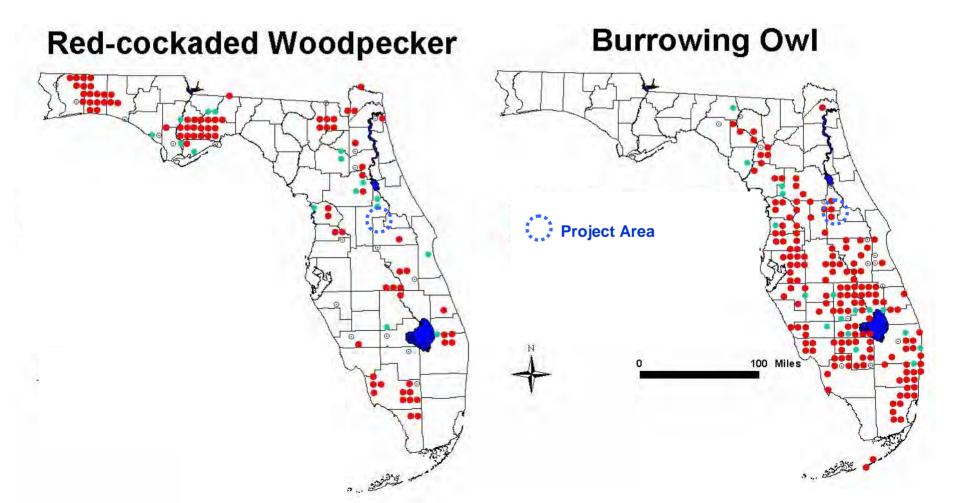
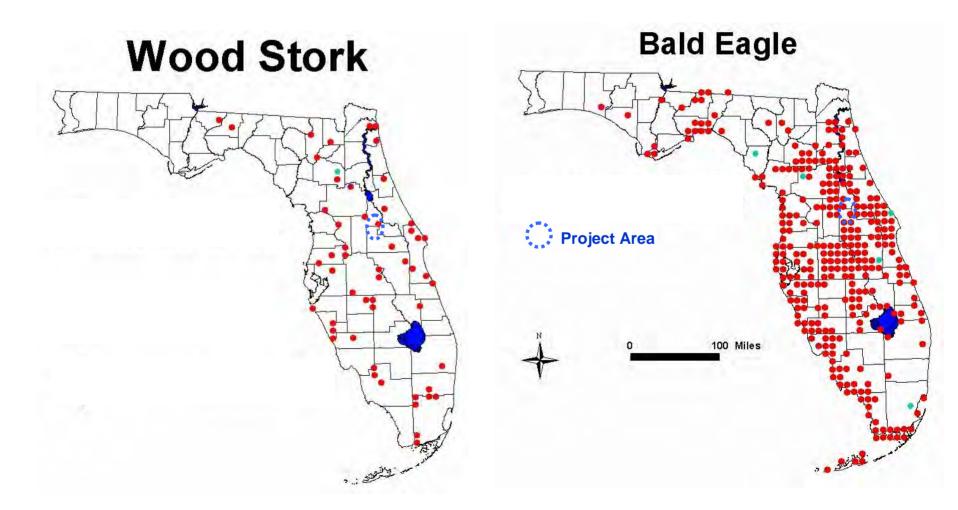


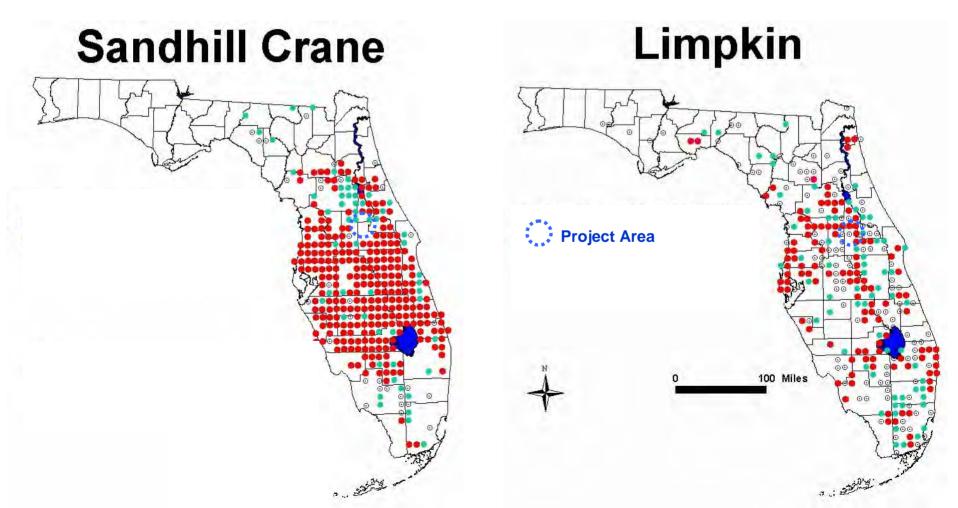
Listed Bird Species Nesting Areas - Florida Breeding Bird Atlas 1991



Listed Bird Species Nesting Areas - Florida Breeding Bird Atlas 1991

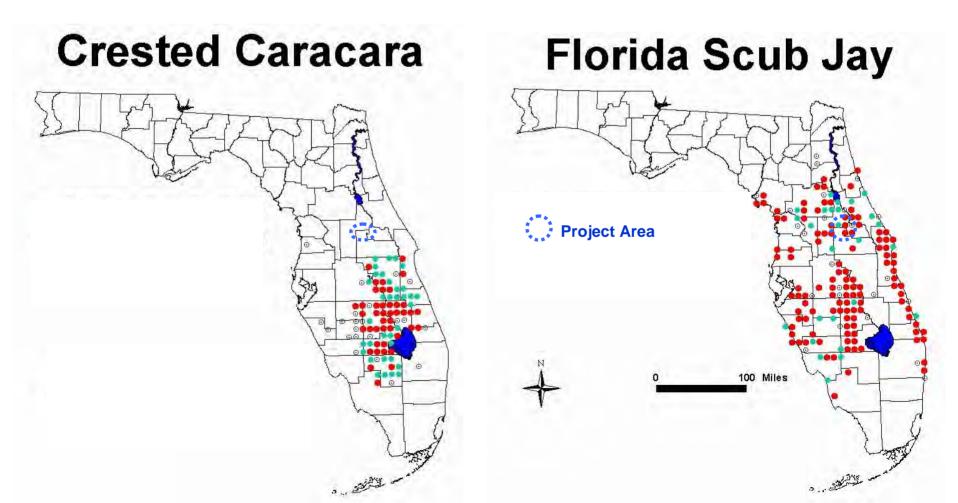


Listed Bird Species Nesting Areas - Florida Breeding Bird Atlas 1991

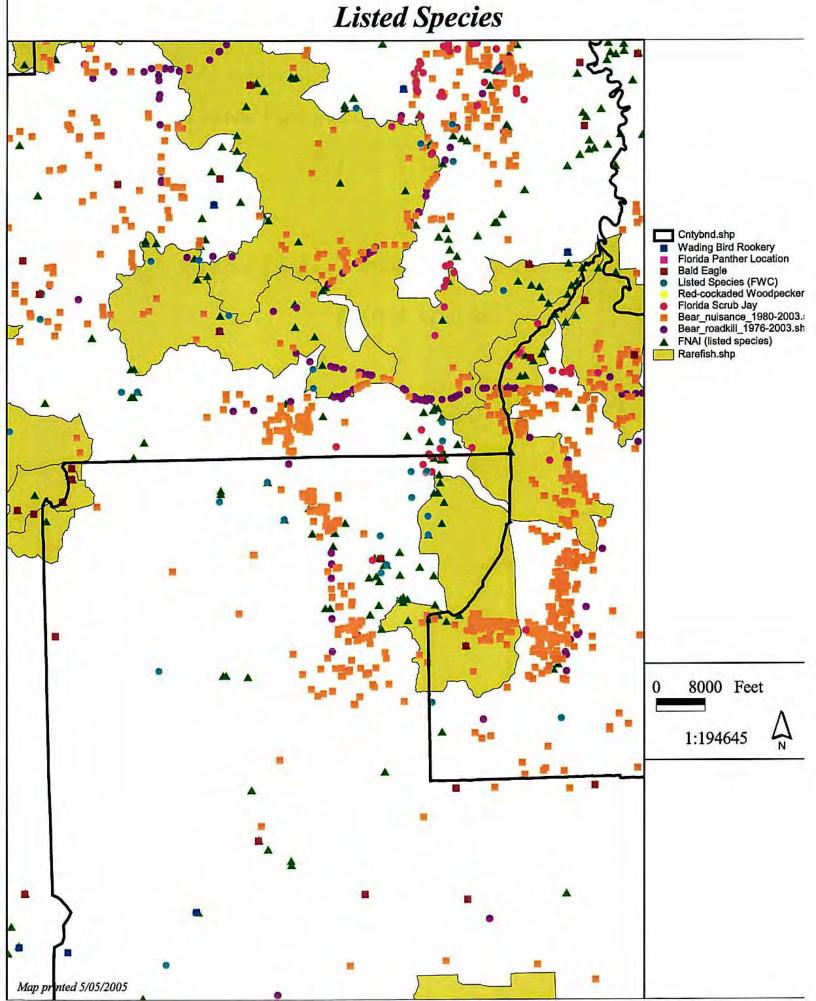


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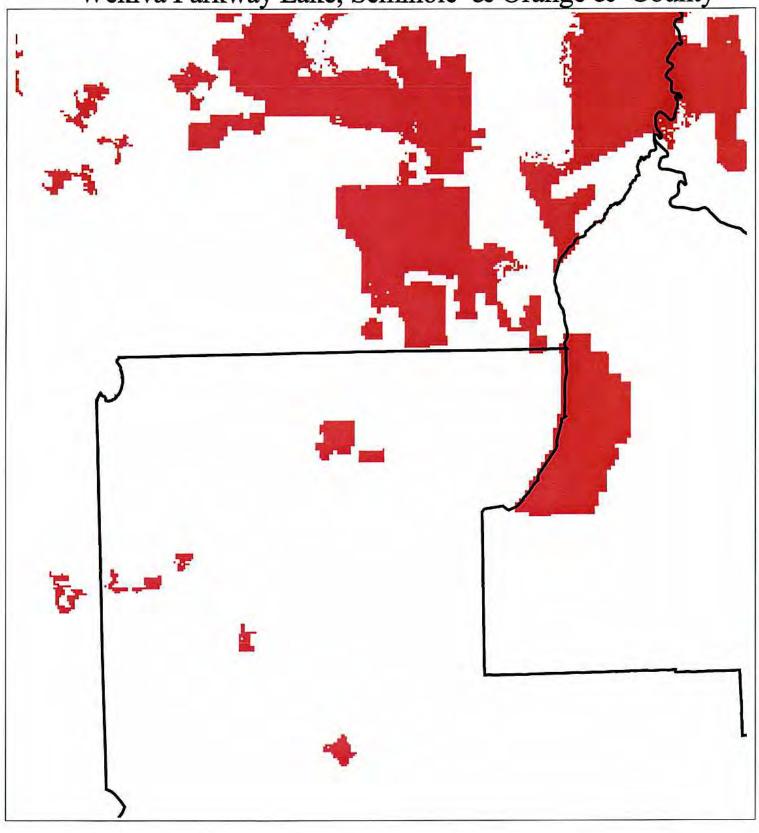
- Florida Breeding Bird Atlas 1991

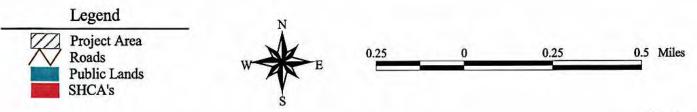


Wekiva Parkway Study Lake, Seminole & Orange

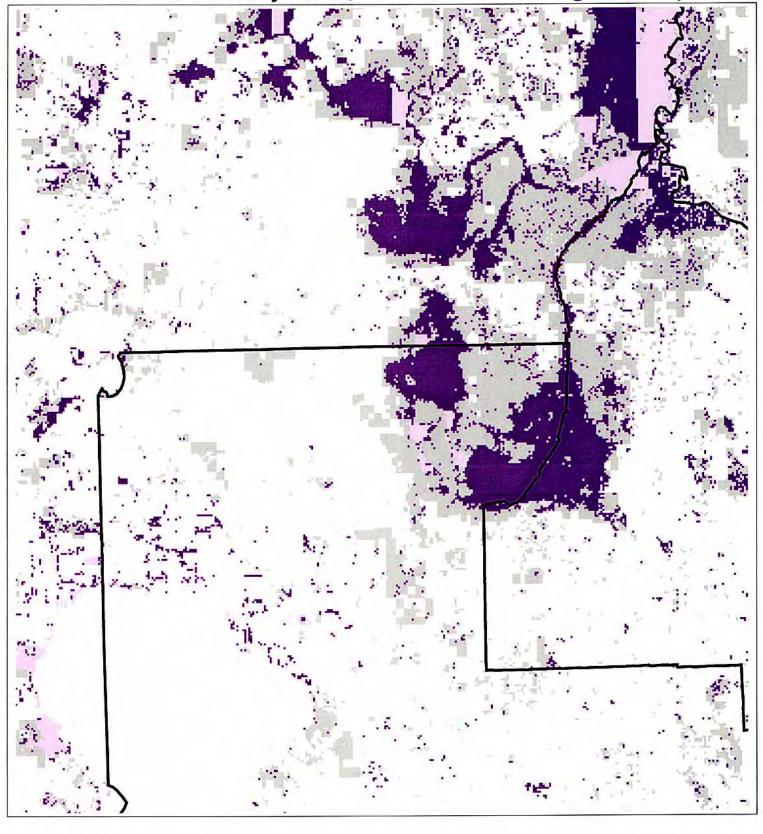


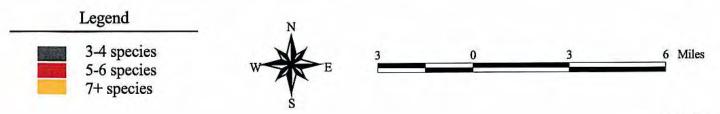
Wekiva Parkway Lake, Seminole & Orange & County



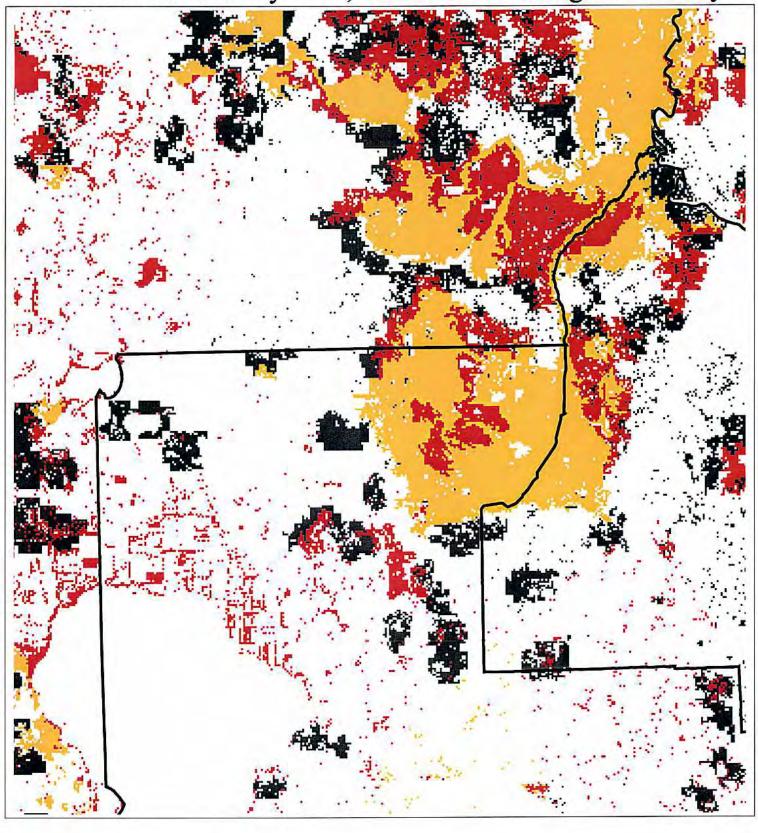


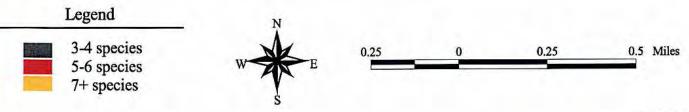
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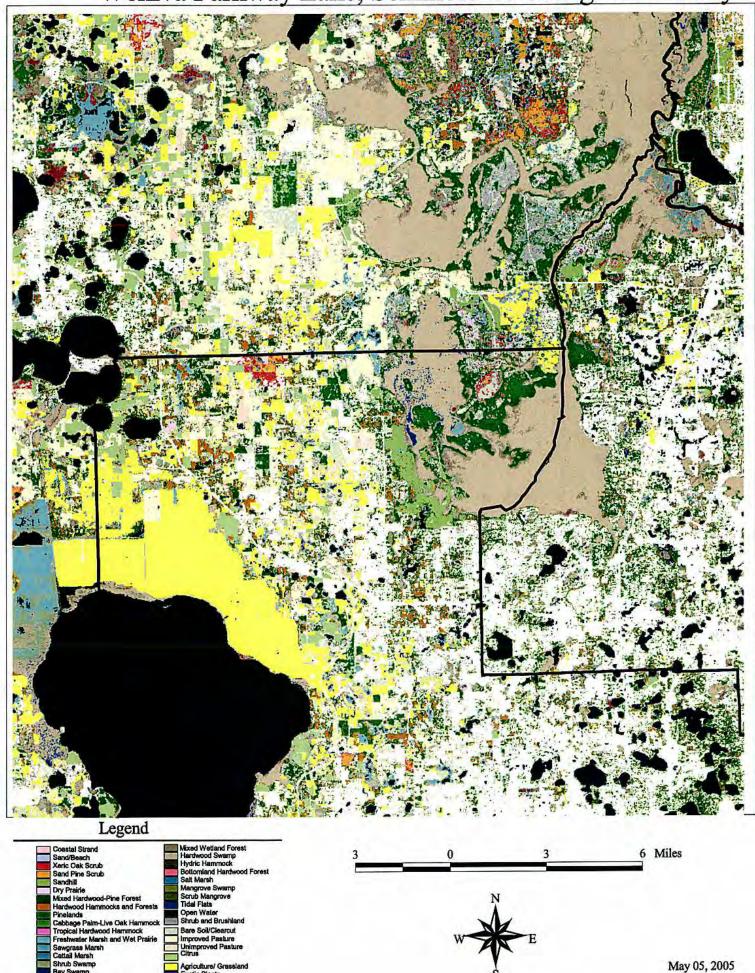


Wekiva Parkway Lake, Seminole & Orange & County





Wekiva Parkway Lake, Seminole & Orange & County



FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION



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(850)488-6661 TDD (850)488-9542
FAX (850)922-5679

May 05, 2005

CH2M Roseanne Prager. 3011 SW Williston Rd Gainsville, Fl 32608

Dear Ms Prager:

This letter is in response to your request for listed species occurrence records and critical habitats for your project (Wekiva Parkway) located in Lake, Orange and Seminole County, Florida. Records from The Florida Fish and Wildlife Conservation Commission's database indicate that listed species occurrence data are located within or adjacent to the project area. Enclosed are 8.5 x 11 maps showing listed species locations, biodiversity hotspots, priority wetlands for listed species, SHCA's, and land cover for the project area.

Please note that our database does not necessarily contain records of all listed species that may occur in a given area. Our data is limited to sites that we surveyed or sites that others have surveyed and provided us with their data. Also, data on certain species, such as gopher tortoises, are not entered into our database on a site-specific basis. Therefore, one should not assume that an absence of occurrences in our database indicates that species of significance do not occur in the area.

The Florida Natural Areas Inventory (FNAI) maintains a separate database of listed plant and wildlife species, please contact FNAI directly for specific information on the location of element occurrences within the project area. Because FNAI is funded to provide information to public agencies only, you may be required to pay a fee for this information. County-wide listed species information can be located at their website (http://www.fnai.org).

Please credit the Florida Fish and Wildlife Conservation Commission in any publication or presentation of these data. If you have any questions or further requests, please contact me at (850) 488-6661 or gisrequests@myfwc.com.

Sincerely, Chastina Millauis

Christina Williams

cw ENV 8-7/8 2005.1123 Enclosures Habitat: Sandhill, scrubby flatwoods, dry upland woods.

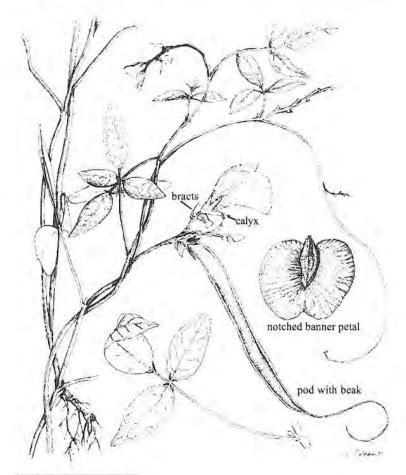
Best Survey Season: Flowers June-October. Each flower lasts one day.

Range-wide Distribution: Endemic to central FL.

Conservation Status: Very few plants have been seen in the last two decades; only 1 population is protected.

Protection & Management: Purchase and protect sandhill and other dry upland habitats. Burn sandhills and flatwoods every 2 - 3 years. Conduct surveys for more plants.

References: Coile 2000, Isely 1990, Small 1933, Wunderlin 1998, Wunderlin and Hansen 2000a.



Florida Natural Areas Inventory, 2000

SAND BUTTERFLY PEA

Centrosema arenicola (Small) F.J. Herm. Synonyms: Bradburya arenicola Small Centrosema floridanum (Britton) Lakela

Family: Fabaceae (pea) FNAI Ranks: G2/S2

Legal Status: US-Mgmt Concern FL-Endangered

Wetland Status: US-UPL FL-UPL



FNAI

Field Description: Perennial vine with stems up to 10 feet long twining over bushes. Leaves with 3 oval or lance-shaped leaflets to 2 inches long, dark green, somewhat leathery. Flowers 1.5 inches wide, purplish-blue (rarely pink or white), twisted so that large, notched banner petal is lowest. Calyx with 4 triangular lobes, the lower lobe forked, the upper lobes much shorter than the lower. Two small bracts beneath the flower partially hide the calyx. Fruit a flattened pod, 4.8 inches long, linear, with a long curving beak.

Similar Species: Common butterfly pea (*Centrosema virginianum*) stems are less than 5 feet long; leaflets are longer (to 2.8 inches), narrow, and linear; lighter green, not leathery; calyx lobes are all narrowly pointed and about the same size.

Related Rare Species: See scrub pigeon-wing (*Clitoria fragrans*) in this guide. Pigeon-wing is an erect herb, not a vine; its flowers are similar to sand butterfly pea flowers, but the banner petal is not notched; pods lack the long beak; and bracts at the base of the flower are tiny, not covering the calvx.

FLORIDA BLACK BEAR Ursus americanus floridanus

by 3.3 - 5.9 in. (84 - 150 mm); rear feet measure 3 in. (76 mm) by 5.5 - 8.7 in. (140 - 221 mm). Sign may include shredded cabbage palm, torn-up logs, and large scratches on trees. Scat (droppings) generally similar to that of dogs, but may vary in consistency and may contain a mix of seeds, hairs, and grasses.

Similar Species: A large, black dog could be mistaken for a black bear, but does not compare in size or foot measurements.

Habitat: A wide variety of forested communities is needed to support the varied seasonal diet of black bears. Forested wetlands are particularly important for diurnal cover. Baygalls (bayheads) are important for cover and dens.

Seasonal Occurrence: Active year-round.

Florida Distribution: Historically ranged across nearly all of Florida. Currently, occurs discontinuously across the state with substantial populations in the Apalachicola to Big Bend area, Baker and Columbia counties, Ocala National Forest region, and Collier to Highlands counties.

Range-wide Distribution: Florida, extreme southern Alabama, and southeastern Georgia.

Conservation Status: Protected on several large areas of public land, including Apalachicola National Forest, St. Marks National Wildlife Refuge, Eglin Air Force Base, Ocala National Forest, Osceola National Forest, Pinhook Swamp Wildlife Management Area, and Big Cypress National Preserve.

Protection and Management: Through purchase or easement, protect additional habitat to support viable populations of bears. Other threats in addition to habitat loss include poaching and collisions with vehicles. Maintain a diversity of habitats over extensive acreage, including dense baygalls that are inaccessible to humans.

Selected References: Brown 1997, Hall 1981, Humphrey (ed.) 1992, Whitaker 1996.

FLORIDA BLACK BEAR

Ursus americanus floridanus

Order: Carnivora Family: Ursidae FNAI Ranks: G5T2/S2 U.S. Status: None

FL Status: Threatened (does not apply to Baker or

Columbia counties or Apalachicola National

Forest)



© Barry Mansell

Description: A large mammal (3 to 3.5 ft. = 2.8 - 3.2 m at the shoulder) with glossy black hair and a brown muzzle. Females average approximately 180 lbs. (82 kg); males average approximately 250 lbs. (113 kg). Individuals in southern Florida may lose their dorsal guard hairs, exposing the woolly brown undercoat. A white chest patch may be present on some individuals. Tail is short and inconspicuous. Ears are round and widely separated. In males, front feet range from 3.5 - 5.5 in. (89 -140 mm)

Seasonal Occurrence: In extreme southern Florida, most adults are resident, but most birds in northern and central Florida migrate north out of state after breeding season (late May - July). Juveniles and younger birds mostly migrate north in summer and may range as far as Canada. Also, in winter, some birds from northern populations migrate to northern Florida.

Florida Distribution: Florida has largest breeding population of any state outside Alaska. Breeds throughout most of peninsular Florida and Keys, mainly along coast in eastern panhandle, and is rare in western panhandle. Greatest concentrations of nesting eagles occur around Lake Kissimmee in Polk and Osceola counties, around Lake George in Putnam, Volusia, and Lake counties, lakes Jessup, Monroe, and Harney in Seminole and Volusia counties, along Gulf coast north of Tampa, and Florida Bay and southwest peninsula area.

Range-wide Distribution: North America. Breeding range extends from Alaska, across Canada, south to Baja California, the Gulf coast and Florida Keys, although very local in the Great Basin and prairie and plains regions in interior U.S., where range has expanded to include Nebraska and Kansas. Non-breeding range is generally throughout breeding range except in far north, most commonly from southern Alaska and southern Canada southward.

Conservation Status: Original population in Florida could be found throughout state and likely numbered well over 1,000 pairs. Population declined sharply after late 1940s, reaching a low of 120 active nests in 1973, and by 1978 was considered rare as a breeder. Use of pesticide DDT and related compounds and development of coastal habitat are probably chief causes of decline. Numbers have steadily increased, especially since 1989. In 1993, 667 active territories were reported, and in 1999, 996 active nests were recorded. Major threats include habitat loss because of development and commercial timber harvest; pollutants and decreasing food supply are also of concern.

Protection and Management: Monitored annually by Fish and Wildlife Conservation Commission (FFWCC). Continue acquisition of breeding territories and protection of foraging and roosting sites. Incorporate information known about buffer zones around nesting areas into state and local development regulations to help mitigate losses as Florida's human population continues to expand. Monitor pesticides and other environmental contaminants that affect reproduction and food supply.

Selected References: FFWCC 2001, Kale (ed.) 1978, Poole and Gill (eds.) 2000, Robertson and Woolfenden 1992, Rodgers et. al. (eds.) 1996, Stevenson and Anderson 1994.

BALD EAGLE Haliaeetus leucocephalus

Order: Falconiformes
Family: Accipitridae
FNAI Ranks: G4/S3
U.S. Status: Threatened

(proposed for delisting in 1999)

FL Status: Threatened

U.S. Migratory Bird Treaty Act and state Wildlife Code



Description: Adult has white head, white tail, and large, bright yellow bill; other plumage is dark. Immatures dark with variable amounts of light splotching on body, wings, and tail; head and bill are dark. In flight wings are broad and wide and held horizontally, presenting a flat profile when soaring and gliding. Flies with slow, powerful wing-beats.

Similar Species: At a distance, in flight, eagle's size and lack of white in wings should help differentiate it from the crested caracara (*Caracara cheriway*; see species account), which also has a white head. Flattened aspect of the eagle's wings is unlike the teetering, V-shaped flight of the turkey vulture (*Cathartes aura*).

Habitat: Most commonly includes areas close to coastal areas, bays, rivers, lakes, or other bodies of water that provide concentrations of food sources, including fish, waterfowl, and wading birds. Usually nests in tall trees (mostly live pines) that provide clear views of surrounding area. In Florida Bay, where there are few predators and few tall emergent trees, eagles nest in crowns of mangroves and even on the ground.

FLORIDA SANDHILL CRANE Grus canadensis pratensis

identified as a crane. This heron lacks the bald, red crown of the sandhill and flies with its neck tucked in, typical of herons and egrets. Whooping crane (G. americana) is white.

Habitat: Prairies, freshwater marshes, and pasture lands. Avoids forests and deep marshes but uses transition zones and edges between these and prairies or pasture lands. Will frequent agricultural areas like feed lots and crop fields, and also golf courses and other open lawns, especially in winter and early spring. Nest is a mound of herbaceous plant material in shallow water or on the ground in marshy areas. Favors wetlands dominated by pickerelweed and maidencane.

Seasonal Occurrence: Nonmigratory. Very sedentary, although may forage widely. Large influx of northern migratory subspecies in winter (October - March).

Florida Distribution: Most of peninsular Florida within appropriate habitat, though not as common south of Lake Okeechobee. Rarely reported west of Taylor County.

Range-wide Distribution: Florida range plus extreme southeastern Georgia (Okefenokee Swamp).

Conservation Status: Population estimate in 1975 of approximately 4,000 birds (25 percent are nonbreeding subadults) is still considered accurate. Habitat availability will become more and more of concern as Florida continues to lose open rangeland and native prairie to development and more intensive agricultural uses (e.g., citrus, row crops). Nesting success in human-altered areas is well below that of native areas. Shallow wetlands used by cranes are easily affected by drainage of adjacent uplands even if they are not directly disturbed. Florida sandhill cranes are found on federal and state lands and on local government lands (e.g., wellfields).

Protection and Management: Because of large home-range requirements, public lands do not protect large populations of cranes. Aquire land, through fee-simple acquisition and conservation easements on suitable ranchlands, in areas that bolster existing protected populations. Periodic fire important to retard invasion of woody vegetation in crane habitat. Filling drainage ditches to restore natural hydrological conditions important in some areas.

Selected References: Poole and Gill (cds.) 1992, Robertson and Woolfenden 1992, Rodgers et al. (eds.) 1996, Stevenson and Anderson 1994, Toland 1999a.

FLORIDA SANDHILL CRANE

Grus canadensis pratensis

Order: Gruiformes
Family: Gruidae
FNAI Ranks: G5T2T3/S2S3

U.S. Status: Endangered (nonmigratory subspecies

in Cuba and Mississippi only)

FL Status: Threatened

U.S. Migratory Bird Treaty Act and state Wildlife Code prohibit take of birds, nests, or eggs.



C Karla Brandt

Description: Atall, long-necked, longlegged bird with a clump of feathers that droops over the rump. Adult is gray overall, with a whitish chin, cheek, and upper throat, and dull red skin on the crown and lores (lacking in immatures); feathers may have brownishred staining resulting from preening with muddy bill. Immature has pale to tawny feathers on head and neck and a gray body with brownishred mottling. Flies with neck extended. Their distinctive rolling call can be heard from far away.

Similar Species: Indistinguishable from greater sandhill crane (*Grus canadensis tabida*), which winters in Florida. Greater sandhill crane generally arrives in Florida in October and leaves in March, so the date observed or definite evidence of reproduction may be used to differentiate the two. Great blue heron (*Ardea herodias*) is sometimes mistakenly

and mangroves. Increasingly nesting in artificial habitats (e.g., impoundments and dredged areas with native or exotic vegetation) in north and central Florida. Forages mainly in shallow water in freshwater marshes, swamps, lagoons, ponds, tidal creeks, flooded pastures and ditches, where they are attracted to falling water levels that concentrate food sources (mainly fish).

Seasonal Occurrence: Post-breeding dispersal carries large numbers from more southern locales to more northern parts of range; in winter, northern birds move south. Annual and long-term use of nesting sites is very dependent on feeding conditions, which may be affected dramatically by altered hydrologic patterns. Colonies may form late November - early March in south Florida and February - March in central and northern Florida.

Florida Distribution: Locally rare to abundant in the peninsula and Big Bend, but generally rare or lacking in panhandle and the Florida Keys. Uncommon to rare in winter in north.

Range-wide Distribution: In U.S., breeds locally in South Carolina, Georgia, and Florida (formerly west to Texas). South, locally in lowlands from Mexico and northern Central America to South America (to western Ecuador, eastern Peru, Bolivia, northern Argentina), and rarely in Cuba and the Dominican Republic. Winters throughout breeding range except in South Carolina and Georgia.

Conservation Status: Many known breeding sites occur within public and private conservation lands. Dramatic decline in the large colonies (>500 individuals) formerly found in south Florida, and trend toward fewer birds distributed among smaller, more numerous colonies in central and northern Florida. Very sensitive to manipulation of water regimes and loss of wetland habitat, which affect both nesting sites and feeding areas.

Protection and Management: Survey colony sites and important feeding areas regularly. Essential to protect wetland areas, closely monitor water quality, and manage hydrologic patterns that consider the needs of the wood stork.

Selected References: Poole and Gill (eds.) 1999, Robertson and Woolfenden 1992, Rodgers et al. (eds.) 1996, Runde et al. 1991, Stevenson and Anderson 1994.

WOOD STORK

Mycteria americana

Order: Ciconiiformes
Family: Ciconiidae
FNAI Ranks: G4/S2
U.S. Status: Endangered
FL Status: Endangered

U.S. Migratory Bird Treaty Act and state Wildlife Code prohibit take of birds, nests, or eggs.







matures Barry Mansell

© Barry Mansell

Description: Very large, white wader with black in wings and a short black tail. Soars with neck and legs extended, displaying its long, broad wings; black flight feathers contrast with white along length of wings. Legs are dark and feet are beige. Adults have bare, scaly, dark-gray heads and necks and long, heavy, decurved bills. Head and neck of immature storks have grayish brown feathering, and their bills are yellowish.

Similar Species: American white pelicans (*Pelecanus erythrorynchos*) have a similar wing pattern and also soar but have short legs, white tail, and do not fly with necks extended. White ibis (*Eudocimus albus*; see species account) is much smaller and only has black on wing tips. Great egret (*Ardea alba*) lacks black on wings.

Habitat: Nests colonially in a variety of inundated forested wetlands, including cypress strands and domes, mixed hardwood swamps, sloughs,

FEDERAL AND STATE LEGAL STATUSES

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 Endangered: species in danger of extinction throughout all or a significant portion of its range.
- LT Threatened: species likely to become Endangered within the foreseeable future throughout all or a significant portion of its range.
- E(S/A) Endangered due to similarity of appearance to a species which is federally listed such that enforcement personnel have difficulty in attempting to differentiate between the listed and unlisted species.
- T(S/A) Threatened due to similarity of appearance (see above).
- PE Proposed for listing as Endangered species.
 PT Proposed for listing as Threatened species.
- C Candidate species for which federal listing agencies have sufficient information on biological vulnerability and threats to support proposing to list the species as Endangered or Threatened.
- XN Non-essential experimental population.
- MC Not currently listed, but of management concern to USFWS.
- N Not currently listed, nor currently being considered for listing as Endangered or Threatened.

FLORIDA LEGAL STATUSES

Animals: Definitions derived from "Florida's Endangered Species and Species of Special Concern, Official Lists" published by Florida Fish and Wildlife Conservation Commission, 1 August 1997, and subsequent updates.

- LE Endangered: species, subspecies, or isolated population so few or depleted in number or so restricted in range that it is in imminent danger of extinction.
- LT Threatened: species, subspecies, or isolated population facing a very high risk of extinction in the future.
- LS Species of Special Concern is a species, subspecies, or isolated population which is facing a moderate risk of extinction in the future.
- PE Proposed for listing as Endangered.
- PT Proposed for listing as Threatened.
- PS Proposed for listing as 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.

- LE Endangered: species of plants native to Florida 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; includes all species determined to be endangered or threatened pursuant to the U.S. Endangered Species Act.
- LT Threatened; 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 number as to cause them to be Endangered.
- PE Proposed for listing as Endangered.
- PT Proposed for listing as Threatened.
- N Not currently listed, nor currently being considered for listing.



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

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 human 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 human 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.
GH	Occurred historically throughout its range, but has not been observed for many years.
GX	Believed to be extinct throughout range.
GXC	Extirpated from the wild but still known from captivity or cultivation.
G#?	Rank uncertain (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 subgroup; T# has same definition as G#.
G#Q	Ranked as species but there is some question as to whether it is a valid species.
G#T#Q	Same as above, but validity as subspecies or variety is questioned.

STATE RANK DEFINITIONS

Global rank unknown; due to lack of information, no rank or range can be assigned.

State ranks (S#) follow the same system and have the same definitions as global ranks, except they apply only to Florida, with the following additions:

SA Accidental in Florida and not part of the established biota.

SE Exotic species established in Florida (may be native elsewhere in North America).

SX Believed to be extirpated from state.

Temporarily not ranked.

GU

G?



Florida Resources and Environmental Analysis Center

Institute for Science and Public Affairs

The Florida State University

FLORIDA NATURAL AREAS INVENTORY Florida Scrub-Jay Survey and Breeding Bird Atlas Data Layers

In addition to our element occurrence database of rare species and natural community locations, the Inventory has additional data layers that have been provided by state and federal agencies.

Florida Scrub-Jay Survey - U.S. Fish and Wildlife Service

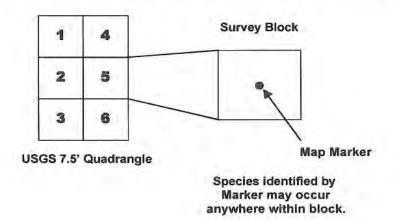
This survey was conducted by staff and associates of the Archbold Biological Station from 1992 to 1996. An attempt was made to record all scrub-jay (*Aphelocoma coerulescens*) groups, although most federal lands were not officially surveyed.

Each map point represents one or more groups.

Florida Breeding Bird Atlas Project - Florida Game and Fresh Water Fish Commission (now Florida Fish and Wildlife Conservation Commission)

This study was conducted from 1986 to 1991, (final report, An Atlas of Florida's Breeding Birds by Kale, Pranty, Stith, and Biggs, Nongame Wildlife Program, Florida Game and Fresh Water Fish Commission). The study divided the state into "blocks", with each block representing one-sixth of a U.S. Geological Survey 7.5 minute topographic quadrangle map. Several categories of breeding activity were recorded by observers.

Each map point is located at the center of a block, and represents species listed as Possible or Probable Breeders within the surrounding block (approximately 10 square miles in area).







Florida Natural Areas Inventory Potential Natural Areas (PNA) Data Layer

POTENTIAL NATURAL AREAS (PNA)

The Potential Natural Areas data layer indicates, throughout the State of Florida, lands that are in private ownership and are not managed or listed for conservation purposes that are possible examples of good quality natural communities. These areas were determined from FNAI's scientific staff vegetative interpretation of 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. 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 (with the exception of internal rank PNA-5) the natural communities identified through aerial photographs must meet the following criteria:

- 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 have been assigned ranks of PNA-1 through PNA-4 mostly based on size and perceived quality and type of natural community present. The areas included in internal rank PNA-5 (former ACI Category C) 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.









ELEMENT OCCURRENCES MAPPED NEAR THE PROJECT SITE

Map Label	Scientific Name	Common Name	Global Rank		Federal Status		Observation Date	Description	EO Comments
DS*20129*0001	DATA SENSITIVE	DATA SENSITIVE	G1	S1	N	N	ZZ		
DS*22749*0003	DATA SENSITIVE	DATA SENSITIVE	G3	S3	N	N	ZZ		
EUDOALBU*0136	Eudocimus albus	White Ibis	G5	\$4	N	LS	1992-03-23	Lake edge.	Dewald observed a group foraging.





ELEMENT OCCURRENCES MAPPED NEAR THE PROJECT SITE

Natura	NIORY		Xalican	San San	поль		Editor Victor		
Map Label	Scientific Name	Common Name	Global Rank		Federal Status		Observation Date	Description	EO Comments
OS*19396*0001	DATA SENSITIVE	DATA SENSITIVE	G1	SNR	N	N	ZZ		
SANDHILL*0026	Sandhill		G3	S2	N	N	1979?	CA. 300 ACRES IN S PORTION OF AREA.	DOMINATED BY PINUS PALUSTRIS & QUERCUS LAEVIS. ALSO QUERCUS INCANA & QUERCUS VIRGINIANA. DOMINANT GROUNDCOVER IS ARISTIDA STRICTA. ALSO SPARKLEBERRY, BEARGRASS, GOPHER-APPLE & SAW PALMETTO.
CROTADAM*0226	Crotalus adamanteus	Eastern Diamondback Rattlesnake	G4	S3	N	N	1992-08-28	Longleaf pine-turkey oak forest, upland hardwood forest, and mesic flatwoods.	1992-08-28: Ca. 3-3.5' long adult observed near office. 1992-04-11; Ca. 4' long adult observed near Main Park Drive. 1992-02-17: Ca. 18" long adult observed near Wekims Road. 1992-02-11: Ca. 4-4.5 long adult observed on Pine Island. 1991-09-23; C.
SCRUFLAT*0029	Scrubby flatwoods		G3	S3	N	N	1979?	À COUPLE PATCHES, LARGEST BETWEEN BLACKWATER CREEK& WEKIVA RIVER.	UNDISTURBED PORTIONS DOMINATED BY PINUS PALUSTRIS, QUERCUS GEMINATA, Q. MYRTIFOLIA, Q. CHAPMANII, BUT MUCH REPLANTED WITH PINUS ELLIOTTII. (UNDINT01) ALSO SAND PINE, RUSTY LYONIA, SAW PALMETTO (U79DRP03).
DS*22757*0015	DATA SENSITIVE	DATA SENSITIVE	G2	S2	N	N	1994-09-14		4,000
SCRUB****0775	Scrub		G2	S2	N	N	1994-06-24	REESE (1994): LOGGED OUT AND LOCALLY OVERGRAZED SCRUB NOW IN EARLY SUCCESSIONAL RECOVERY. NO CLEAR DOMINANTS. pH 4.6 ST. LUCIE SERIES WHITE SAND. EAST OF ROAD IS TOTALLY GRAZED OUT AND DOMINATED BY PHYTOLACCA AMERICANA, SOLANUM AMERICANUM, AND RICHARDIA	
PODOFLOR*0065	Podomys floridanus	Florida Mouse	G3	S3	N	LS	1993-03-09	Scrubby flatwoods.	1993-03-09: Trap mortality, collected by Mar Roberts of UCF, was a female.
GEOLFEAT*0036	Geological feature		GNR	SNR	N	N	ZZ	IN SEMITROPICAL FOREST SETTING AT THE BASE OF A NE SLOPING, GRASSY, OPEN-WOODED HILLSIDE.	THE SPRING POOL IS KIDNEY SHAPED, ABOUT 200 FT. LONG AND 100 FT. WIDE ELONGATE SE. WATER FLOWS NE IN A 60 FT. WIDE RUN. DISCHARGES FROM 5 HORIZONTAL CAVERNS 14.7 FT. BELOW WATER SURFACE AND FROM SURFACE BOILS IN SE HALF OF POOL AND NEAR THE EDGE. SPRINGS







Map Label	Scientific Name	Common Name	Global Rank		Federal Status I		Observation Date	Description	EO Comments
APHAMONA*0001	Aphaostracon monas	Wekiwa Hydrobe	G1	S1	N	N	1980-05-18	SPRGS FORM POOL CA. 120 FT. DIAM. BOTTOM OF POOL & BEGINNING OF SPRG RUN COVERED W/ FINE SAND. SPRG RUN IS CA. 75' WIDE X 3' DEEP. ALGAE ON ROCKS IN POOL. SPRG. RUN HAS THICK VEG. MATS	ELEMENT FOUND IN WEKIVA SPRINGS TO CA. 1 MI BELOW SPRINGS. SNAILS GENERALLY DISTRIBUTED ON SUBMERGED PLANTS, ROCKS, & GRAVEL IN & AROUND THE AREA OF THE SPRINGS; NOWHERE ABUNDANT.
SPRISTRE*0016	Spring-run stream		G2	S2	N	N	ZZ	FLOW IS NE TO ST. JOHNS RIVER. "RIVER SWAMP LINES STREAMS, THEN GRADES INTO HYDRIC HAMMOCK". HOME TO FLORIDA SCRUB JAY, OTTERS & TORTOISES.	SPRG, IS CA 66 M LONG & 33 M WIDE W/ STREAM WIDTH TO 20 M. DISCHARGE FROM 5 HORIZONTAL CAVERNS 5 M
WET FLAT*0011	Wet flatwoods		G4	S4	N	N	1979?	VARIOUS PATCHES THROUGHOUT MOST OF AREA (SEE MAP IN U79DRP03).	ORIGINALLY DOMINATED BY PINUS
BOTTFORE*0033	Bottomland forest		G4	\$3	N	N	1989-12	BOTTOMLAND FOREST ALONG SOLIDER CREEK (CONTAINS SALIX FLORIDANA .007)	1989-12:VÁRIETY OF HARDWOODS TREES ALONG STREAM INCLUDING LIQUIDAMBAR STYRACIFLUA, ACER RUBRUM, QUERCUS NIGRA, MAGNOLIA VIRGINIANA, PERSEA BORBONIA, NYSSA BIFLORA, CARYA AQUATICA, GORDONIA LASIANTHUS, AND TAXODIUM DISTICHUM (U89GLA01FLUS).
PODOFLOR*0062	Podomys floridanus	Florida Mouse	G3	S3	N	LS	1993-07	Sand Pine Scrub/Scrubby Flatwoods, burned in 1989; Soil - Pomello fine sand.	
ALLIMISS*0114	Alligator mississippiensis	American Alligator	G5	S4	T(S/A)	LS	1992-03-15	Stream, spring.	1992-03-15: One adult (ca. 4') and five young (ca. 1-2') observed by Patterson in Witherington Spring. 1991-04-26: One young observed by Prusak.
GEOLFEAT*0037	Geological feature		GNR	SNR	N	N	1972	SPRING IN RELATIVELY PRISTINE ENVIRONMENT.	THIS SPRING HAS A CIRCULAR POOL ABOUT 60 FT. IN DIAMETER AND ABOUT 14 FT. DEEP, INDETERMINATE POINT OF INFLOW, SAND BOILS REPORTED ON BOTTOM.
RANACAPI*0128	Rana capito	Gopher Frog	G3	S3	N	LS	1996-07-12	The frog was found within a low diversity scrub. The scrub itself is found within a large area of mesic flatwoods, scrubby flatwoods, and scattered depression marshes.	Juvenile buried along drift fence, found when r drift fence was removed.
RANACAPI*0143	Rana capito	Gopher Frog	G3	S3	N	LS	1994-08-04	94-08-04: abandoned county road embankment with adjacent habitat of sandhill and sand pine scrub (PNDSMA01).	94-08-04: two adult frogs observed (PNDSMA01).

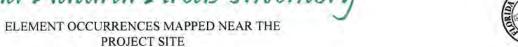




ELEMENT OCCURRENCES MAPPED NEAR THE PROJECT SITE

Map Label	NIORY Scientific Name	Common Name	Global Rank		Federal Status		Observation Date	Description	EO Comments	
DEPRMARS*0120	Depression marsh		G4	S4	N	N	1994-06-21	A LEVEL, EVEN-AGED, SEASONALLY WET PLAIN DOMINATED BY PINUS ELLIOTTII/LYONIA LUCIDA-SERENOA REPENS/ARISTIDA BEYRICHIANA. INCLUDES DEPRESSION MARSHES DOMINATED BY AMPHICARPHUM MUHLENBERGIANUM, PANICUM HEMITOMOM, AND SPARTINA BAKERII. GRADES INTO YOUNG SCR	MUCK SOIL OVER SAND. ASSOCIATED FLORA: DOMINANT: AMPHICARPHUM MUHLENBERGIANUM, PANICUM HEMITOMOM; ABUNDANT: SPARTINA BAKERII (LOCAL); COMMON: HYPERICUM MYRTIFOLIUM, ANDROPOGON GLOMERATUS VAR. GLAUCOPSIS, EUPATORIUM MOHRII, EUTHAMNIA MINOR, CENTELLA ASIAT	
DEPRMARS*0119	Depression marsh		G4	\$4	N	N	1994-06-21	A LEVEL, EVEN-AGED, SEASONALLY WET PLAIN DOMINATED BY PINUS ELLIOTTIII/LYONIA LUCIDA-SERENOA REPENS/ARISTIDA BEYRICHIANA. INCLUDES DEPRESSION MARSHES DOMINATED BY AMPHICARPHUM MUHLENBERGIANUM, PANICUM HEMITOMOM, AND SPARTINA BAKERII GRADES INTO YOUNG SCR	MUCK SOIL OVER SAND. ASSOCIATED FLORA: DOMINANT: AMPHICARPHUM MUHLENBERGIANUM, PANICUM HEMITOMOM; ABUNDANT: SPARTINA BAKERII (LOCAL); COMMON: HYPERICUM MYRTIFOLIUM, ANDROPOGON GLOMERATUS VAR. GLAUCOPSIS, EUPATORIUM MOHRII, EUTHAMNIA MINOR, CENTELLA ASIAT	
DS*22749*0100	DATA SENSITIVE	DATA SENSITIVE	G3	S3	N	N	1974-01	5,0025,000	MINOR SERVICES THOSE	
CINCPOND*0001	Cincinnatia ponderosa	Sanlando Spring Siltsnail	G1	S1	N	N	1962-08-14	CIRCULAR SPRING POOL, CA 30' DIAM, ENCLOSED BY WALL, WY OPENING TO W TO LG POND; POND HAS 2 OUTLETS, FORMING RUNS, WHICH FLOW INTO LITTLE WEKIVA RIVER; POOL, RUN, RIVER HAVE SAND/GRAVEL BOTTOMS	"ABUNDANT IN THE SPRING & LITTLE WEKIVA RIVER TO CA 500 YDS BELOW THE SPRING RUNS." SNAILS MOST ABUNDANT ON VEGETATION, ALSO COMMON ON SAND & GRAVEL. (B68TH001). F. THOMPSON COLLECTED SPECIMENS 1962-08-14 (UF20228).	
DS*22710*0001	DATA SENSITIVE	DATA SENSITIVE	G1G2	S1	N	N	1974-01		5-125/M216-1862-02-11-(G1-20226).	
MYCTAMER*0111	Mycteria americana	Wood Stork	G4	S2	N	LE	1992-03-23	Lake edge.	Dewald observed two adults foraging.	
SCRUB****0467	Scrub		G2	S2	N	N	1979-01-01	No general description given	No EO data given	
SCRUB****0636	Scrub		G2	S2	N	N	ZZ	SAND PINE FOREST, RATHER LOW. FEW SCRUB SPECIES EXCEPT FOR SAND PINE, SCATTERED ROSEMARY AND OAKS. PERSEA VERY RARE. WHITE	No EO data given	
GOPHPOLY*0952	Gopherus polyphemus	Gopher Tortoise	G3	S3	N	LS	1994-09-14	SAND SCRUB. IN ECOTONE BETWEEEN A GROWN-OVER SANDHILL OR XERIC HAMMOCK AND CLEARED, FORMER CITRUS GROVE LANDS.	2 LARGE, ACTIVE BURROWS NOTED IN A RECONNAISSANCE-LEVEL SURVEY.	

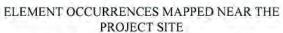






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Map Label	Scientific Name	Common Name	Global Rank		Federal Status		Observation Date	Description	EO Comments
SCRUB****0592	Scrub		G2	S2	N	N	1987-11-04	DENSE SAND PINE/OAK SCRUB; DOMINATED BY SAND PINE OF ALL AGES, WITH SCATTERED OAKS. ROSEMARY IN OPENINGS WITH PALMETTO AND PERSEA OCCURING THROUGHOUT. WHITE SAND.	No EO data given
OS*22749*0109	DATA SENSITIVE	DATA SENSITIVE	G3	S3	N	N	ZZ		
SCRUB****0466	Scrub		G2	S2	N	N	1979-01-01	No general description given	No EO data given
DEPRMARS*0121	Depression marsh		G4	S4	N	N	1994-06-21	A LEVEL, EVEN-AGED, SEASONALLY WET PLAIN DOMINATED BY PINUS ELLIOTTII/LYONIA LUCIDA-SERENOA REPENS/ARISTIDA BEYRICHIANA, INCLUDES DEPRESSION MARSHES DOMINATED BY AMPHICARPHUM MUHLENBERGIANUM, PANICUM HEMITOMOM, AND SPARTINA BAKERII. GRADES INTO YOUNG SCR	MUCK SOIL OVER SAND. ASSOCIATED FLORA: DOMINANT: AMPHICARPHUM MUHLENBERGIANUM, PANICUM HEMITOMOM; ABUNDANT: SPARTINA BAKERII (LOCAL); COMMON: HYPERICUM MYRTIFOLIUM, ANDROPOGON GLOMERATUS VAR. GLAUCOPSIS, EUPATORIUM MOHRII, EUTHAMNIA MINOR. CENTELLA ASIAT
SANDHILL*0165	Sandhill		G3	S2	N	N	1994-08-21	A QUERCUS LAEVIS/ARISTIDA BEYRICHIANA DOMINATED SANDHILL, GRADES INTO XERIC HAMMOCK ON THE EAST, MESIC FLATWOODS AND	YELLOW ASTATULA SERIES SAND. ASSOCIATED FLORA: DOMINANT:
CINCVANH*0001	Cincinnatia vanhyningi	Seminole Spring Siltsmall	G1	S1	N	N	1963-11-29	SPRINGS (HEADWATERS OF SEMINOLE CRK) ARE IN 2 DEEP RAVINES. EMERGE FROM CAVERNS AT BASE OF STEEP BANKS, FORM SMALL POOLS. RUN ALSO FED BY SMALL BOILS. BOTTOM GRAVEL SAND, VEGETATION.	VEGETATION IN SPRING RUN & POOLS (B68TH001). 1963-11-29: COLLECTION B' F. THOMPSON FROM SPRING NO. 2.
CINCWEKI*0001	Cincinnatia wekiwae	Wekiwa Siltsnail	G1	S1	N	N	1980-05-18	KIDNEY-SHAPED SPRING POOL(200' X 100') W/ 2-3' RETAINING WALL;60' WIDE,3 DEEP,RUN FLOWING NW: DISCHARGE FROM 5 CAVERNS BELOW SURFACE;SAND BOTTOM;POOL HAS PLANT CLUMPS; MATS IN RUN.	ABUNDANT ON AQUATIC VEGETATION, I'VERY SCARCE ON SAND BOTTOM, IN SPRING POOL & RUN FOR SHORT DISTANCE BENEATH POOL (B68TH001). ON ALGAE ON WALL & TO LESSER EXTENT ONALGAE & PLANTS (UNDTH001). TYPE: UMMZ 216503,1963-08-22; PARATYPES: UMMZ 216504(150), *







INVE	NIORY		Global	State	Federal	State	Observation		
Map Label	Scientific Name	Common Name	Rank		Status		Date	Description	EO Comments
ARAMGUAR*0003	Aramus guarauna	Limpkin	G5	\$3	N	LS	1992-03-24	FLOODPLAIN SWAMP ALONG BLACKWATER STREAM AND SPRING-RUN-STREAM (EO #016).	1992: DEWALD OBSERVED 4 YOUNG WITH SOME ADULT FEATHERS AND 1 ADULT, FORAGING 0.25 MILES NE OF WEKIVA RIVER. 1983: ADULT WITH SMALL YOUNG OBSERVED ALONG ROCK SPRINGS RUN; OTHER OCCASIONAL OBSERVATIONS.
STILEXTE*0038	Stilosoma extenuatum	Short-tailed Snake	G3	S3	N	LT	1996-07-06	SANDHILLS, SCRUB AND LONGLEAF PINE-TURKEY OAK FOREST WITH DISTURBANCE (YOUTH CAMP).	1996-07-06: 12" SPECIMEN FOUND BY BRUCE CONNERY ON MAIN PARK DRIVE SEPARATING RUDERAL SANDHILL AND HAMMOCK. SPECIMEN LACKED REDDISH INTERSPACES BETWEEN DARK DORSAL BLOTCHES. 1996-03-27: PETE ESPINOZA FOUND ONE IN HANDS OF PARK VISITOR AT THE GATE TO THE
APHECOER*0413	Aphelocoma coerulescens	Florida Scrub-jay	G3	S2	LT	LT	ZZ	SAND PINE FOREST, RATHER LOW. FEV SCRUB SPECIES EXCEPT FOR SAND PINE, SCATTERED ROSEMARY AND OAKS. PERSEA VERY RARE. WHITE SAND SCRUB.	/ No EO data given
GOPHPOLY*1067	Gopherus polyphemus	Gopher Tortoise	G3	S3	N	LS	1987-09-25	Scrub	1987-09-25: S.P. Christman, MNH, observation.
SALIFLOR*0007	Salix floridana	Florida Willow	G2	S2	N	LE	1997-10	BOTTOMLAND FOREST (EONUM .033) ALONG SOLDIER CREEK	OCCURRENCE ON SITE
DS*18283*0007	DATA SENSITIVE	DATA SENSITIVE	G2	S2	N	LE	1988		
DS*18283*0005	DATA SENSITIVE	DATA SENSITIVE	G2	S2	N	LE	1988		
DS*18283*0006	DATA SENSITIVE	DATA SENSITIVE	G2	\$2	N	LE	1988		
STYLABDI*0024	Stylisma abdita	Scrub Stylisma	G3	S3	N	LE	1964-04-18	SANDY, TURKEY OAK WOODS.	INFREQUENT IN 1964-04-18.
ILLIPARV*0010	Illicium parviflorum	Star Anise	G2	S2	N	LE	1986	FLOODPLAIN; POND ASH.	LARGE, WELL-ESTABLISHED POPULATION.
DS*18283*0008	DATA SENSITIVE	DATA SENSITIVE	G2	S2	N	LE	1988		
DS*22710*0002	DATA SENSITIVE	DATA SENSITIVE	G1G2	S1	N	N	ZZ		





ELEMENT OCCURRENCES MAPPED NEAR THE PROJECT SITE

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ATHEFLOR*0067	Athene cunicularia floridana	Florida Burrowing Owl	G4T3	S3	N	LS	1989-10-02	Improved pasture, or sod farm	1989-10-02: 3 occupied burrows reported by Dori Butler (407-629-5613 or 904-735-2574) to J.A. Hovis, GFC. Not verified.
SCRUB****0235	Scrub		G2	S2	N	N	1981-03-31	OAK SCRUB, PALMETTO SCRUB, SAND PINE SCRUB.	OCCURRENCES AT SITE.
ALILEUC*0523	Haliaeetus leucocephalus	Bald Eagle	G4	S3	N	LT	1995	No general description given	NEST; 1995: ACTIVE, PRODUCED 0 YOUNG; 1994: ACTIVE, PRODUCED 0 YOUNG; 1993-1991: INACTIVE; 1990-1987: ACTIVE, PRODUCED 0 YOUNG. 1 individual with nest.
SCIUSHER*0093	Sciurus niger shermani	Sherman's Fox Squirrel	G5T3	S3	N	LS	1994-03-30	Slash pine plantation - 30 years old, formerly flatwoods site, hardwood encroachment to a great degree.	
DS*21157*0011	DATA SENSITIVE	DATA SENSITIVE	G3T1	S1	LE	LE	1970-04		
SCIUSHER*0007	Sciurus niger shermani	Sherman's Fox Squirrel	G5T3	\$3	N	LS	1992-09-19	SÁNDHILL.	NO POP. ESTIMATE, BUT FAIRLY COMMON IN THE S. AND W. PART OF PARK. 1992-09-19: ADULT DOR, MAIN PARK DRIVE, 1992-04-18: ADULT OBSERVED AT LIVE OAK CAMP. 1992-04-05: YOUNG, CA. 6", OBSERVED CROSSING PARK DRIVE. 1991-12-28: ADULT MALE, DOR, MAIN PARK DRIVE.
APHECOER*0144	Aphelocoma coerulescens	Florida Scrub-jay	G3	S2	LT	LT	1981-10-03	PASTURE WITH A FEW SCRUB OAKS AND SAND PINES	1981-10-03: 1-2 SCRUB JAYS
SCIUSHER*0025	Sciurus niger shermani	Sherman's Fox Squirrel	G5T3	S3	N	LS	1986-	FLATWOODS	SQUIRRELS SCARCE BUT STILL PRESENT LATE 1986, ACCORD- ING TO MORGAN RICHARDSON, GFC BIOLOGIST BY WAY OF TIMO MEARA.
GOPHPOLY*0449	Gopherus polyphemus	Gopher Tortoise	G3	S3	N	LS	1987-09-25	1-3 M OAK SCRUB; SCATTERED SLASH PINE, BURNED 1981.	No EO data given
SCRUB****0154	Scrub		G2	S2	N	N	1981-03-31	MIXED OAK SCRUB, PALMETTO SCRUB, AND SAND PINE SCRUB	OCCURRENCE AT SITE
PHECOER*0145	Aphelocoma coerulescens	Florida Scrub-jay	G3	S2	LT	LT	1981-03-31	MIXED OAK, PALMETTO, AND SAND PINE SCRUB	1981-03-31: 2 SCRUB JAYS
BAYGALL**0005	Baygall		G4	\$4	N	N	1979?	SEVERAL IN FLATWOODS (SMALL).	DOMINATED BY GORDONIA LASIANTHUS & MAGNOLIA VIRGINIANA.







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APHECOER*0143	Aphelocoma coerulescens	Florida Scrub-jay	G3	S2	LT	LT	1981-03-31	OAK SCRUB	1981-03-31: 2 SCRUB JAYS
BUTEBRAC*0044	Buteo brachyurus	Short-tailed Hawk	G4G5	S1	N	N	1981-07-18	No general description given	1981-07-18: 1 dark phase bird. Reference: American Birds 35(6) 932-934.
AMEIBRUN*0006	Ameiurus brunneus	Snail Bullhead	G4	S3	N	N	1976-02-20	No general description given	BURGESS ET AL. COLLECTED ONE ON 20 FEB 1976 (FSM 22937).
GRUSPRAT*0019	Grus canadensis pratensis	Florida Sandhill Crane	G5T2T	S2S3	N	ĻT	1979	No general description given	CA. 2-3 PAIRS IN 1979, MAYBE MORE N. AND E. OF HERE.
GOPHPOLY*0515	Gopherus polyphemus	Gopher Tortoise	G3	S3	N	LS	1994-04-01	1994 (S2 OF SECTION, W OF HWY.): PINUS PALUSTRIS/ARISTIDA BEYRICHIANA SANDHILL. 1987 (CENTER OF SECTION): DENSE SAND PINE/OAK SCRUB; DOMINATED BY SAND PINE OF ALL AGES, WITH SCATTERED OAKS. ROSEMARY IN OPENINGS WITH PALMETTO AND PERSEA OCCURING THROUGHOU	No EO data given
APHECOER*0240	Aphelocoma coerulescens	Florida Scrub-jay	G3	S2	LT	LT	1987-09-25	1-3 M OAK SCRUB, SCATTERED SLASH PINES, BURNED 1981.	1981-08-14: 1 ADULT, 2 JUVENILE SCRUE JAYS.
SCELWOOD*0149	Sceloporus woodi	Florida Scrub Lizard	G3	\$3	N	N	1987-09-25	1-3 M OAK SCRUB; SCATTERED SLASH PINE, BURNED 1981.	No EO data given
DRYMCOUP*0392	Drymarchon couperi	Eastern Indigo Snake	G3	S3	LŢ	ĻT	1993-01-12	SCRUB.	1993-01-12: ONE ADULT OBSERVED; 1993-01-11: ONE ADULT, 4.5 FT., OBSERVED; 1992-12-18: ONE ADULT, CA 3.5 FT. OBSERVED IN PORCH, DOCILE WHEN MOVED OUTSIDE; 1992-09-14: YOUNG, CA. 20", DOR; 1992-08-29: ADULT, CA. 3 FT., OBSERVED; 1992-03-30: TWO ADULTS OBS
SCRUFLAT*0139	Scrubby flatwoods		G3	S3	N	N	1994-06-21	A LEVEL, EVEN-AGED, SEASONALLY WET PLAIN DOMINATED BY PINUS ELLIOTTII/LYONIA LUCIDA-SERENOA REPENS/ARISTIDA BEYRICHIANA. INCLUDES DEPRESSION MARSHES DOMINATED BY AMPHICARPHUM MUHLENBERGIANUM, PANICUM HEMITOMOM, AND SPARTINA BAKERII.	ASSOCIATED FLORA: DOMINANT: LICANIA MICHAUXII; ABUNDANT: ARISTIDA BEYRICHIANA, QUERCUS CHAPMANNII, QUERCUS MYRTIFOLIA (LOCAL); COMMON: SERENOA REPENS, PINUS PALUSTRIS, PTEROCAULON PYCNOSTACHYUM, LYONIA LUCIDA, GALACTIA REGULARIS,
SANDHILL*0028	Sandhill		G3	S2	N	N	1984-	GRADES INTO YOUNG SCR SANDHILLS ON HIGH GROUND IN S. AND W. PORTION OF PARK (E.G. N. OF PREVATT LAKE)	LONGLEAF PINE, TURKEY OAK, WIREGRASS
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Natural Areas

Map Label	Scientific Name	Common Name	Global Rank		Federal Status		Observation Date	Description	EO Comments
WET FLAT*0013	Wet flatwoods		G4	S4	N	N	1984-	BELOW MESIC FLATWOODS, ABOVE HYDRIC HAMMOCK	MOSTLY POND PINE, SOME LOBLOLLY PINE; FETTERBUSH, GRASSES
HYDRHAMM*0009	Hydric hammock		G4	S4	N	N	1984-	SURROUNDING WITHERINGTON SPRING	WATER OAK, LAUREL OAK, CABBAE PALM, NEEDLE PALM, SWEETBAY, SWAMP ASH, MIXED HARDWOODS.
HALILEUC*0829	Haliaeetus leucocephalus	Bald Eagle	G4	S3	N	LT	1995	No general description given	Nest; 1995: Produced 1 young; 1994: Produced 1 young; 1993: Produced 2 young 1992: Produced 1 young; 1991: Gone.
JRSUFLOR*0039	Ursus americanus floridanus	Florida Black Bear	G5T2	S2	N	LŢ*	1986-	IN BOTTOMLANDS: HYDRIC HAMMOCK & FLOODPLAIN SWAMP.	
ALILEUC*0692	Haliaeetus leucocephalus	Bald Eagle	G4	S3	N	LT	1995	No general description given	NEST; 1995: PRODUCED 1 YOUNG; 1994: PRODUCED 2 YOUNG; 1993: USED BY OTHER ANIMAL; 1992: ACTIVE BUT PRODUCED 0 YOUNG; 1991: PRODUCED 1 YOUNG; 1990: PRODUCED 2 YOUNG; 1989: PRODUCED 2 YOUNG.
THEFLOR*0100	Athene cunicularia floridana	Florida Burrowing Owl	G4T3	S3	N	LS	1995-05-24	Improved pasture - bahia grass heavily grazed by cattle; scattered oaks and persimmon.	05-24-1995: 11 individuals observed from one area, 2 pairs observed with juvenile birds; cattle lease owner says there are 10 pairs of owls at the site (U95SMA01).
EOSREYN*0106	Neoseps reynoldsi	Sand Skink	G2	S2	LT	LT	ZZ	No general description given	SPEC. (CARN. MNH-16854), COLLECTOR N/A, DATE N/A.
CIUSHER*0004	Sciurus niger shermani	Sherman's Fox Squirrel	G5T3	S3	N	LS	1983?	IN SANDHILLS.	REGULARLY OBSERVED, BUT NO POP. ESTIMATE.
LOOSWAM*0023	Floodplain swamp		G4	S4	N	N	1984-	ALONG ROCK SPRINGS RUN, BELOW HYDRIC HAMMOCK, AND ALONG WEKIVA RIVER	TUPELO, RED MAPLE, SWAMP ASH, SWEETGUM, CYPRESS, ETC.
SOPHPOLY*0106	Gopherus polyphemus	Gopher Tortoise	G3	S3	N	LS	1993-08-02	SANDHILL AND SCRUB.	NO POP. ESTIMATE, BUT EXTREMELY COMMON (PNDDOD01FL). 1993-08-02: ADULT DOR; 1993-07-19: ADULT DOR; 1993-07-15: ADULT DOR; 1993-06-08: YOUNG DOR; 1993-04-14: 6" ADULT [ACTIVITY UNKNOWN]; 1992-11-10: ADUL SEVERELY BURNED BY WILDFIRE; 1992-08-27: YOUNG DOR
GOPHPOLY*0090	Gopherus polyphemus	Gopher Tortoise	G3	S3	N	LS	1983?	PARTICULARLY IN SANDHILLS.	REGULARLY OBSERVED, BUT NO POP. ESTIMATE.





ELEMENT OCCURRENCES MAPPED NEAR THE PROJECT SITE

Map Label	Scientific Name	Common Name	Global Rank		Federal Status I		Observation Date	Description	EO Comments
MESIFLAT*0208	Mesic flatwoods		G4	\$4	N	N	1994-06-21	A LEVEL, EVEN-AGED, SEASONALLY WET PLAIN DOMINATED BY PINUS ELLIOTTII/LYONIA LUCIDA-SERENOA REPENS/ARISTIDA BEYRICHIANA. INCLUDES DEPRESSION MARSHES DOMINATED BY AMPHICARPHUM MUHLENBERGIANUM, PANICUM HEMITOMOM, AND SPARTINA BAKERII. GRADES INTO YOUNG SCR	PINUS ELLIOTTII <=14" DBH. ASSOCIATED FLORA: DOMINANT: PINUS ELLIOTTII, LYONIA LUCIDA, SERENOA REPENS, ARISTIDA BEYRICHIANA; COMMON: PINUS SEROTINA, PTERIDIUM AQUILINUM, LICANIA MICHAUXII.
APHECOER*0235	Aphelocoma coerulescens	Florida Scrub-jay	G3	S2	LT	LT	1981-03-31	SCRUB; OAK SCRUB, PALMETTO SCRUB SAND PINE SCRUB.	1981-03-31: 12 SCRUB JAYS.
MESIFLAT*0024	Mesic flatwoods		G4	S4	N	N	1984-	BELOW SANDHILLS, ABOVE WET FLATWOODS & HYDRIC HAMMOCK	MOSTLY SLASH PINE SAW PALMETTO, FETTERBUSH; SOME LONG-LEAF PINE ON HIGHER AREAS NEAR SANDHILLS.
SCRUB****0240	Scrub		G2	S2	N	N	1987-09-25	1-3 M OAK SCRUB, SCATTERED SLASH PINES, BURNED 1981. "PERHAPS REALL" SANDHILL INVADED BY OAKS— P84DOD01).	1-3 M SCRUB OAKS; SCATTERED SLASH PINES, BURNED 1981. (PERHAPS REALLY SANDHILL INVADED BY OAKS-P84DOD01).
ATHEFLOR*0076	Athene cunicularia floridana	Florida Burrowing Owl	G4T3	S3	N	LS	1989-01-28	Abandoned citrus grove	1989-01-28: J.A. Hovis, GFC - 1 pair and 1 male observed.
PTERECRI*0031	Pteroglossaspis ecristata	Giant Orchid	G2	S2	N	LT	2000-08-23	2000-08-23: DEEP SANDY SOILS UNDER A PARTIALLY OPEN CANOPY OF PINUS PALUSTRIS; UNDERSTORY KEPT RELATIVELY OPEN BY PRESCRIBED BURNING; WOODY VEGETATION IS SPARSE AND LOW-GROWING; SHRUB LAYER INCLUDES SERENOA REPENS, LICANIA MICHAUXII, AND QUERCUS MINIMA:	2000-08-23: 10 PLANTS, 9 IN FLOWER, IN A 2,660 SQUARE METERS, WITH GOOD VIGOR (PNDSCH05FLUS), 1976-08-17: Few in an open low area; specimen taken [plant & scape w/ flowers] (S76BALUFFLUS)
SCRUB****0152	Scrub		G2	S2	N	N	1994-06-24	COX (1981): OAK SCRUB, SOME SAND PINES. REESE (1994): A MOSAIC OF QUERCUS VIRGINIANA-Q. MYRTIFOLIA/SMILAX AURICULATA-VITIS ROTUNDIFOLIA VAR. MUNSONIANA/MOSS (LOCAL)-TILANDSIA USNEOIDES XERIC HAMMOCK AND PINUS CLAUSA-QUERCUS VIRGINIANA/QUERCUS CHAPMANII-L	XERIC HAMMOCK. ASSOCIATED FLORA:
GOPHPOLY*0555	Gopherus polyphemus	Gopher Tortoise	G3	\$3	N	LS	ZZ	SAND PINE FOREST, RATHER LOW. FEW SCRUB SPECIES EXCEPT FOR SAND PINE, SCATTERED ROSEMARY AND OAKS, PERSEA VERY RARE, WHITE SAND SCRUB.	No EO data given





ELEMENT OCCURRENCES MAPPED NEAR THE PROJECT SITE

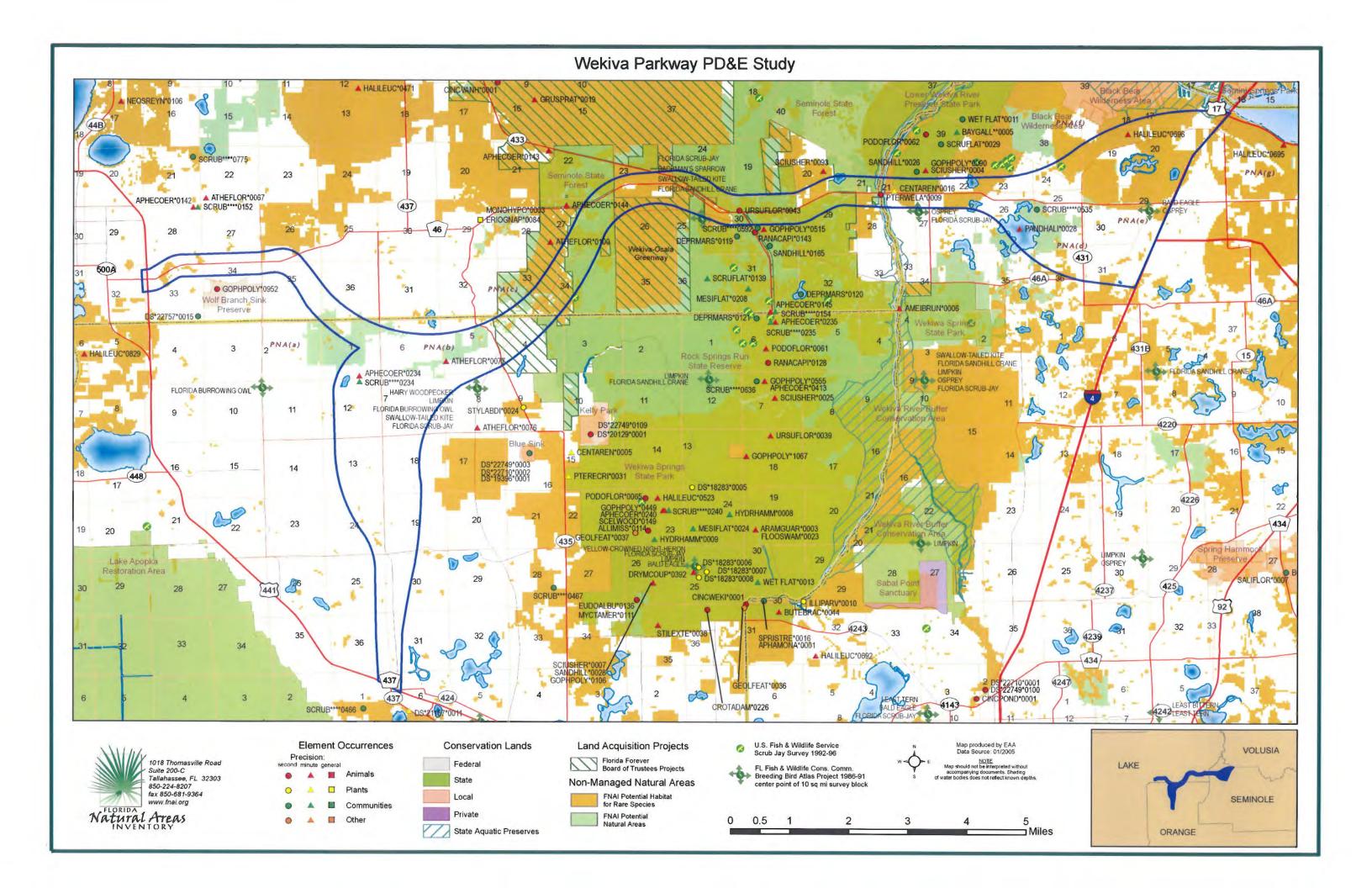
Map Label	NIORY Scientific Name	Common Name	Global Rank		Federal Status		Observation Date	Description	EO Comments
MONOHYPO*0003	Monotropa hypopithys	Pinesap	G5	S1	N	LE	1979-12-11	Upland Forest.	Specimen was observed flowering.
ERIOGNAP*0084	Eriogonum longifolium var. gnaphalifolium	Scrub Buckwheat	G4T3	\$3	LT	LE	1988-08-07	N/A	1988-08-07: Specimen taken [fl& fr] (Daubenmire and Daubenmire). 1981-07-09: Specimen taken [fl& fr] (Daubenmire and Daubenmire).
HALILEUC*0695	Haliaeetus leucocephalus	Bald Eagle	G4	S3	N	LT	1995	No general description given	NEST; 1995: PRODUCED 1 YOUNG; 1994: PRODUCED 2 YOUNG; 1993: PRODUCED 1 YOUNG; 1992: PRODUCED 1 YOUNG; 1991: PRODUCED 2 YOUNG; 1990: ACTIVE BUT PRODUCED 0 YOUNG; 1989: PRODUCED 2 YOUNG.
HALILEUC*0471	Haliaeetus leucocephalus	Bald Eagle	G4	S3	N	LT	1995	No general description given	NEST; 1995: PRODUCED 2 YOUNG; 1994: PRODUCED 2 YOUNG; 1993: ACTIVE, PRODUCED 0 YOUNG; 1992: PRODUCED 1 YOUNG; 1991: ACTIVE, PRODUCED 0 YOUNG; 1990; PRODUCED 2 YOUNG; 1989: ACTIVE, PRODUCED 0 YOUNG; 1988: PRODUCED 2 YOUNG; 1988: PRODUCED 1 YOUNG; 1986: PR
HYDRHAMM*0008	Hydric hammock		G4	\$4	N	N	1984-	ALONG THE LENGTH OF ROCK SPRINGS RUN, ABOVE FLOODPLAIN SWAMP	S WATER OAK, LAUREL OAK, CABBAGE PALM, NEEDLE PALM, SWEET BAY, SWAMP ASH, MIXED HARDWOODS.
CENTAREN*0005	Centrosema arenicola	Sand Butterfly Pea	G2Q	S2	N	LE	1976-10-10	OPEN PINE WOODS.	COLL. BY BALTZELL (8791) 10 OCT. 1976 (FLAS); FLRS: LIGHT PURPLE, SEVERAL PLANTS.
PODOFLOR*0061	Podomys floridanus	Florida Mouse	G3	S3	N	LS	1994-01-26	Clump of saw palmettos in Scrubby Flatwoods.	Mouse seen at close range (5 ft.) during prescribed burn.
APHECOER*0142	Aphelocoma coerulescens	Florida Scrub-jay	G3	S2	ហ	LT	1981-06-12	COX (1981): 2-3 M OAK SCRUB, SOME SAND PINES. REESE (1994): A MOSAIC OF QUERCUS VIRGINIANA-Q. MYRTIFOLIA/SMILAX AURICULATA-VITIS ROTUNDIFOLIA VAR. MUNSONIANA/MOSS (LOCAL)-TILLANDSIA USNEOIDES XERIC HAMMOCK AND PINUS CLAUSA-QUERCUS VIRGINIANA/QUERCUS CHAP	







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Map Label	Scientific Name	Common Name	Global Rank		-, -, -, -, -, -,	Listing	Date	Description	EO Comments
CENTAREN*0016	Centrosema arenicola	Sand Butterfly Pea	G2Q	S2	N	LE	1961-08-19	BUSHES ALONG ROADSIDE	COLL. BY MOORE (S.N.) 19 AUG. 1961 (FLAS). FLRS. BLUE, FREQUENT, CLIMBING ON BUSHES.
APHECOER*0234	Aphelocoma coerulescens	Florida Scrub-jay	G3	S2	LT	LT	1981-08-14	3-4 M OAK SCRUB, SCATTERED 10-12 M SAND PINES, SOME CLEARED FOR HOUSES.	1981-08-14: 4 ADULT, 2 JUVENILE SCRUB JAYS.
HALILEUC*0696	Haliaeetus leucocephalus	Bald Eagle	G4	S3	N	LT	1995	No general description given	NEST; 1995: PRODUCED 3 YOUNG; 1994: PRODUCED 3 YOUNG; 1993: PRODUCED 3 YOUNG; 1992: PRODUCED 1 YOUNG; 1991: PRODUCED 1 YOUNG; 1990: PRODUCED 2 YOUNG.
SCRUB****0234	Scrub		G2	S2	N	N	1981-08-14	3-4 M OAK SCRUB, SCATTERED 10-12 M SAND PINES, SOME CLEARED FOR HOUSES.	3-4 M SCRUB OAKS, SCATTERED 10-12 M SAND PINES, SOME CLEARED FOR HOMES.
PANDHALI*0028	Pandion haliaetus	Osprey	G5	S3S4	N	LS*	1988	LARGE DEPRESSIONAL FW LAKE IN WEKIVA RIVER DRAINAGE; SURROUNDED BY XERIC UPLANDS (SANDHILL, SCRUB).	TWO ACTIVE NESTS OBSERVED IN 1988 BY THOMSON.
ATHEFLOR*0077	Athene cunicularia floridana	Florida Burrowing Owl	G4T3	S3	N	LS	1989-06-05	Improved pasture, or sod farm	1989-06-05: J.A. Hovis, GFC, observed total of 15 burrows; 4 with fledged young.
PTERWELA*0009	Pteronotropis welaka	Bluenose Shiner	G3G4	S4	N	LS	1956-04-07	No general description given	24 SPECIMENS COLLECTED BY S. T. TUCKER AND S. BATEMAN (TU 12467) ON 7 APRIL 1956. RANGING IN STANDARD LENGTH FROM 23-44 MM.
SCRUB****0535	Scrub		G2	\$2	N	N	1983-06-24	SAND PINE SCRUB ON ST LUCIE FINE SAND AT BASE OF SANDHILL RIDGE. DENSE AND CONTINOUS SHRUB LAYER CONSISTS OF OAKS (MYRTLE, CHAPMAN AND LIVE), LYONIA FERRUGINEA AND SERENOA REPENS (U88CHR01). THIS SITE IS ON ST. LUCIE FINE SAND AT THE BASE OF A SANDHILL R	ı e
URSUFLOR*0043	Ursus americanus floridanus	Florida Black Bear	G5T2	S2	N	LT*	1985-	No general description given	ROADKILL CA. 1985.
URSUFLOR*0043	Ursus americanus floridanus	Florida Black Bear	G512	S2	N	LIx	1985-	No general description given	ROADKILL CA. 1985.



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FNAI Potential Habitat for Rare Species indicates areas, which based on landcover type, offer suitable habitat for one or more rare species that is known to occur in the vicinity. Potential habitat layers have been developed for approximately 250 of the most rare species tracked by the Inventory, including all federally listed species.

Potential Habitat is not a regulatory designation, and should not be confused with "critical habitat", which is an official designation made by the U.S. Fish and Wildlife Service. Information on critical habitats can be found in the Code of Federal Regulations, 50 CFR 17.95, which lists all critical habitats that have been designated. The Code of Federal Regulations can be accessed through the following website: "www.access.gpo.gov/nara/cfr/cfr-table-search.html".

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/data.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.

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,

Edwin A. Abbey

Environmental Reviewer

Edwin a. albey

encl

Rosanne Prager 4/12/2005 Page 2 of 3

Managed Areas

Portions of the site appear to be located within the Rock Springs Run State Reserve, managed by the Florida Department of Environmental Protection, Division of Recreation and Parks, Seminole State Forest, managed by the Florida Department of Agriculture and Consumer Services, Division of Forestry, and with the Lower Wekiva River Preserve State Park, managed by the Florida Department of Environmental Protection, Division of Recreation and Parks.

The Managed Areas data layer shows public and privately managed conservation lands throughout the state. Federal, state, local, and privately managed conservation lands are included.

Land Acquisition Projects

This site appears to be located within the Wekiva-Ocala Greenway Florida Forever BOT Project, which is part of the State of Florida's Conservation and Recreation Lands land acquisition program. A description of this project is enclosed. For more information on this Florida Forever Project, please visit:

http://www.dep.state.fl.us/lands/acquisition/FloridaForever/FFAnnual2004/default.htm

Florida Forever Board of Trustees (BOT) projects are proposed and acquired through the Florida Department of Environmental Protection, Division of State Lands. The state has no regulatory authority over these lands until they are purchased.

Potential Natural Areas

Portions of the site appear to be located on or near Potential Natural Areas (PNA). PNA(a) is priority 5 and may include the following community types: scrub or sand pine scrub. PNA(b) is priority 5 and may include the following community types: sandhill/scrub. PNA(c) is priority 5 and may include the following community types: depression marsh/basin marsh. PNA(d) is priority 5 and may include the following community types: depress marsh/ overgrown flatwoods. PNA(e) is priority 5 and may include the following community types: overgrown flatwoods, sand pine scrub. PNA(f) is priority 3 and may include the following community types: flatwoods, hydric hammock or pond pine flatwoods. PNA(g) is priority 5 and may include the following community types: swampy lake fringe, old-growth cypress, swampy lake.

Potential Natural Areas are lands that appear to be relatively intact areas of natural vegetation based on aerial photography, as determined by FNAI scientists. Please see the enclosed explanation sheet for more information. PNAs are not a regulatory designation; they are intended for conservation planning purposes. The maps show a revised version of the PNAs, based on 1995 land use land cover data from the water management districts.

Potential Habitat for Rare Species

Portions of the site appear to be located on or near Potential Habitat for Rare Species. This potential habitat is associated with a known occurrence in the vicinity of: wood stork (Mycteria americana), Florida sandhill crane (Grus canadensis pratensis), bald eagle (Haliaeetus leucocephalus), Florida black bear (Ursus americanus floridanus) near the Wekiva-Ocala Greenway Florida Forever Project and sand butterfly pea (Centrosema arenicola) along the West side of the Wekiva River South of State Road 46.



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

April 12, 2005

Rosanne Prager CH2M Hill 3011 SW Williston Road Gainesville, FL 32608-3928

Dear Ms. Prager:

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: Wekiva Parkway PD&E Study

Date Received: April 7, 2005

Location: Seminole, Lake and Orange Counties

Based on the information available, this site appears to be located on or very near a significant region of scrub habitat, a natural community in decline that provides important habitat for several rare species within a small area. Additional consideration should be given to avoid and/or mitigate impacts to these natural resources, and to design land uses that are compatible with these resources.

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 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.

The Element Occurrences data layer includes occurrences of rare species and natural communities. The map legend indicates the precision of the element occurrence location, defined as second (within about 300 feet of the point), minute (within about one mile), or general (within about 5 miles). 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 that may no longer be extant.

Florida Resources and Environmental Analysis Center

and Public Affairs The Florida State University

Institute of Science

Several of the species and natural communities tracked by the Inventory are considered data sensitive. Occurrence records for these elements contain information that we consider sensitive due to collection pressures, extreme rarity, or at the request of the source of the information. The Element Occurrence Record has been labeled "Data Sensitive." We request that you not publish or release specific locational data about these species or communities without consent from the Inventory. If you have any questions concerning this please do not hesitate to call.



Under Separate Cover (11 X 17)