acres	Baseline Acres Protected July 2001
Upland Glade	310	50
Pine Rockland	10,230	8,580
Scrub	394,570	292,090
Tropical Hardwood Hammock	11,330	7,470
Dry Prairie	187,620	94,700
Seepage Slope/Bog	12,140	7,540
Sandhill	544,870	316,930
Sandhill Lake	110,530	13,680
Upland Hardwood	440,280	37,750
Pine Flatwoods (G4)	1,039,040	525,810
<b>Total</b>	<b>2,750,920</b>	<b>1,304,600</b>



**Figure 4-1. Under-represented Natural Communities**

Source: Florida Natural Areas Inventory

## **Fragile Coastal Resources**

**Measure C8:** The number of acres acquired that protect fragile coastal resources

**Source:** Florida Natural Areas Inventory

### **Measure Definition**

We defined fragile coastal resources as those natural communities most vulnerable to disturbance or development. Upland coastal communities face a variety of threats, especially invasion by non-native species and real estate development (Johnson and Barbour 1990). The high percentage of Florida's upland barrier coast already developed (>50%) and the continued rapid rate of development prompted an assessment of remaining coastal uplands in Florida (Johnson and Muller 1993; Johnson and Gullede 2005). The major upland communities surveyed by Johnson and Muller were included in the fragile coastal resources data layer: beach dune, coastal grassland, coastal strand, coastal scrub, and maritime hammock (Table 8-1). Coastal wetland communities are also threatened by development and other human activities. Florida Marine Research Institute has documented significant losses to salt marsh and mangrove communities, which were also included in this data layer (Table 8-1).

We restricted coastal natural communities to those that occur within one km of the shoreline of marine or estuarine waters, or those that were identified and mapped for the assessment of Florida's remaining coastal upland communities (Johnson and Gullede 2005).

We recognize that some important coastal resources, such as seagrass beds and shellfish harvesting areas are not explicitly represented in this data layer. These resources, however, were identified by DEP/Coastal and Aquatic Managed Areas as important surface waters and, therefore, are captured in the surface water protection data layer. In future revisions, we may reconsider the most appropriate representation of data that overlaps different resource categories.

### **Methods**

For coastal uplands the primary data set used was natural coastal upland sites confirmed by Johnson and Gullede (2005). This is a polygon shapefile of coastal upland communities greater than 20 acres in extent on Florida's barrier island and ocean/gulf-front shores. These sites were originally identified in 1989-92 and exclude natural lands that were protected on existing conservation lands at that time. In the 2005 update the authors revisited and/or reviewed the original sites using 2004 aerial photography.

We also initially selected upland coastal communities that were identified in 3 other data layers: FNAI element occurrences (FNAI EOs), DEP/Division of Recreation and Parks natural community maps (DRP NCs), and polygons mapped by FNAI as part of several natural community mapping projects for FWC and DOF (FNAI NC maps). These data layers plus the Johnson and Gullede (2005) coastal upland sites are hereafter referred to as the base coastal uplands.

To fill in gaps and select polygons that correspond to FNAI EO points, we used portions of the WMD land cover and FWC 2003 Landsat vegetation. The method of selection depended on the community type as follows:

1. Beach dune: Based on an intersection of the WMD land cover with FNAI EO polygons and DRP coastal upland polygons we determined WMD land cover codes 7100, 7200 and, in some districts, 1800, 1810, and 1850 corresponded to beach dune. We selected polygons with these codes and deleted those that were not on barrier islands or adjacent to ocean/gulf front. Remaining polygons

that were outside the base coastal uplands were inspected with 2004 aerial photography and deleted if they were not natural beach. Finally, we inspected FNAI EOs that did not intersect the base coastal uplands or WMD land cover beach dune. In some cases, these had been developed since they were first observed and thus were deleted; in other cases, we mapped polygons based on aerial photography or included the existing FNAI EO polygon in the beach dune data layer.

2. Coastal strand/coastal grassland: Coastal communities just inland of beach dune such as coastal strand, coastal grassland and to some extent coastal scrub can be difficult to distinguish from one another with WMD land cover data. Therefore, these types were selected as a set referred to here as coastal strand/grassland. Based on an intersection of the WMD land cover with FNAI EO polygons and DRP coastal upland polygons we determined WMD land cover codes 3200 and 3220 corresponded to coastal strand/grassland. We selected polygons with these codes and deleted those that were not on barrier islands or within the coastal upland zone as determined by the extent of base coastal uplands. Finally, we inspected FNAI EOs that did not intersect the base coastal uplands or WMD land cover for coastal strand/grassland and edited them as described above for beach dune.
3. Coastal scrub: We consulted with Ann Johnson, FNAI ecologist, to identify a subset of the statewide scrub layer (see Under-represented Natural Communities described in Section 4 of this report). True coastal scrub, which differs from other scrub based on soils and ecological processes, occurs only on barrier islands, especially along Gulf Coast, and right along the shoreline on the Atlantic Coast (except in the vicinity of Guana River where it occurs slightly further inland). We selected coastal scrub from the statewide scrub layer that met these criteria.
4. Maritime hammock: Maritime hammock is difficult to distinguish solely from remotely-sensed land cover. Therefore, we used a hybrid method that required corroboration of WMD land cover polygons and 2003 FWC Landsat vegetation. First we selected WMD land cover polygons with codes 4200, 4260 or 4340 within 1 km of the shoreline. From this set we selected polygons for which at least 15% of the area overlapped the 2003 FWC Landsat vegetation types of hardwood hammocks or mixed pine-hardwood. These polygons were inspected and edited using 2004 aerial photography. Maritime hammock can occur farther inland than the other coastal upland types. In consultation with Ann Johnson and other FNAI scientists, we deleted any polygons that did not occur within the known extent of maritime hammock. Finally, we inspected FNAI EOs that did not intersect the base coastal uplands or WMD land cover for maritime hammock and edited them as described above for beach dune.
5. Tropical hammock: As with coastal scrub, we identified a subset of the statewide tropical hardwood hammock layer (see Under-represented Natural Communities described in Section 4 of this report). Any tropical hammock within 1km of the shoreline was included in the coastal data layer.
6. Coastal rock barren/coastal berm: We examined FNAI EOs for these communities if they did not intersect any other coastal upland type from above. We then edited/included them as described for beach dune.

The base coastal uplands (with EOs edited as described in 1 – 6) and additional polygons from the WMD land cover (as described in 1 – 6) were merged to create the coastal uplands portion of the fragile coastal resources data layer.

For coastal wetlands, we primarily relied on the WMD categories of mangrove and salt marsh. In some cases, however, our element occurrence data identified a WMD polygon or portion of a polygon as scrub or tropical hardwood hammock, where the WMD identified it as mangrove. We corrected the data to reflect the FNAI descriptions.

Community-specific acreages could not be calculated for most community types because of the ambiguity of the WMD land cover categories and because the sites from Johnson and Gullede (2005) do not delineate separate natural community polygons. We can, however, provide an acreage count for the total coastal uplands or wetlands identified (Table 8-1).

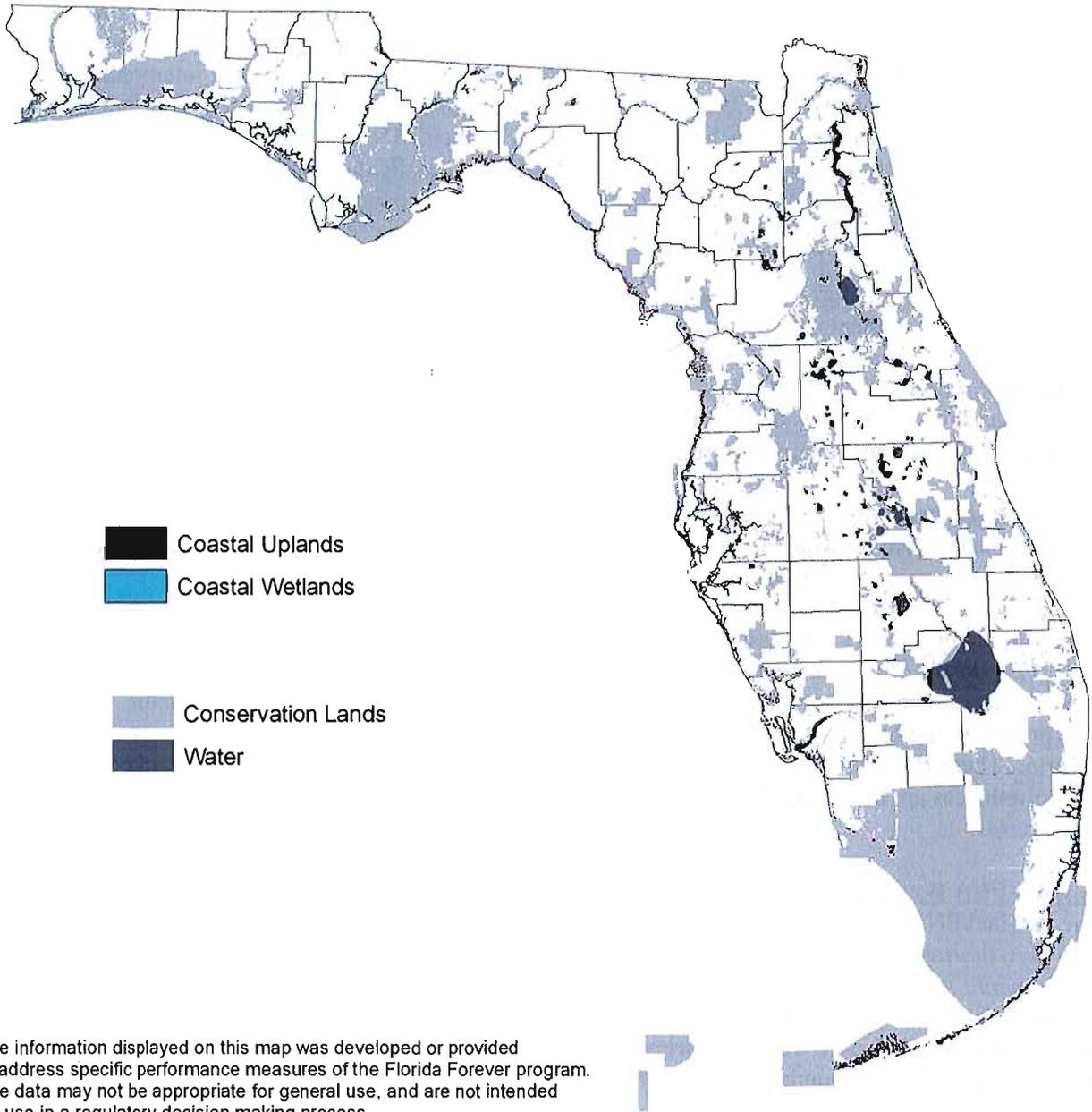
The number of acres is given in Table 8-2. A map of this data layer is shown in Fig. 8-1.

Table 8-1. Community types included in the fragile coastal resources data layer.

<b>Coastal Uplands</b>	<b>Coastal Wetlands</b>
Beach dune	Salt marsh
Coastal scrub	Mangrove
Coastal grassland	
Coastal strand	
Maritime hammock	

Table 8-2. Total acres of fragile coastal resources and baseline acres protected in July 2001 at the onset of the Florida Forever program.

<i>C7: Fragile Coastal Resources</i>	Total Acres	Baseline Acres Protected July 2001
Coastal uplands	145,300	86,800
Coastal wetlands	769,700	566,800
<b>Total</b>	<b>915,000</b>	<b>653,700</b>



The information displayed on this map was developed or provided to address specific performance measures of the Florida Forever program. The data may not be appropriate for general use, and are not intended for use in a regulatory decision making process.

**Figure 8-1. Fragile Coastal Resources**  
 Source: Florida Natural Areas Inventory

## FNAI Potential Natural Areas

The Potential Natural Areas (PNA) data layer identifies, throughout the State of Florida, privately owned lands that are not managed or listed for conservation purposes, which may contain good quality natural communities. These areas were delineated by FNAI scientific staff through interpretation of natural vegetation from 1988-1993 FDOT aerial photographs and from input received during Regional Ecological Workshops held for each regional planning council. These workshops were attended by experts familiar with natural areas in the region. All PNA classifications and rankings were made based on the combined judgment of at least two scientists making independent determinations. Element occurrences in the FNAI database may or may not be present on these sites.

In order to be classified as a Potential Natural Area the natural communities identified through aerial photographs had to meet the following criteria:

1. Must be a minimum of 500 acres. *Exceptions:* sandhill, min. 320 acres; scrub, min. 80 acres; pine rockland, min. 20 acres; dry prairie, min. 320 acres; *or* any example of coastal rock barren, upland glade, coastal dune lake, spring-run stream or terrestrial cave.
2. Must contain at least one of the following:
  - a. One or more high quality examples of FNAI state-ranked S3 or above natural communities.
  - b. An outstanding example of any FNAI tracked natural community.

Potential Natural Areas were assigned ranks of Priority 1 through Priority 5 based on size, perceived quality, and type of natural community present. The areas included in Priority 5 are exceptions to the above criteria. These areas were identified through the same process of aerial photographic interpretation and regional workshops as the PNA 1 through 4 ranked sites, but do not meet the standard criteria. These PNA 5 areas are considered lower priority for conservation than areas ranked PNA 1- 4, but nonetheless are believed to be ecologically viable tracts of land representative of Florida's natural ecosystems.

### Revised PNA Boundaries

The original PNAs were digitized based on 1:100,000 scale county maps and lacked the geographic precision desirable for the type of geographic overlay analyses undertaken in the *Conservation Needs Assessment*. We therefore revised the PNA boundaries by overlaying the original PNA polygons onto the Land Use Land Cover polygon coverage produced by the water management districts (WMD; see below). The WMD land cover boundaries were found to conform more closely to land cover patterns than the original PNA boundaries, based on comparison with digital ortho quarter quad (DOQQ) aerial photography.

To revise the PNA boundaries, all WMD polygons classified as “natural” (see Table 1) that intersected the original PNAs were included in their entirety. All WMD polygons classified as “semi-natural” (see Table 2) that intersected PNAs were “clipped” by the original PNA boundary (i.e. that portion of the original PNA was retained in the revised boundary). All other WMD polygons (“non-natural”) were removed from the PNA boundaries.

In addition, the original PNAs did not take into consideration existing managed areas or Conservation and Recreation Lands (CARL) acquisition projects. We added these by selecting all WMD “natural” or “semi-natural” polygons within managed area or CARL project boundaries (all of these polygons were “clipped” by the boundaries of the managed area or CARL project).

### **FNAI Element Occurrences**

The Florida Natural Areas Inventory (FNAI or the Inventory) maintains a database of occurrences of approximately 1,000 rare plant and animal species and 70 natural community types known to occur in Florida. Currently this FNAI database includes over 27,000 occurrences of plants, animals, and communities. These records are compiled from a variety of sources, including FNAI science staff surveys, scientific literature, museum collections, federal, state, and local government agencies, and academic experts. The data are managed in a relational database and in GIS coverages in the form of point and/or polygon locations for individual Element Occurrences (EOs).

For each element occurrence data are maintained on observation dates, habitat description and quality, number and status of individuals, management considerations, locational certainty and best sources for the occurrence information. For animals and plants, EOs generally refer to more than a casual sighting; they usually indicate a viable population of the species. Natural community EOs represent high quality examples of natural communities, and thus are not a comprehensive coverage of all occurrences of a given community type.

For each element (species or community) the Inventory assigns both a Global Rank (GRANK) and a State Rank (SRANK) to indicate the overall rarity of the species or community on a global and statewide basis. A complete listing and explanation of global and state ranks is available in Appendix B, along with an explanation of state and federal listing status for listed species.

For many EOs, the Inventory has developed polygon boundaries representing the true geographic extent of the occurrence. However, these boundaries are still in development and are not available in a comprehensive format for all elements.

A list of the plants, animals, and communities tracked by the Inventory, along with their global and state ranks and federal and state listing status, is updated quarterly and is available from the Inventory website at [www.fnai.org](http://www.fnai.org).



Technical Assistance Provided by:

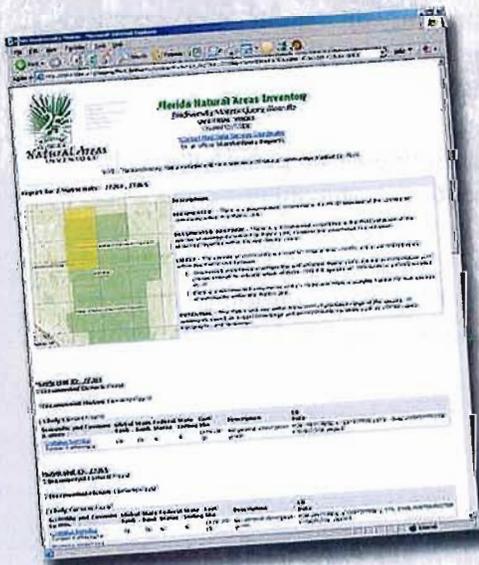


FOR IMMEDIATE RELEASE

## FNAI's Biodiversity Matrix Online



The Biodiversity Matrix Map Server is a new **screening tool** from FNAI that provides **immediate, free access** to rare species occurrence information statewide. This tool allows you to zoom to your site of interest and create a report listing documented, likely, and potential occurrences of rare species and natural communities.



The FNAI Biodiversity Matrix offers **built-in interpretation** of the likelihood of species occurrence for each 1-square-mile Matrix Unit across the state. The report includes a site map and list of species and natural communities by occurrence status: Documented, Documented-Historic, Likely, and Potential.

Try it today:

[www.fnai.org/biointro.cfm](http://www.fnai.org/biointro.cfm)

Please note: FNAI will continue to offer our Standard Data Report service as always. The Standard Data Report offers the most comprehensive information available on rare species, natural communities, conservation lands, and other natural resources.

[www.fnai.org](http://www.fnai.org)

# Administration

1769 E. Moody Blvd Bldg 2  
Bunnell, FL 32110



[www.flaglercounty.org](http://www.flaglercounty.org)

Phone: (386)313-4001

Fax: (386)313-4101

March 23, 2015

Ryan Hedgepeth  
United States Department of Commerce  
Economic Development Administration  
1401 Constitution Avenue NW, Suite 78006  
Washington, DC 20230

Dear Mr. Hedgepeth:

Flagler County is a member of the Gainesville Chamber of Commerce Advanced Manufacturing Council and the cooperative of organizations and manufacturers' group submitting the Northeast Florida Investing in Manufacturing Communities Partnership application. This initiative is dedicated to positioning our resources towards advanced manufacturing to achieve increased prosperity in the region.

The County has developed a close working relationship with area manufacturers, universities, governments, and workforce agencies who are working to shift collective thinking from Florida's tourism and service orientation to a high-tech, high-skill manufacturing mecca that thrives within the state's natural and man-made wonders. North Central and Northeast Florida are committed to continue its drive towards specializing in workforce development, site development, research and innovation, and greater access to capital not only for a more meaningful participation in the global manufacturing environment, but for leading the way towards regeneration of manufacturing.

This application emphasizing the manufacturing cluster of medical equipment and manufacturing, including related information technology, is in alignment with the Flagler County economic development goals and objectives and our Department of Economic Opportunity's, the county's economic development arm, targeted industries.

As a consortium member for this application, Flagler County will pledge to assist with the implementation of the initiatives by providing operating and policy-related support to its Department of Economic Opportunity. It will actively work to attract advanced manufacturing industries within the medical equipment and related manufacturing cluster by providing resources for outreach, attraction, retention and business development.

Thank you very much for your consideration of Flagler County and the region's advanced medical manufacturing capacity for an IMCP designation. We are confident you will determine just how committed we are, and what our manufacturing ecosystem can provide with this designation to Florida, and its trading partners for a bright future.

Please do not hesitate to contact me at (386) 313-4001 should you like to discuss these issues further.

Regards,

Sally A. Sherman  
Deputy County Administrator

# Prime Oceanfront Site Located on Scenic A1A

6645 North Oceanshore Boulevard, Palm Coast, Florida 32137

**\$6,200,000**



---

Land Size                    3.87 Acres

---

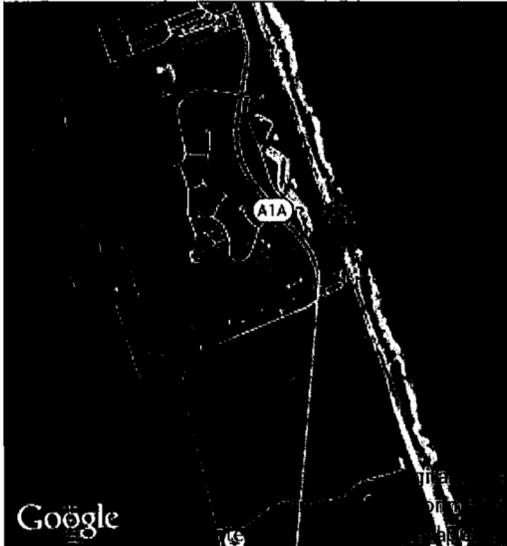
Zoning                        R/C - Res/Com District

---

Prime land located directly on Scenic A1A with preliminary site plan approval for 14 high-end townhomes.

Layout of units designed to include views of both the Intercoastal and Atlantic Ocean with 330' of frontage. Luxury units planned for 1500 SF on ground floor, 1500 SF on second floor with an oversized 2 car garage plus room for "toy" storage.

Seller has just authorized a substantial price reduction, was listed at \$7.2M.



The information contained herein is from sources deemed reliable, but is subject to errors, omissions, and withdrawal without notice.

Powered by TotalCommercial.com