

Exhibit J

Department of Environmental Protection
Outstanding Florida Waters



**FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION**

BOB MARTINEZ CENTER
2600 BLAIRSTONE ROAD
TALLAHASSEE, FLORIDA 32399-2400

RICK SCOTT
GOVERNOR

CARLOS LOPEZ-CANTERA
LT. GOVERNOR

HERSCHEL T. VINYARD JR.
SECRETARY

June 3, 2014

Ms. Jennifer Reed
Land Planning Coordinator
Florida Forestry Service
Florida Department of Agriculture & Consumer Services
The Conner Building
3125 Conner Boulevard - Room 237
Tallahassee, FL 32399-1650

RE: Land Use Plan for Twin Rivers State Forest

Dear Ms. Reed:

Thank you for your inquiry regarding the surface water quality classifications on and near Twin Rivers State Forest in Hamilton, Madison, and Suwannee Counties. A portion of the Suwannee River appears to run through Twin Rivers State Forest. The Suwannee River (including its floodplain) has been designated as Outstanding Florida Waters (subparagraph 62-302.700(9)(i)34., Florida Administrative Code (FAC)). Any surface waters on the site are classified as Class III waters (subparagraphs 62-302.400(16)(b)24., 62-302.400(16)(b)40., and 62-302.400(16)(b)61., FAC), which is the statewide default classification.

If you have any questions or need additional information, please feel free to contact me at the letterhead address (mail station 6511), by phone at 850/245-8429, or via E-mail at Eric.Shaw@dep.state.fl.us.

Sincerely,

Eric R. Shaw
Environmental Manager
Standards Development Section

Exhibit K

Water Resources Map



Florida Forest Service

Twin Rivers State Forest

Water Resources

Coordinate System: Florida Albers
High Accuracy Reference NAD83 (HARN) Datum

DISCLAIMER:
This map was created by the Florida Forest Service
for informational purposes only. It is not intended to be used for legal or financial purposes.
The Florida Forest Service does not warrant the accuracy or completeness of the information
presented on this map. The Florida Forest Service is not responsible for any errors or omissions
on this map. The Florida Forest Service is not responsible for any damages or losses
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Map data and boundaries courtesy of
the Florida Natural Areas Inventory
Formerly (State Defense Sites (FDS)) from the
US Army Corps of Engineers

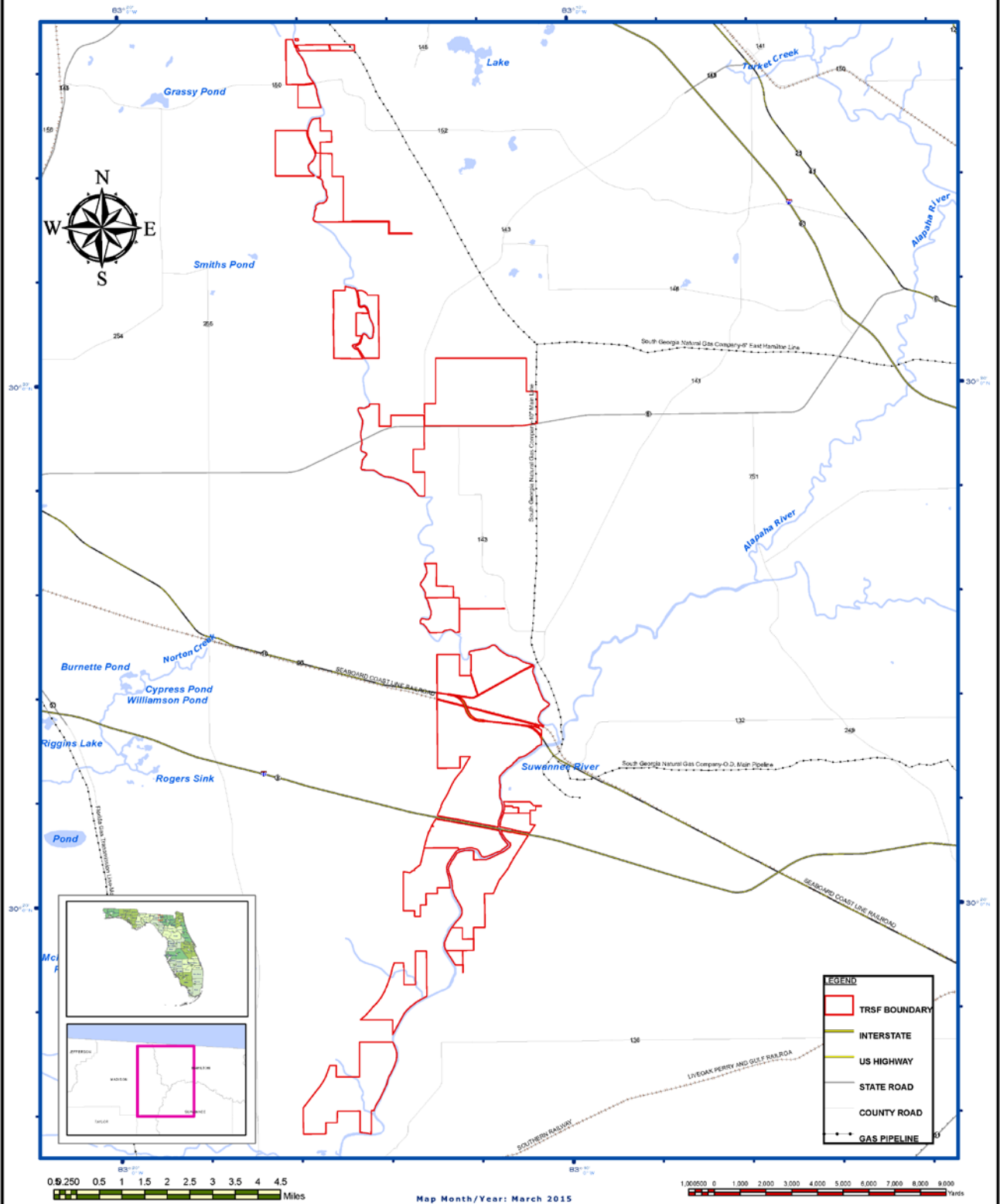


Exhibit L

Florida Natural Areas Inventory Response



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

June 5, 2014

Jennifer Reed
FL Dept of Agriculture & Consumer Services
Florida Forest Service
Conner Bldg., 3125 Conner Boulevard
Tallahassee, FL 32399-1650

Dear Ms. Reed,

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

Project: Twin Rivers State Forest
Date Received: 5/29/2014
Location: Madison, Hamilton, and Suwanee Counties

Based on the information available, this site appears to be located in a significant region of natural areas and habitat for several rare species. Special consideration should be taken to avoid and/or mitigate impacts to these natural resources, and to design land uses that are compatible with these resources.

FNAI Element Occurrences

A search of our maps and database indicates that we currently have several element occurrences mapped in 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 include records of federally listed species, particularly *Drymarchon couperi* (Eastern Indigo Snake), on or very near this site (see enclosed map and tables for details). This statement should not be interpreted as a legal determination of presence or absence of federally listed species on a property.

The FNAI Element Occurrences data layer includes rigorously documented occurrences of rare species and natural communities. 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 occurrence labels indicate the general vicinity of the occurrence. This may be due to lack of precision of the source data, or an element that covers an extended area (such as a wide-ranging species or large natural community). 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.

*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*



Florida Resources
and Environmental
Analysis Center

Institute of Science
and Public Affairs

The Florida State University

Tracking Florida's Biodiversity

data about these species or communities without consent from the Inventory. If you have any questions concerning this please do not hesitate to call.

Biodiversity Matrix

In addition to element occurrences, other rare species and natural communities may be identified on or near the site based on habitat models and species range models. The Biodiversity Matrix Report compiles several data sources – including Element Occurrences, occurrence-based species habitat models, predictive range models, and natural community maps – to provide a broader list of documented, likely, and potential species on or near the site. These species could be taken into consideration in field surveys, land management, and land use decisions. Note that the Biodiversity Matrix Report lists species and communities by square-mile Matrix Unit, rather than by the site of interest, so the Documented list may vary from the Element Occurrence Table supplied with this report. Also, note that this list aggregates results from all matrix units that overlap the site, so the location of the elements are somewhat obscured.

FNAI occurrence-based 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 predictive 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.

Land Acquisition Projects

This site appears to be located within the Longleaf Pine Ecosystem Florida Forever BOT Project – Ellaville Sandhill and the Florida's First Magnitude Springs Florida Forever BOT Project – Damascus Peanut Tract, which are parts of the State of Florida's Conservation and Recreation Lands land acquisition program. Descriptions of these projects are enclosed. For more information on this Florida Forever Project, contact the Florida Department of Environmental Protection, Division of State Lands.

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 specific land management authority over these lands until they are purchased.

The Inventory always recommends that professionals familiar with Florida's flora and fauna 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 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 contact me at (850) 224-8207 or at npasco@fnai.org.

Sincerely,

Nathan Pasco

Nathan Pasco
GIS / Data Services

Encl



FLORIDA
Natural Areas
INVENTORY

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

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

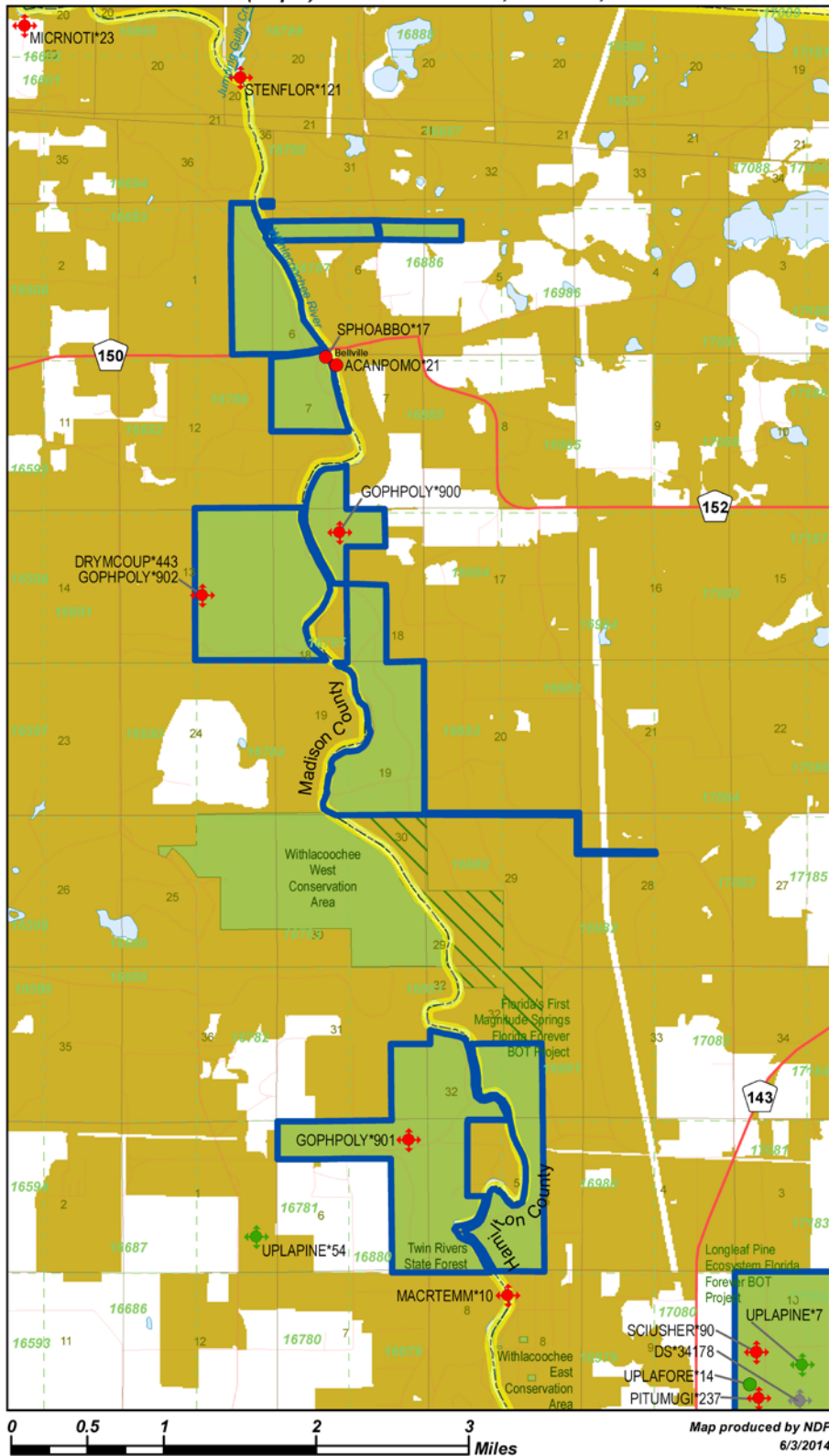
Map should not be interpreted without accompanying documents.

Site boundaries are approximate.



Twin Rivers State Forest (Map 1)

Madison, Hamilton, and Suwannee Counties



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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

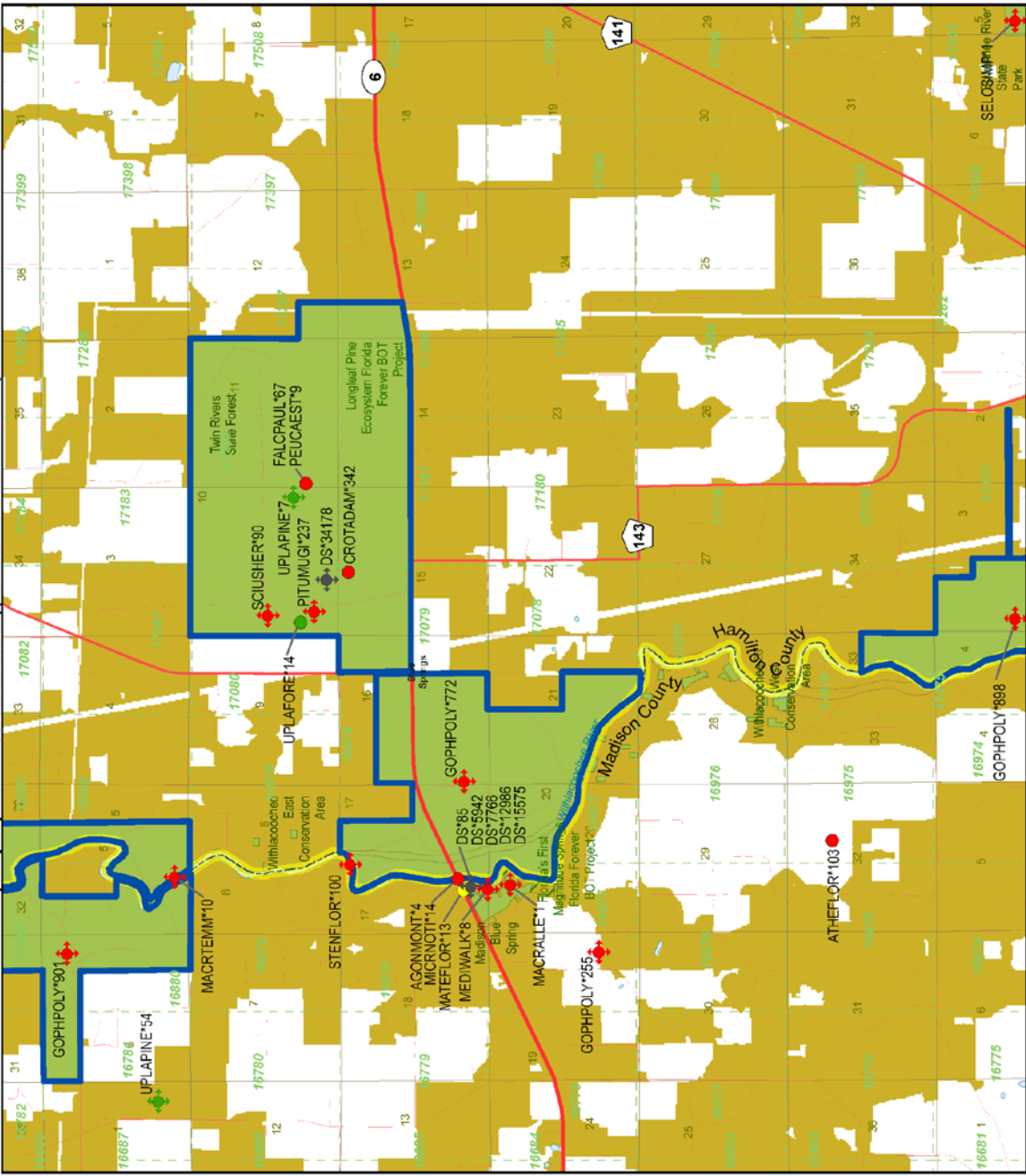
- FNAI Rare Species
- Habitat
- FNAI Biodiversity Matrix
- Square Mile Units
- County Boundary
- Interstate
- Turnpike
- Major Highway
- Local Road
- Railroad [Inactive railroads shown in Gray]
- Water

NOTE
Map should not be interpreted without accompanying documents.

Twin Rivers State Forest (Map 2)

Madison, Hamilton and Suwannee Counties

Site boundaries are approximate.



Map produced by NDP
6/3/2014



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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

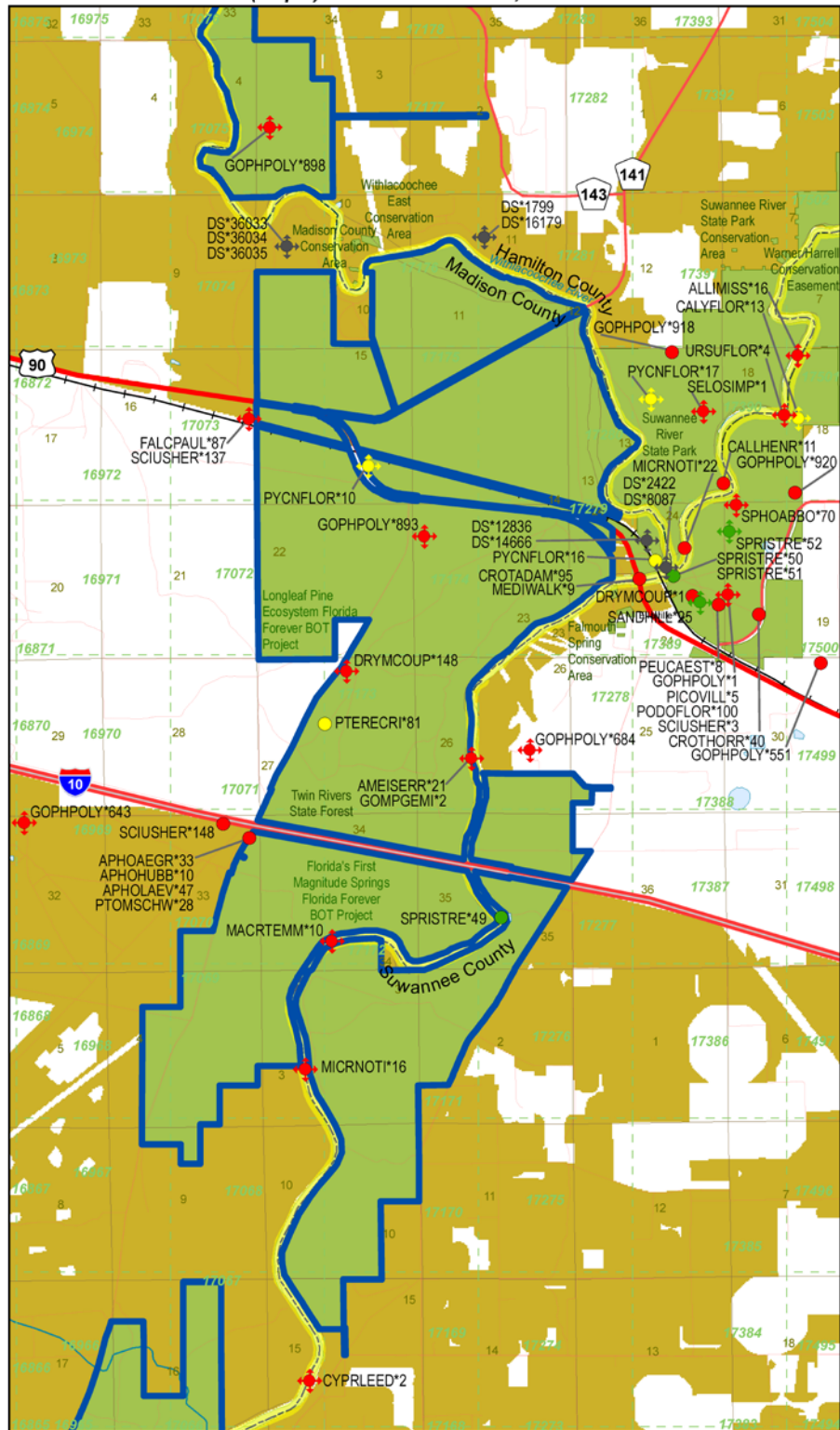
Map should not be interpreted without accompanying documents.

Site boundaries are approximate.



Twin Rivers State Forest (Map 3)

Madison, Hamilton and Suwannee Counties



0 0.5 1 2 3 Miles

Map produced by NDP
6/3/2014



FLORIDA Natural Areas INVENTORY

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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

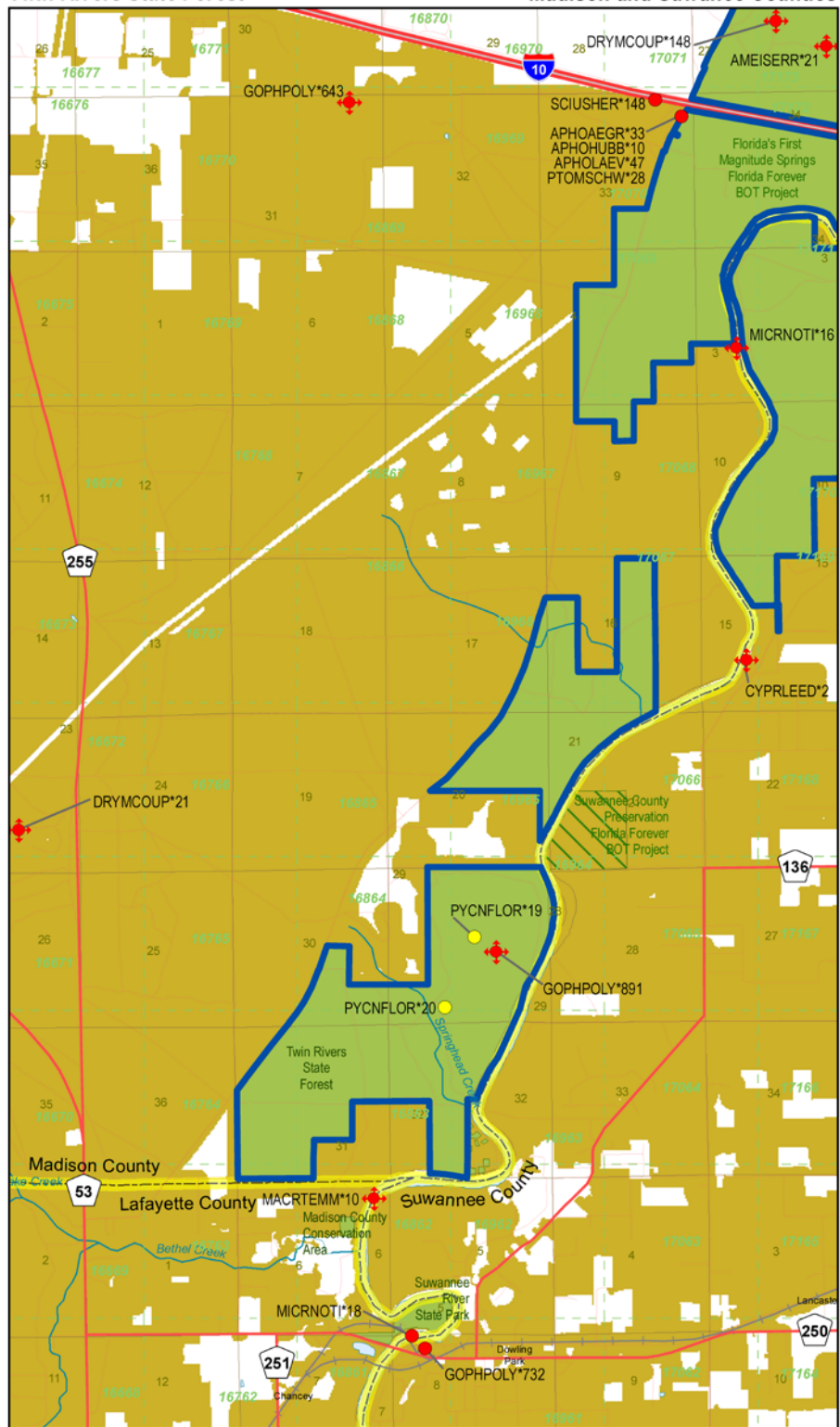
Map should not be interpreted without accompanying documents.

Site boundaries are approximate.



Twin Rivers State Forest

Madison and Suwannee Counties



Map produced by NDP
6/3/2014

FNAI ELEMENT OCCURRENCE REPORT on or near
Twin Rivers State Forest



Map Label	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing	Observation Date	Description	EO Comments
ACANPOMO*21	<i>Acantharchus pomotis</i>	Mud Sunfish	G4G5	S3	N	N	1989-08-08		1989-08-08: one specimen collected (UF-07999 (U08FSM01FLUS)).
AGONMONT*4	<i>Agonostomus monticola</i>	Mountain Mullet	G5	S3	N	N	1989-08-08	No general description given	1 SPECIMEN COLLECTED (UF-079993).
ALLMISS*16	<i>Alligator mississippiensis</i>	American Alligator	G5	S4	SAT	FT(S/A)	1985-Pre	1985-Pre: Blackwater river(s).	1985-Pre: reported as seen occasionally in park, extent unknown (R. Noss interview of agency staff: PND BRO03FLUS; U83DRP01FLUS).
AMEISERR*21	<i>Ameiurus serracanthus</i>	Spotted Bullhead	G3	S3	N	N	1970-01-00	No general description given	Cox et al. caught 1 individual in 1 hour of electrofishing.
APHOAEGR*33	<i>Aphodius aegrotus</i>	Small Pocket Gopher Aphodius Beetle	G3G4	S3?	N	N	1997-11-15 – 1997-12-05	1997-12-05: No information given (U06SKE01FLUS).	1997-12-05: Four specimens were collected from 1997-11-11 to 1997-12-05, most likely at light or in malt and dung-baited pitfall traps set in pocket gopher burrows (U06SKE01FLUS; A01SKE02FLUS).
APHOHUBB*10	<i>Aphodius hubbelli</i>	Hubbell's Pocket Gopher Aphodius Beetle	GNR	S3?	N	N	1997-11-15 – 1997-12-05	1997-12-05: No information given (U06SKE01FLUS).	1997-12-05: One specimen was collected from 1997-11-15 to 1997-12-05, most likely in a malt and dung-baited pitfall trap in a pocket gopher burrow (U06SKE01FLUS; A01SKE02FLUS; A91SKE01FLUS).
APHOLAEV*47	<i>Aphodius laevigatus</i>	Large Pocket Gopher Aphodius Beetle	G3G4	S3?	N	N	1997-11-15 – 1997-12-05	1997-12-05: No information given (U06SKE01FLUS).	1997-12-05: Six specimens were collected from 1997-11-11 to 1997-12-05, most likely at light or in malt and dung-baited pitfall traps set in pocket gopher burrows (U06SKE01FLUS; A01SKE02FLUS).
ATHEFLOR*103	<i>Athene curicularia floridana</i>	Florida Burrowing Owl	G4T3	S3	N	SSC	1999-SP-SU	1999: Agricultural - peanut field (U99BOW01FLUS).	1999: 2 adults and 2 young observed (U99BOW01FLUS).
CALLHENR*11	<i>Callophrys henrici</i>	Henry's Elfin	G5	S3S4	N	N	2012-03-12	2012-03-12: The butterflies were observed nectaring on sweetleaf at 6:00 PM (U12OWE01FLUS).	2012-03-12: Three adults observed (U12OWE01FLUS).
CALYFLOR*13	<i>Calycanthus floridus</i>	Sweet-shrub	G5	S2	N	LE	2004-01-05	2004-01-30: outside fenced yard at ranger residence within 200 m of river bank. Proximity to house indicates possibility that the plant is an old ornamental planting; however, the status as an ornamental planting is uncertain. Upland mixed forest grading	2004-01-05: This population was possibly introduced to this area. Clump of plants approximately 5m x 5m in size, seemingly healthy (PNDMCP01FLUS).

06/05/2014

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FNAI ELEMENT OCCURRENCE REPORT on or near
Twin Rivers State Forest



Map Label	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing	Observation Date	Description	EO Comments
CROTADAM*342	<i>Crotalus adamanteus</i>	Eastern Diamondback Rattlesnake	G4	S3	N	N	2010-10-28	2010: The tract of state forest is an oasis of upland pine and sandhill surrounded by pine plantations and row-crop agriculture.	2010-10-28: NeSmith heard, then observed one adult coiled next to tortoise burrow (F11FNA05FLUS; PNDNES03FLUS).
CROTADAM*95	<i>Crotalus adamanteus</i>	Eastern Diamondback Rattlesnake	G4	S3	N	N	1990	No general description given	1990: Observed on railway bed ca. 4.5 feet (U94MOL01FLUS).
CROTHORR*40	<i>Crotalus horridus</i>	Timber Rattlesnake	G4	S3	N	N	1993-05-17	On road adjacent to sandhill community.	1993-05-17: Park ranger found one adult 3' 8" long, dead on road.
CYPRLEED*2	<i>Cyprinella leedsii</i>	Bannerfin Shiner	G4	S3	N	N	1989-08-08	BLACKWATER STREAM.	2000 SPECIMENS COLLECTED BY VARIOUS COLLECTORS AT 38 LOCALITIES (SEE ATTACHED SHEETS) BETWEEN 1967 AND 1989. FREQUENTS MAIN CHANNEL OF RIVER AND LARGER TRIBUTARIES, TAKEN OVER SANDY BOTTOM IN MODERATE LOCALITIES.
DRYMCUP*1	<i>Drymarchon couperi</i>	Eastern Indigo Snake	G3	S3	LT	FT	1982-PRE	1982-Pre: park contains extensive managed (by fire) sandhills, some xeric hammock, and floodplain hammock along river (P62MEE01FLUS).	1982-Pre: Meeks has observed at least one adult (ca. 7') annually for several years near or under Park Ranger's house (see F8F2JAC01FLUS for map) (P62MEE01FLUS).
DRYMCUP*148	<i>Drymarchon couperi</i>	Eastern Indigo Snake	G3	S3	LT	FT	1970-Post	No general description given	1970-Post: observed by Brantley Goodson (FLGFC) (U82MOL01FLUS; Moler interview of Goodson, 1981-12-16).
DRYMCUP*443	<i>Drymarchon couperi</i>	Eastern Indigo Snake	G3	S3	LT	FT	1992-11-10	Pine Plantation.	AOR.
DS*12836	Data Sensitive Element	Data Sensitive	G3G4	S3	N	N	1995-04-18	Data Sensitive	Data Sensitive
DS*12986	Data Sensitive Element	Data Sensitive	G2	S2	N	N	2004	Data Sensitive	Data Sensitive
DS*14666	Data Sensitive Element	Data Sensitive	G5	S3	N	N	1995-04-18	Data Sensitive	Data Sensitive
DS*15575	Data Sensitive Element	Data Sensitive	G3	S3	N	N	1985-08-30	Data Sensitive	Data Sensitive
DS*16179	Data Sensitive Element	Data Sensitive	G2G3	S2S3	N	N	1983-PRE	Data Sensitive	Data Sensitive
DS*1799	Data Sensitive Element	Data Sensitive	G3	S3	N	N	1983-PRE	Data Sensitive	Data Sensitive
DS*2422	Data Sensitive Element	Data Sensitive	G3	S3	N	N	1983-PRE	Data Sensitive	Data Sensitive
DS*34178	Data Sensitive Element	Data Sensitive	G2G3	S1S2	N	N	2009-03-06	Data Sensitive	Data Sensitive

06/05/2014

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FNAI ELEMENT OCCURRENCE REPORT on or near
Twin Rivers State Forest



Map Label	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing	Observation Date	Description	EO Comments
DS*36033	Data Sensitive Element		G3	S3	N	N	1994-Pre	Data Sensitive	Data Sensitive
DS*36034	Data Sensitive Element	Data Sensitive	G1G2	S1S2	N	N	1994-Pre	Data Sensitive	Data Sensitive
DS*36035	Data Sensitive Element	Data Sensitive	G2G3	S2S3	N	N	1994-Pre	Data Sensitive	Data Sensitive
DS*5942	Data Sensitive Element	Data Sensitive	G2G3	S2S3	N	N	1994-Pre	Data Sensitive	Data Sensitive
DS*7766	Data Sensitive Element	Data Sensitive	G2G3	S2S3	N	N	1985-08-30	Data Sensitive	Data Sensitive
DS*8087	Data Sensitive Element	Data Sensitive	G2G3	S2S3	N	N	1983-PRE	Data Sensitive	Data Sensitive
DS*95	Data Sensitive Element	Data Sensitive	G2G3	S2S3	N	N	1994-Pre	Data Sensitive	Data Sensitive
FALCPAUL*67	Falco sparverius paulus	Southeastern American Kestrel	G5T4	S3	N	ST	1994-03-09	Upland pine forest; canopy of ca. 70-year old longleaf, wiregrass groundcover; winter-burned up to 1994; see upland pine forest EOR #007.	1994-03-09: Jackson et al (F94JAC01FL) observed two kestrels exhibiting potentially territorial behavior. Confirmation of subspecific identification requires sightings after the May 1 "safe date."
FALCPAUL*87	Falco sparverius paulus	Southeastern American Kestrel	G5T4	S3	N	ST	1988-07-26	Sandhill/Upland pine forest	1988-07-26: D.E. Runde, GFC, observed 1 bird perching.
GOMPGEIM*2	Gomphus geminatus	Twin-striped Clubtail	G3G4	S3	N	N	1995-04-24	1995-04-24: No description given (U09DEP01FLUS).	1995-04-24: Staff from the Florida Department of Environmental Protection collected this species (U09DEP01FLUS).
GOPHPOLY*1	Gopherus polyphemus	Gopher Tortoise	G3	S3	C	ST	2004-01-28	2004-01-28: approximately 200 acres of sandhill habitat available, bisected by a paved, well traveled county road (CR-132). Western polygon: well-maintained longleaf sandhill with a few overstory-sized hardwoods; groundcover of wiregrass, lopsided	2004-01-28: eastern polygon: approximately 4-6 active burrows, mostly adults, observed during walk-through; at least two had been excavated by dog or coyote. 2002-03-29: middle polygon: 44 tortoise burrows, 24 of which were active; all bur
GOPHPOLY*255	Gopherus polyphemus	Gopher Tortoise	G3	S3	C	ST	1987-PRE	No general description given	1987-pre: TORTOISE MIDDEN AND BURROWS (U86DIE01FLUS).

06/05/2014

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FNAI ELEMENT OCCURRENCE REPORT on or near
Twin Rivers State Forest



Map Label	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing	Observation Date	Description	EO Comments
GOPHPOLY*643	Gopherus polyphemus	Gopher Tortoise	G3	S3	C	ST	1991-02-01	LONGLEAF PINE-OAK-WIREGRASS ASSOCIATION. APPEARS TO BE A SANDHILL WITH LITTLE RELIEF (VERY FLAT); UNDERSTORY CLEARED AND MODIFIED AT MAJORITY OF REST STOP, BUT NATURAL NEAR EDGES AND BEHIND BACK FENCE.	1991-02-01: D. Jackson observed 1 ADULT BURROW BUT DID NOT SEARCH FOR OTHERS. BURROW APPEARED TO HAVE RECENT ACTIVITY.
GOPHPOLY*684	Gopherus polyphemus	Gopher Tortoise	G3	S3	C	ST	1991	UPLANDS ABOVE SINK AND FLOODPLAIN	ACTIVE BURROWS.
GOPHPOLY*732	Gopherus polyphemus	Gopher Tortoise	G3	S3	C	ST	1991-03-22	EXTENSIVE DUMP, SURROUNDED BY SANDHILL.	NUMEROUS TORTOISES LIVE ON EDGE OF DUMP. MOLER NOTED TORTOISES AS COMMON IN SANDHILL SURROUNDING DUMP AREA, 1991-03-22.
GOPHPOLY*772	Gopherus polyphemus	Gopher Tortoise	G3	S3	C	ST	2010-10	1994: Upland pine forest (longleaf pine) N of HWY. 6; fairly open longleaf, mostly wiregrass groundcover, strip of sand pine at edge, with Geomys mounds on shoulder; S of HWY. 6; recent clearcut to successional oldfield. See upland pine forest EOR	2010-10: D. Hipes et al. observed a total of 573 active, 261 inactive, and 304 abandoned tortoise burrows in 413 acres (20%) of transects within 2,089 acres of potential gopher tortoise habitat at Blue Spring Longleaf tract of Twin Rivers SF (F11F)
GOPHPOLY*891	Gopherus polyphemus	Gopher Tortoise	G3	S3	C	ST	1992	Loblolly plantation.	Occurrence on site.
GOPHPOLY*893	Gopherus polyphemus	Gopher Tortoise	G3	S3	C	ST	1992	Well drained open areas.	Occurrence on site.
GOPHPOLY*898	Gopherus polyphemus	Gopher Tortoise	G3	S3	C	ST	1992	Slash pine plantation/Upland mixed forest.	Five active burrows observed.
GOPHPOLY*900	Gopherus polyphemus	Gopher Tortoise	G3	S3	C	ST	1992-03-26	1992-03-26: Slash pine plantation/upland mixed forest (U93BIO01FLUS).	1992-03-26: Four active burrows observed (U93BIO01FLUS).
GOPHPOLY*901	Gopherus polyphemus	Gopher Tortoise	G3	S3	C	ST	1992	Slash pine plantation.	Scattered individuals [burrows?] observed.
GOPHPOLY*902	Gopherus polyphemus	Gopher Tortoise	G3	S3	C	ST	1992	Pine plantation.	Common along roadways and other open sites.
GOPHPOLY*918	Gopherus polyphemus	Gopher Tortoise	G3	S3	C	ST	2002	Burrows on edge of thick upland forest in the park. Open pasture to north.	2002: Observed active burrows along fire line in upland mixed forest south of open field (PNDMCP01FLUS). 1993-07-20: Three active burrows observed during cursory survey (F93SCH04FLUS).

06/05/2014

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FNAI ELEMENT OCCURRENCE REPORT on or near
Twin Rivers State Forest



Map Label	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing	Observation Date	Description	EO Comments
GOPHPOLY*920	<i>Gopherus polyphemus</i>	Gopher Tortoise	G3	S3	C	ST	1993-07-20	None provided, but should not be too different from MARGNUM #61.	1993-07-20: Two active burrows observed during cursory survey (PNDSC03FLUS).
MACRALLE*1	<i>Macromia alleghaniensis</i>	Allegheny River Cruiser	G4	S1	N	N	1979-12-17	1979-12-17: No description given (U09DEP01FLUS).	1979-12-17: Staff from the Florida Department of Environmental Protection collected this species (U09DEP01FLUS).
MACRTEMM*10	<i>Macrochelys temminckii</i>	Alligator Snapping Turtle	G3G4	S3	N	SSC	2010	Large river, mostly blackwater stream but also with substantial spring input. 2001-05: nest in upland pine forest just upslope from upland mixed forest and the Ichetucknee River (PNDL01FLUS).	Dozens of records from 1935 through 2010 throughout much of this system; following are most such records (see also summary in B69PR01FLUS). 2005-2010: Johnston et al. captured 84 in Santa Fe River, including 15 adults in area with high density o
MATEFLOR*13	<i>Matelea floridana</i>	Florida Spiny-pod	G2	S2	N	LE	1984-07-13	1984: WOODED HIGH BANK (NATURAL LEVEE) OF WITHLACOOCHIEE RIVER (S84G0DFSFLUS).	1984: NONE GIVEN ON HERBARIUM LABEL.
MEDIWALK*8	<i>Medionidus walkeri</i>	Suwannee Moccasinshell	G1	S1	N	N	1954-09-09	1954-09-09: river about 40 meters wide, moderate to swift current, soft limestone bedrock, gravel, sand with organic and inorganic (litter) debris. Water tannic in main river, but clear on west bank, where influenced by Blue Spring (A56CLE01FLUS).	1987-10-09: Butler failed to find species (sample time >0.5 man-hours) (PNDBUT01FLUS). 1967: survey by Lee failed to document species. 1954-09-09: W. J. Clench collected specimen (UF-1860) (A56CLE01FLUS).
MEDIWALK*9	<i>Medionidus walkeri</i>	Suwannee Moccasinshell	G1	S1	N	N	1981-05-16	1987-10-09: river about 50 meters wide, dark water (visibility 0.72 meters), clear, sand, several logs and branches, rock (from RR and highway bridges, some gravel. Current slow (PNDBUT01FLUS).	1987-10-09: brief survey by Butler (0.5 hour) yielded no specimens (PNDBUT01FLUS). 1981-05-16: 1 dead specimen collected by G. Keferl. 1930-pre?: Six specimens (UF 4983, no date), collected by Bryant Walker.
MICRNOTI*14	<i>Micropterus notius</i>	Suwannee Bass	G3	S3	N	N	1989-08-08	No general description given	1 SPECIMEN COLLECTED ON 8 AUG 1989 (UF-079995).
MICRNOTI*16	<i>Micropterus notius</i>	Suwannee Bass	G3	S3	N	N	1963-11-06	LARGE BLACKWATER STREAM	2 SPECIMENS COLLECTED ON 6 NOV 1963 (UF-060238). U62HES01 STATES THAT FISH IS RARE ON SUWANNEE RIVER FROM ELLAVILLE TO BRANFORD.
MICRNOTI*18	<i>Micropterus notius</i>	Suwannee Bass	G3	S3	N	N	1978-11-20	Large blackwater stream.	2 specimens collected (UF-025955).

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FNAI ELEMENT OCCURRENCE REPORT on or near
Twin Rivers State Forest



Map Label	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing	Observation Date	Description	EO Comments
MICRNOTI*22	<i>Micropterus notius</i>	Suwannee Bass	G3	S3	N	N	1969-12-00	Blackwater Stream.	1 specimen caught December 1968, 11 specimens caught in 1969.
PEUCAEST*8	<i>Peucaea aestivalis</i>	Bachman's Sparrow	G3	S3	N	N	1996-04-04	1996-04-04: HEARD IN OLD PASTURE NOW IN PLANTED PINE. AREA IS ADJACENT TO WET FLATWOODS (PNDMUL02FLUS). 1983: TYPICAL SANDHILLS HABITAT; OPEN LONGLEAF PINE CANOPY OVER A DENSE GROUND COVER OF WIREGRASS AND SANDHILL HERBS; MOST OF THE TURKEY OAKS WITHIN T	1996-04-04: HEAR ONE INDIVIDUAL VOCALIZING (PNDMUL02FLUS). 1984-03-18: THREE SINGING MALES SEEN. EST. NUMBER OF INDIVIDUALS IN POP. UNKNOWN; ONLY ADULT INDIVIDUALS SEEN, ALL MALES ON TERRITORY.
PEUCAEST*9	<i>Peucaea aestivalis</i>	Bachman's Sparrow	G3	S3	N	N	1994-03-09	UPLAND PINE FOREST; CANOPY OF CA. 70-YEAR OLD LONGLEAF, WIREGRASS GROUND COVER; WINTER-BURNED UP TO 1994; SEE UPLAND PINE FOREST EOR #007. BIRDS ALSO OCCUR IN ADJACENT HABITAT, WHICH CONSISTS OF OVERGROWN FIELD WITH DENSE BROOMSEDGE AND OTHER GRASSES AND	1994-03-28: JACKSON ET AL. (F94JAC01FL) OBSERVED SPECIES (SINGING MALES) TO BE ABUNDANT THROUGHOUT SITE. 1984: LYNCH (U84LYN01,02FL) RECORDED SINGING MALES IN OLDFIELDS ADJACENT TO BLUE SPRING LONGLEAF.
PICOVILL*5	<i>Picoides villosus</i>	Hairy Woodpecker	G5	S3	N	N	1987-03-12	Animal detected in a relatively well-maintained sandhill. Longleaf pine dominants in overstory. Few overstory sized hardwoods. Groundcover including wiregrass, lopsided indiangrass, others in good condition. Some invasion by small off-site hardwoods.	1987-03-12: Listed in appendix of report as seen at site (U04MCP01FLUS, U95STO01FLUS). 1981: according to Brock, was listed as uncommon permanent resident by Noel Warner in list spanning 1971-1981; probable breeder (PNDBRO03FLUS).
PITUMUG*237	<i>Pituophis melanoleucus mugillus</i>	Florida Pine Snake	G4T3	S3	N	SSC	2010-10-28	Oasis of upland pine and sandhill surrounded by pine plantations and row-crop agriculture.	2010-10-28: Hipes observed one adult (4 ft plus) exiting a pocket gopher mound (F11FNA05FLUS).

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PODOFLOR*100	<i>Podomys floridanus</i>	Florida Mouse	G3	S3	N	SSC	1987-03-12	2004-01-30: animals trapped in a relatively well-maintained sandhill. Longleaf pine dominant in overstory. Few overstory sized hardwoods. Groundcover including wiregrass, lopsided indiangrass, others, in good condition. Some invasion by small off-site	2002-05-28: no Podomys captured (see comments for methods) (U02DOO01FLS). (1995: trapped spring 1987 to spring 1988. At beginning of study P. floridanus and Peromyscus gossypinus most common, by 1988 dominance had shifted to Peromyscus polionotus (U95STO
PTERECR*81	<i>Pteroglossaspis ecristata</i>	Giant Orchid	G2G3	S2	N	LT	2002-09-06	2002-09-06: Edge of two track dirt road, in sandhill. Scattered young planted Pinus elliotii, Quercus laevis, Q. geminata, Q. margareta. Groundcover of Aristida stricta, Sorghastrum secundum, Liatris spp., Chamaecrista fasciculata, and many other herba	2002-09-06: One plant observed in fruit, may be county record (PNDCA05FLUS).
PTOMSCHW*28	<i>Pltomaphagus schwarzi</i>	Schwarz' Pocket Gopher Pltomaphagus Beetle	G3	S3	N	N	1997-11-15 – 1997-12-05	1997-12-05: No information given (U06SKE01FLUS).	1997-12-05: Nine specimens were collected from 1997-11-11 to 1997-12-05, most likely in malt and dung-baited pitfall traps set in pocket gopher burrows. (U06SKE01FLUS, A01PEC01FLUS).
PYCNFLOR*10	<i>Pycnanthemum floridanum</i>	Florida Mountain-mint	G3	S3	N	LT	1970-07-12	CLEARING OF LONGLEAF PINE, TURKEY OAK RIDGE, BUT IN SMALL LOW AREAS WHERE MORE MOIST.	1970-07-12: FLOWERING.
PYCNFLOR*16	<i>Pycnanthemum floridanum</i>	Florida Mountain-mint	G3	S3	N	LT	2001-06-18	2001-06-18: Plants along Rail ROW. Much Lygodium japonicum intermixed. Former upland pine or sandhill, now very degraded. Many water oaks/laurel oaks and loblolly pine (PNDMCP01FLUS). 1993-07-20: Disturbed edge of road in longleaf pine/shortlea	2001-06-18: four separate groups of plants located with a GPS. No data on plant number collected. Plants flowering (PNDMCP01FLUS). 1993-07-20: 200+ stems, flowering and fruiting; occupies area only 2 X 3 m (F93SCH04FLUS).

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PYCNFLOR*17	<i>Pycnanthemum floridanum</i>	Florida Mountain-mint	G3	S3	N	LT	1999-09-30	1999-09-30: Plants located along gas pipeline ROW and in a cut over area east of the ROW that was formerly upland pine. Loblolly and hardwoods invading. Wiregrass present in patches, though area dominated by ruderals. Post oaks and longleaf pine to north	1999-09-30: This observation is an update to the linear group of plants observed by G. Shultz. This observation includes three separate groups of plants mapped as points with a GPS. The point farthest from the gas line contained 10 fruiting plants, the
PYCNFLOR*19	<i>Pycnanthemum floridanum</i>	Florida Mountain-mint	G3	S3	N	LT	2000-10-11	2000-10-11: margin of cleared field and loblolly pine plantation. Area may not be in active plantation currently. Trees are widely spaced and over 70 ft. tall. Site appears to have been thinned in an effort at ecological restoration. Historically, co	2000-10-10: 3 individuals observed fruiting (PNDHOR04FLUS).
PYCNFLOR*20	<i>Pycnanthemum floridanum</i>	Florida Mountain-mint	G3	S3	N	LT	2000-10-10	MARGIN OF CLEARED FIELD AND LOBLOLLY PINE PLANTATION. AREA MAY NOT BE IN ACTIVE PLANTATION CURRENTLY. TREES ARE WIDELY SPACED AND OVER 70 FT TALL. SITE APPEARS TO HAVE BEEN THINNED IN AN EFFORT AT ECOLOGICAL RESTORATION? HISTORICALLY, COMMUNITY WAS PROBA	00-10-10: 4 individuals observed fruiting (PNDHOR04FLUS).
SANDHILL*25	Sandhill		G3	S2	N	N	2004	COVERING MOST OF PARK UPLANDS.	2004: Update to last obs date was based on interpretation of aerial photography (previous value was 2004-01-28) (U05FNA02FLUS). 2004-01-28: approximately 200 acres of sandhill habitat available, bisected by a paved, well traveled county road (CR-132). W
SCIUSHER*137	<i>Sciurus niger shermani</i>	Sherman's Fox Squirrel	G5T3	S3	N	SSC	1988-07-26	Sandhill/Upland pine forest	1988-07-26: D.E. Runde, GFC, observed 1 squirrel.
SCIUSHER*148	<i>Sciurus niger shermani</i>	Sherman's Fox Squirrel	G5T3	S3	N	SSC	1996-03-03	96-03-03: open canopied pine plantation in sandhill adjacent to quail plantation (PNDJAC01).	1996-03-03: one dead and one live fox squirrel observed along a three mile stretch of I-10 (PNDJAC01).

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SCIUSHER*3	<i>Sciurus niger shermani</i>	Sherman's Fox Squirrel	G5T3	S3	N	SSC	2004-03-19	2004-03-19: S. niger utilizing sandhill habitat. Pinus palustris canopy, few midstory oaks, but numerous Quercus laurifolia beginning invasion. In-tact ground cover (PNDMCP01FLUS). 1983: IN SANDHILL COMMUNITY.	2004-03-19: This is a multi-location EO. One adult fox squirrel observed crossing park drive (northern most observation). Same individual reportedly seen repeatedly. One juvenile roadkill observed at southernmost location (PNDMCP01FLUS). 2002: extant (G)
SCIUSHER*90	<i>Sciurus niger shermani</i>	Sherman's Fox Squirrel	G5T3	S3	N	SSC	2013-10-10	Upland pine; canopy of ca. 70-year old longleaf, wiregrass groundcover, winter-burned up to 1994; see upland pine forest EOR #007.	2013: Hipes observed one individual crossing trail (PNDHIP01FLUS). 1994-03-09: Jackson et al. (NeSmith and Evans: F94JAC01FLUS) observed one individual on-site.
SELOSIMP*1	<i>Selodon simplex</i>	Simple Cebionid Beetle	G1	S1	N	N	1977-06-24 --1977-07-14	1977-07-14: No description given (B99GAL01FLUS).	1977-06-24 --1977-07-14: Twenty-five specimens were caught in a Malaise trap (B99GAL01FLUS). 1977-06-02 --1977-06-24: Two specimens were caught in a Malaise trap (B99GAL01FLUS).
SPHOABBO*17	<i>Sphodros abboti</i>	Blue Purse-web Spider	G4G5	S4	N	N	1998-05-07	1998-05-07: webs found at the bases of trees (U98MOL02FLUS).	1998-05-07: Species was collected on site by P. E. Moler (U98MOL02FLUS).
SPHOABBO*70	<i>Sphodros abboti</i>	Blue Purse-web Spider	G4G5	S4	N	N	1973	1973: Webs are found at bases of trees in mesic forest (A80GER01FLUS).	1973: Gertsch and Platnick (1980) recorded species as present here, based on a 1973 collection. More precise and updated record is needed (A80GER01FLUS).
SPRISTRE*49	Spring-run stream		G2	S2	N	N	2004	LOW LYING AREA W/ SOFT ORGANIC RICH SOIL IN ADJ. DEPRESSIONS; TREES IN & AROUND POOL; GENTLY SLOPING SIDES HEAVILY COVERED W/ LEAVES, BRANCHES, TRUNKS & OTHER ORGANIC DEBRIS	2004: Update to last obs date was based on interpretation of aerial photography (previous value was 1983-11-03) (U05FNA02FLUS). VENT IN SHALLOW SPRING POOL CA 17 M DIA. W/ 50 M LONG RUN. REPORTED TO HAVE DK. WATER W/ GOOD FLOW DURING LOW STAGES OF SUWANN
SPRISTRE*50	Spring-run stream		G2	S2	N	N	2004	LOCATED IN HIGH LIMESTONE BLUFF ON S BANK OF SUWANNEE	2004: Update to last obs date was based on interpretation of aerial photography (previous value was 1983-11-02) (U05FNA02FLUS). "CAVE" 2 M WIDE & 10 M DEEP. HORIZONTALLY; WATER FLOW TURBULENT CA 13-17 M TO RIVER THRU "V" SHAPED LIMESTONE RUN 3 M WIDE & 3

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Map Label	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing	Observation Date	Description	EO Comments
SPRISTRE*51	Spring-run stream		G2	S2	N	N	2004	No general description given	2004: Update to last obs date was based on interpretation of aerial photography (previous value was 1983-11-02) (U05FNA02FLUS). POOL CA 7 M DIA. & 1-2 M DEEP. SINGLE VENT AT W END OF POOL. WATER EMERGES FROM BENEATH LIMESTONE LEDGE. LIMESTONE OUTCROPS AR
SPRISTRE*52	Spring-run stream		G2	S2	N	N	2002	2002: Lime Sink Run, also known as Dry Run, flows through a ravine for about 3000 feet before discharging into the Suwanne River (G02DRP01FLUS).	2002: flow is intermittent. Portions have been altered due to past creation of a swimming area through damming and dredging. The site is not used for swimming now, primarily due to low water levels (G02DRP01FLUS). 1982-08-06: no eodata (F82JAC01FLUS).
STENFLOR*100	<i>Stenacron floridense</i>	A Mayfly	G3G4	S3S4	N	N	1999-03-30	1999-03-30: No description given (U09DEP01FLUS).	1999-03-30: Staff from the Florida Department of Environmental Protection collected this species (U09DEP01FLUS).
STENFLOR*121	<i>Stenacron floridense</i>	A Mayfly	G3G4	S3S4	N	N	1998-12-07	1998-12-07: No description given (U09DEP01FLUS).	1998-12-07: This species was documented by Florida Department of Environmental Protection agency staff at three localities (U09DEP01FLUS).
UPLAFOR*14	Upland hardwood forest		G5	S3	N	N	2004	RELATIVELY SMALL, BUT STEEP SIDED SINKHOLES IN DRY UPLAND LONGLEAF PINE FOREST. A DRAMATIC SHIFT FROM PINE DOMINATED UPLANDS TO HARDWOOD SLOPES IS EVIDENT IN THESE SINKHOLES. SEE DOT AERIAL PHOTO PD 3801-4096 FLOWN ON 1988.	2004: Update to last obs date was based on interpretation of aerial photography (previous value was 1992-07-07) (U05FNA02FLUS). IN THE EASTERN PART OF THE PROPERTY THERE ARE TWO RATHER DEEP, STEEP-SIDED SINKHOLES. THESE SINKHOLES ARE DOMINATED BY HARDWOOD
UPLAPINE*54	Upland pine		G3	S2	N	N	2004	Intact longleaf pine forest with scattered to dense oak understory and intact ground cover. Surrounded by agricultural and silvicultural development on all sides.	2010: Prior to the 2010 natural community reclassification effort this EO had been known as Upland pine forest EO number 54 (see U10FNA01FLUS for updated community descriptions). 2004: Update to last obs date was based on interpretation of aerial photogr

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FNAI ELEMENT OCCURRENCE REPORT on or near
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UPLAPINE7	Upland pine		G3	S2	N	N	2004	DRY UPLAND LONGLEAF PINE (PINUS PALUSTRIS) FOREST (ORZELL PREFERS TO CALL DRY UPLAND LONGLEAF PINE SAVANNA) WITH SOME MINOR INCLUSIONS OF LONGLEAF PINE-TURKEY OAK SANDHILL. REPRESENTATIVE OF SUWANNEE STRAITS PORTIONS OF NORTHERN HIGHLANDS PHYSIOGRAPHIC R	2010: Prior to the 2010 natural community reclassification effort this EO had been known as Upland pine forest EO number 7 (see U10FNA01FLUS for updated community descriptions). 2004: Update to last obs date was based on interpretation of aerial photogra
URSUFLO74	<i>Ursus americanus floridanus</i>	Florida Black Bear	G5T2	S2	N	ST*	1995-11-10	1976, 1995: OBSERVATIONS HAVE BEEN IN FLOODPLAIN FOREST.	1995-11-10: Three to 3.5 foot tall and 5-6 foot long, 300lb, black bear observed in floodplain forest. Also sighted on river bank same day. No recorded sightings since, possibly moving through area (PNDMEEXFLUS). 1976: IN 1974, RANGER CLYDE NICHOLS OBSE



Florida Natural Areas Inventory Biodiversity Matrix Report



Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing
Documented					
<i>Aphodius aegrotus</i>	Small Pocket Gopher Aphodius Beetle	G3G4	S3?	N	N
<i>Aphodius hubbelli</i>	Hubbell's Pocket Gopher Aphodius Beetle	GNR	S3?	N	N
<i>Aphodius laevigatus</i>	Large Pocket Gopher Aphodius Beetle	G3G4	S3?	N	N
<i>Callophrys henrici</i>	Henry's Elfin	G5	S3S4	N	N
<i>Crotalus adamanteus</i>	Eastern Diamondback Rattlesnake	G4	S3	N	N
<i>Falco sparverius paulus</i>	Southeastern American Kestrel	G5T4	S3	N	ST
<i>Gopherus polyphemus</i>	Gopher Tortoise	G3	S3	C	ST
<i>Peucaea aestivalis</i>	Bachman's Sparrow		S3	N	N
<i>Pituophis melanoleucus mugitus</i>	Florida Pine Snake	G4T3	S3	N	SSC
<i>Pteroglossaspis ecrinata</i>	Giant Orchid	G2G3	S2	N	LT
<i>Ptomaphagus schwarzi</i>	Schwarz' Pocket Gopher Ptomaphagus Be	G3	S3	N	N
<i>Pycnanthemum floridanum</i>	Florida Mountain-mint		S3	N	LT
<i>Sciurus niger shermani</i>	Sherman's Fox Squirrel	G5T3	S3	N	SSC
Spring-run stream		G2	S2	N	N
<i>Stenacron floridense</i>	A Mayfly	G3G4	S3S4	N	N
Upland hardwood forest		G5	S3	N	N
Documented-Historic					
<i>Agonostomus monticola</i>	Mountain Mullet	G5	S3	N	N
<i>Macromia alleghaniensis</i>	Allegheny River Cruiser	G4	S1	N	N
<i>Matelea floridana</i>	Florida Spiny-pod	G2	S2	N	LE
<i>Micropterus notius</i>	Suwannee Bass	G3	S3	N	N
Likely					
<i>Acipenser oxyrinchus desotoi</i>	Gulf Sturgeon	G3T2	S2	LT	FT
<i>Crangonyx grandimanus</i>	Florida Cave Amphipod	G2G3	S2S3	N	N
<i>Crangonyx hobbsi</i>	Hobbs' Cave Amphipod		S2S3	N	N
<i>Drymarchon couperi</i>	Eastern Indigo Snake	G3	S3	LT	FT
<i>Gomphus geminatus</i>	Twin-striped Clubtail	G3G4	S3	N	N
<i>Macrochelys temminckii</i>	Alligator Snapping Turtle		S3	N	SSC
<i>Medionidus walkeri</i>	Suwannee Moccasinshell	G1	S1	N	N
Mesic flatwoods		G4	S4	N	N
<i>Procambarus pallidus</i>	Pallid Cave Crayfish	G2G3	S2S3	N	N
Sandhill		G3	S2	N	N
<i>Sphodros abbotti</i>	Blue Purse-web Spider	G4G5	S4	N	N
Upland pine		G3	S2	N	N
<i>Ursus americanus floridanus</i>	Florida Black Bear	G5T2	S2	N	ST*
Potential					
<i>Acantharchus pomotis</i>	Mud Sunfish	G4G5	S3	N	N
<i>Agrimonia incisa</i>	Incised Groove-bur	G3	S2	N	LE
<i>Alligator mississippiensis</i>	American Alligator	G5	S4	SAT	FT(S/A)
<i>Amblyscirtes alternata</i>	Dusky Roadside-Skipper	G2G3	S1S2	N	N
<i>Ambystoma cingulatum</i>	Frosted Flatwoods Salamander	G2	S2	LT	FT
<i>Ameiurus serracanthus</i>	Spotted Bullhead	G3	S3	N	N
Aquatic cave			S3	N	N
<i>Asplenium heteroresiliens</i>	Wagner's Spleenwort	GNA	S1	N	N
<i>Athene cunicularia floridana</i>	Florida Burrowing Owl	G4T3	S3	N	SSC
<i>Brickellia cordifolia</i>	Flyr's Brickell-bush	G2G3	S2	N	LE
<i>Carex chapmanii</i>	Chapman's Sedge	G3	S3	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.



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Florida Natural Areas Inventory Biodiversity Matrix Report



Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing
<i>Corynorhinus rafinesquii</i>	Rafinesque's Big-eared Bat	G3G4	S2	N	N
<i>Cyprinella leedsii</i>	Bannerfin Shiner	G4	S3	N	N
<i>Dermochelys coriacea</i>	Leatherback Sea Turtle	G2	S2	LE	FE
<i>Forestiera godfreyi</i>	Godfrey's Swampprivet		S2	N	LE
<i>Grus canadensis pratensis</i>	Florida Sandhill Crane	G5T2T3	S2S3	N	ST
<i>Hartwrightia floridana</i>	Hartwrightia	G2	S2	N	LT
<i>Heterodon simus</i>	Southern Hognose Snake		S2	N	N
<i>Lithobates capito</i>	Carolina Gopher Frog	G3	S3	N	SSC
<i>Litsea aestivalis</i>	Pondspice	G3?	S2	N	LE
<i>Myotis austroriparius</i>	Southeastern Bat	G3G4	S3	N	N
<i>Notophthalmus perstriatus</i>	Striped Newt	G2G3	S2S3	C	N
<i>Picoides borealis</i>	Red-cockaded Woodpecker	G3	S2	LE	FE
<i>Pseudemys concinna suwanniensis</i>	Suwannee Cooter	G5T3	S3	N	SSC
<i>Remasellus parvus</i>	Swimming Little Florida Cave Isopod	G1G2	S1S2	N	N
<i>Rhexia parviflora</i>	Small-flowered Meadowbeauty	G2	S2	N	LE
<i>Selonodon simplex</i>	Simple Cebionid Beetle	G1	S1	N	N
<i>Xyris longisepala</i>	Karst Pond Xyris	G2G3	S2S3	N	LE

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Elements and Element Occurrences

An **element** is any exemplary or rare component of the natural environment, such as a species, natural community, bird rookery, spring, sinkhole, cave, or other ecological feature.

An **element occurrence (EO)** is an area of land and/or water in which a species or natural community is, or was, present. An EO should have practical conservation value for the Element as evidenced by potential continued (or historical) presence and/or regular recurrence at a given location.

Element Ranking and Legal Status

Using a ranking system developed by NatureServe and the Natural Heritage Program Network, the Florida Natural Areas Inventory assigns two ranks for each element. The global rank is based on an element's worldwide status; the state rank is based on the status of the element in Florida. Element ranks are based on many factors, the most important ones being estimated number of Element Occurrences (EOs), estimated abundance (number of individuals for species; area for natural communities), geographic range, estimated number of adequately protected EOs, relative threat of destruction, and ecological fragility.

FNAI GLOBAL ELEMENT RANK

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.

GH = Of historical occurrence throughout its range, may be rediscovered (e.g., ivory-billed woodpecker).

GX = Believed to be extinct throughout range.

GXC = Extirpated from the wild but still known from captivity or cultivation.

G#? = Tentative rank (e.g., G2?).

G#G# = Range of rank; insufficient data to assign specific global rank (e.g., G2G3).

G#T# = Rank of a taxonomic subgroup such as a subspecies or variety; the G portion of the rank refers to the entire species and the T portion refers to the specific subgroup; numbers have same definition as above (e.g., G3T1).

G#Q = Rank of questionable species - ranked as species but questionable whether it is species or subspecies; numbers have same definition as above (e.g., G2Q).

G#T#Q = Same as above, but validity as subspecies or variety is questioned.

GU = Unrankable; due to a lack of information no rank or range can be assigned (e.g., GUT2).

GNA = Ranking is not applicable because the element is not a suitable target for conservation (e.g. a hybrid species).

GNR = Element not yet ranked (temporary).

GNR TNR = Neither the element nor the taxonomic subgroup has yet been ranked.

FNAI STATE ELEMENT RANK

S1 = Critically imperiled in Florida because of extreme rarity (5 or fewer occurrences or less than 1000 individuals) or because of extreme vulnerability to extinction due to some natural or man-made factor.

S2 = Imperiled in Florida because of rarity (6 to 20 occurrences or less than 3000 individuals) or because of vulnerability to extinction due to some natural or man-made factor.

S3 = Either very rare and local in Florida (21-100 occurrences or less than 10,000 individuals) or found locally in a restricted range or vulnerable to extinction from other factors.

S4 = Apparently secure in Florida (may be rare in parts of range).

S5 = Demonstrably secure in Florida.

SH = Of historical occurrence in Florida, possibly extirpated, but may be rediscovered (e.g., ivory-billed woodpecker).

SX = Believed to be extirpated throughout Florida.

SU = Unrankable; due to a lack of information no rank or range can be assigned.

SNA = State ranking is not applicable because the element is not a suitable target for conservation (e.g. a hybrid species).

SNR = Element not yet ranked (temporary).

FEDERAL LEGAL STATUS

Legal status information provided by FNAI for information only. For official definitions and lists of protected species, consult the relevant federal agency.

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.

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.
LE = Endangered: species in danger of extinction throughout all or a significant portion of its range.
LE, LT = Species currently listed endangered in a portion of its range but only listed as threatened in other areas
LE, PDL = Species currently listed endangered but has been proposed for delisting.
LE, PT = Species currently listed endangered but has been proposed for listing as threatened.
LE, XN = Species currently listed endangered but tracked population is a non-essential experimental population.
LT = Threatened: species likely to become Endangered within the foreseeable future throughout all or a significant portion of its range.
SAT = Treated as threatened 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.
SC = Not currently listed, but considered a "species of concern" to USFWS.

STATE LEGAL STATUS

Provided by FNAI for information only. For official definitions and lists of protected species, consult the relevant state agency.

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.

FE = Listed as Endangered Species at the Federal level by the U. S. Fish and Wildlife Service
FT = Listed as Threatened Species at the Federal level by the U. S. Fish and Wildlife Service
F(XN) = Federal listed as an experimental population in Florida
FT(S/A) = Federal Threatened due to similarity of appearance
ST = State population listed as Threatened 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. (ST* for *Ursus americanus floridanus* (Florida black bear) indicates that this status does not apply in Baker and Columbia counties and in the Apalachicola National Forest. ST* for *Neovison vison* pop.1 (Southern mink, South Florida population) indicates that this status applies to the Everglades population only.)
SSC = 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. (SSC* indicates that a species has SSC status only in selected portions of its range in Florida. SSC* for *Pandion haliaetus* (Osprey) indicates that this status applies in Monroe county only.)
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 see: <http://www.doacs.state.fl.us/pi/>.

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.
N = Not currently listed, nor currently being considered for listing.

Element Occurrence Ranking

FNAI ranks of quality of the element occurrence in terms of its viability (EORANK). Viability is estimated using a combination of factors that contribute to continued survival of the element at the location. Among these are the size of the EO, general condition of the EO at the site, and the conditions of the landscape surrounding the EO (e.g. an immediate threat to an EO by local development pressure could lower an EO rank).

A = Excellent estimated viability
A? = Possibly excellent estimated viability
AB = Excellent or good estimated viability
AC = Excellent, good, or fair estimated viability
B = Good estimated viability
B? = Possibly good estimated viability
BC = Good or fair estimated viability
BD = Good, fair, or poor estimated viability
C = Fair estimated viability
C? = Possibly fair estimated viability
CD = Fair or poor estimated viability
D = Poor estimated viability
D? = Possibly poor estimated viability
E = Verified extant (viability not assessed)
F = Failed to find
H = Historical
NR = Not ranked, a placeholder when an EO is not (yet) ranked.
U = Unrankable
X = Extirpated

*For additional detail on the above ranks see: <http://www.natureserve.org/explorer/eorankguide.htm>

FNAI also uses the following EO ranks:

H? = Possibly historical
F? = Possibly failed to find
X? = Possibly extirpated

The following offers further explanation of the H and X ranks as they are used by FNAI:

The rank of H is used when there is a lack of recent field information verifying the continued existence of an EO, such as (a) when an EO is based only on historical collections data; or (b) when an EO was ranked A, B, C, D, or E at one time and is later, without field survey work, considered to be possibly extirpated due to general habitat loss or degradation of the environment in the area. This definition of the H rank is dependent on an interpretation of what constitutes "recent" field information. Generally, if there is no known survey of an EO within the last 20 to 40 years, it should be assigned an H rank. While these time frames represent suggested maximum limits, the actual time period for historical EOs may vary according to the biology of the element and the specific landscape context of each occurrence (including anthropogenic alteration of the environment). Thus, an H rank may be assigned to an EO before the maximum time frames have lapsed. Occurrences that have not been surveyed for periods exceeding these time frames should not be ranked A, B, C, or D. The higher maximum limit for plants and communities (i.e., ranging from 20 to 40 years) is based upon the assumption that occurrences of these elements generally have the potential to persist at a given location for longer periods of time. This greater potential is a reflection of plant biology and community dynamics. However, landscape factors must also be considered. Thus, areas with more anthropogenic impacts on the environment (e.g., development) will be at the lower end of the range, and less-impacted areas will be at the higher end.

The rank of X is assigned to EOs for which there is documented destruction of habitat or environment, or persuasive evidence of eradication based on adequate survey (i.e., thorough or repeated survey efforts by one or more experienced observers at times and under conditions appropriate for the Element at that location).