NOTE: THIS ATTACHMENT INCLUDES FLORIDA NATURAL AREAS INVENTORY (FNAI) ELEMENT OCCURRENCE MAPS AND DATA FOR THE CITRUS SUBSTATION, EXTRACTED FROM THE COMMON ROUTE FNAI ELEMENT OCCURRENCE REPORT.

FLORIDA
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INVENTORY

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December 1, 2009

Stacy Rizzo
Golder Associates, Inc.
6026 NW 1st Place
Gainesville, FL 32607

Dear Ms. Rizzo,

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: Common Corridor

Date Received: November 24, 2009

Location: Levy and Citrus Counties

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 maps and element occurrence tables). 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 that some element occurrences occur in the general vicinity of the label point. This may be due to lack of precision of the source data, or an element that occurs over an extended area (such as a wide ranging species or large natural community). For animals and plants, Element Occurrences generally refer to more than a casual sighting; they usually indicate a viable population of the species. Note that some element occurrences represent historically documented observations which may no longer be extant.

Likely and Potential Rare Species

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

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

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

Florida Resources
and Environmental
Analysis Center
Institute of Science
and Public Affairs
The Florida State University

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

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

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

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

Managed Areas
Portions of the site appear to be located within the Marjorie Harris Carr Cross Florida Greenway State Recreation and Conservation Area, managed by the Florida Department of Environmental Protection, Division of Greenways and Trails.

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 Etoniah/Cross Florida 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, 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 regulatory authority over these lands until they are purchased.

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

Please visit www.fnai.org/trackinglist.cfm 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,

Alicia C. Newberry

Alicia C. Newberry
Data Services Coordinator

Encl

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Common Corridor (Map 2 of 2)

Site boundaries are approximate.

Citrus County

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

DRYMCOUP*347
APHECOER*41
SCRUB****41
Felburn Park
GOPHPOLY*1293
PODOFLOR*63
GOPHPOLY*701
XERIHAMM*30
PHYLPLA*22
GOPHPOLY*1294
Etoniah/Cross Florida Greenway
DOMESWAM*12
HYDRHAMM*
Marjorie Harris Carr Cross Florida Greenway State Recreation and Conservation Area
MESIFLAT*56
ARDEALBA*427
Levy County
Citrus County
APHECOER*42
SCRUB****42
HALILEUC*446
PSEUSERE*5
Red Level
Florida Springs Coastal Greenway
CROTADAM*270
GOPHPOLY*1048
DRYMCOUP*450
Crystal River Preserve State Park
ELANFORF*10
SANDHILL*54
SCIUSHER*58
FALCPAUL*52
RANACAPI*54
PODOFLOR*40
GOPHPOLY*629
RANACAPI*134
Citronelle
19
488
495

N
W
E
S

0 0.5 1 2 Miles

NOTE
Map should not be interpreted without accompanying documents.

Map produced by ACN
Map Date: 1 DEC 2009

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ELEMENT OCCURRENCES DOCUMENTED ON OR NEAR

Common Corridor (Map 2 of 2)

Map Label	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing	Observation Date	Description	EO Comments
DOMESWAM*12	Dome swamp		G4	S4	N	N	2004	SCATTERED OCCURRENCES UP TO 20 AC.; NO EVIDENCE OF LOGGING, TREES MAY BE DWARFED; WATER QUALITY APPARENTLY GOOD; POOLS ARE PEAT BOTTOMED.	2004: Update to last obs date was based on interpretation of aerial photography (previous value was 1991-11-12) (U05FNA02FLUS). OVERSTORY DOMINATED BY SMALL TAXODIUM ASCENDENS; WATER DEPTH UP TO 3 FEET.
MESIFLAT*56	Mesic flatwoods		G4	S4	N	N	2004	No general description given	2004: Update to last obs date was based on interpretation of aerial photography (previous value was 1991-11-12) (U05FNA02FLUS). APPROX. 50 YEAR OLD PINUS PALUSTRIS WITH RELATIVELY DENSE UNDERSTORY OF SERENOA REPENS, LYONIA LUCIDA, AND ILEX GLABRA.
APHECOER*42	Aphelocoma coerulescens	Florida Scrub-jay	G2	S2	LT	LT	1981-02-21	GRASSY PALMETTO SCRUB	1981-02-21: 11 SCRUB JAYS
RANACAPI*134	Rana capito	Gopher Frog	G3	S3	N	LS	1991-03-17	Upland Pine Forest; old field community	1991-03-17: D.J. STEVENSON, observed 1 adult female.
HYDRHAMM*17	Hydric hammock		G4	S4	N	N	2004	ISOLATED OCCURRENCE WITH LIMESTONE BOULDERS AT THE SURFACE; SOME DEEPER POOLS OF WATER.	2004: Update to last obs date was based on interpretation of aerial photography (previous value was 1991-11-12) (U05FNA02FLUS). DOMINATED BY SABAL PALMETTO AND ACER RUBRUM.
SCRUB****42	Scrub		G2	S2	N	N	2004	GRASSY PALMETTO SCRUB	2004: Update to last obs date was based on interpretation of aerial photography (previous value was 1981-02-21) (U05FNA02FLUS). OCCURRENCE AT SITE
SCRUB****41	Scrub		G2	S2	N	N	1981-02-21	PALMETTO SCRUB, SCATTERED PALMS	OCCURRENCE AT SITE
GOPHPOLY*629	Gopherus polyphemus	Gopher Tortoise	G3	S3	N	LT	1990-04	SANDHILL, LONGLEAF PINE-TURKEY OAK, WIREGRASS, ALSO SOME PASTURE.	NUMEROUS BURROWS. 300+/- INDIVIDUALS BASED ON BURROW SURVEYS TO FGFWFC STANDARDS, EST POPULATION DENSITY OF 1.3/AC. 42%, 25% AND 33% OF OBSERVED BURROWS WERE ACTIVE, INACTIVE AND OLD RESPECTIVELY.
FALCPAUL*52	Falco sparverius paulus	Southeastern American Kestrel	G5T4	S3	N	LT	1990-04	SANDHILL, LONGLEAF PINE-TURKEY OAK, WIREGRASS.	8 INDIVIDUALS AND SURVIVING FLEDGLINGS AND 2 CONFIRMED NESTS.

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Common Corridor (Map 2 of 2)

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SANDHILL*54	Sandhill		G3	S2	N	N	1990-04	SANDHILL, LONGLEAF PINE-TURKEY OAK, WIREGRASS.	No EO data given
PODOFLOR*40	Podomys floridanus	Florida Mouse	G3	S3	N	LS	1990-04	SANDHILL, LONGLEAF PINE-TURKEY OAK, WIREGRASS.	36 (ADULTS AND JUVENILE) INDIVIDUALS CAPTURED AND RELEASED, DURING 800 TRAP NIGHT SURVEY. MAJORITY OF TRAPS WERE SET IN VICINITY OF GOPHERUS BURROWS.
RANACAPI*54	Rana capito	Gopher Frog	G3	S3	N	LS	1990-04	SANDHILL, LONGLEAF PINE-TURKEY OAK, WIREGRASS.	6 INDIVIDUALS CAPTURED IN FUNNEL TRAPS SET AT ENTRANCE OF GOPHER TORTOISE BURROWS.
SCIUSHER*58	Sciurus niger shermani	Sherman's Fox Squirrel	G5T3	S3	N	LS	1990-04	SANDHILL, LONGLEAF PINE-TURKEY OAK, WIREGRASS, ALSO IN PASTURE-BAHIA GRASS.	6 INDIVIDUALS OBSERVED IN SANDHILL AND PASTURE.
DRYMCOUP*347	Drymarchon couperi	Eastern Indigo Snake	G3	S3	LT	LT	1973-10	No general description given	MUSEUM SPECIMEN: S. CHRISTMAN, OCT 1973, UF.
APHECOER*41	Aphelocoma coerulescens	Florida Scrub-jay	G2	S2	LT	LT	1981-02-21	PALMETTO SCRUB, SCATTERED PINES	1981-02-21: 2 SCRUB JAYS
ARDEALBA*427	Ardea alba	Great Egret	G5	S4	N	N	1987-05-26	Swamp	1987/05/26: D.E. Runde, GFC; Total = 15.
GOPHPOLY*1048	Gopherus polyphemus	Gopher Tortoise	G3	S3	N	LT	1997-04-08	Planted slash pine; includes some relic sandhill planted with slash pine and turkey oak (NW1/4 of section 2 T18SR16E).	1997-04-08: One individual sighted on dirt road in NW1/4 section 1 T18SR16E (S. Blitch et al.). 1995-1997: S. Blitch made several sightings of tortoises at three different locations within element occurrence boundaries (see attached map).
CROTADAM*270	Crotalus adamanteus	Eastern Diamondback Rattlesnake	G4	S3	N	N	1996	Planted pine.	1996: S. Blitch observed one individual once or twice near state buffer preserve's shop.
ELANFORF*10	Elanoides forficatus	Swallow-tailed Kite	G5	S2	N	N	1995-SPRING	No general description given	1995 Spring: One pair nested in planted slash pine (S. Blitch).
DRYMCOUP*450	Drymarchon couperi	Eastern Indigo Snake	G3	S3	LT	LT	1996-XX-XX	Planted slash pine and pine flatwoods (T17SR16E sec. 35); oak hammock and pasture (T18SR16E Sec. 1) (S. Blitch); mature slash pine plantation (G. Maidhoff).	1995-1996: Individuals observed at four different locations by S. Blitch (no specific dates). 1995-02-21: One snake observed by Ms. Yulee Commander basking in fire trail (U95MAI02).

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ELEMENT OCCURRENCES DOCUMENTED ON OR NEAR
Common Corridor (Map 2 of 2)

Map Label	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing	Observation Date	Description	EO Comments
PODOFLOR*63	Podomys floridanus	Florida Mouse	G3	S3	N	LS	1993-01-30	Remnant sandhills, unburned for an extensive period of time. To north is a highly disturbed dolomite mine. To south is sparsely developed subdivision.	1993-01-30: 3 individuals (1 juvenile male, 1 adult male, and 1 adult female) caught in Sherman traps (U93MAI01).
GOPHPOLY*701	Gopherus polyphemus	Gopher Tortoise	G3	S3	N	LT	2007-09-05	1996-02-24: open grassy area within a slash pine flatwoods; past disturbance from canal construction and spoil deposition (U96MAI01FLUS). 1991-11-12: xeric hammock with Quercus virginiana, Q. laurifolia, Pinus palustris, and patchy	2007-09-05: NeSmith documented one active adult burrow (F08FNA02FLUS). 2004-01-21: A. Davis found eight burrows, only one of which was active (PNDDAV04FLUS, U04DAV01FLUS). 1996-02-24: Maidhof observed adult tortoise and three burro
XERIHAMM*30	Xeric hammock		G3	S3	N	N	2004	GRADES INTO MESIC FLATWOODS.	2004: Update to last obs date was based on interpretation of aerial photography (previous value was 1991-11-12) (U05FNA02FLUS). OVERSTORY WITH QUERCUS VIRGINIANA, Q. LAURIFOLIA, AND PINUS PALUSTRIS; GROUND COVER PATCHY WITH ARISTIDA STRICTA, DALEA SP., A
HALILEUC*446	Haliaeetus leucocephalus	Bald Eagle	G5	S3	PS	N	2003	No general description given	Nest status 1995-2003: Continuously active. (U03FWC01FLUS). Previous data (note different format) NEST: 1995: PRODUCED 1 YOUNG; 1994: GONE; 1993: PRODUCED 2 YOUNG; 1992-87: NO DATA; 1982-1986 ACTIVE; FLEDGED YOUNG 1982-1983, 1985.
PHYLPLAT*22	Phyllanthus leibmannianus ssp. platylepis	Pinewoods Dainties	G4T2	S2	N	LE	2004-05-19	2004-05-19: Both Source Points occurred within upland mixed forest with exposed limestone (U05HER01FLUS, U03HER01FLUS).	2004-05-19: Over 300 plants that were in bud and flower were observed scattered thoughout an area covering 100 feet X 10 feet in the eastern-most Source Point (U05HER01FLUS). 2003-04-24: The western-most Source Point consisted of 10 scatte
PSEULUST*5	Pseudobranchus striatus lustricolus	Gulf Hammock Dwarf Siren	G5T1	S1	N	N	1951-03-15	1951: habitat not described by Neill (1951) (A51NEI02FLUS).	1951-03-15: W. T. Neill collected at least eight adults (paratypes, ERA-WTN 14218-14225) (A51NEI02FLUS, B92MOL01FLUS).

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Florida Natural Areas Inventory

ELEMENT OCCURRENCES DOCUMENTED ON OR NEAR

Common Corridor (Map 2 of 2)

Map Label	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing	Observation Date	Description	EO Comments
GOPHPOLY*1293	Gopherus polyphemus	Gopher Tortoise	G3	S3	N	LT	2002-05-30	2002-05-30: ruderal site south of canal. Ddisturbances include land clearing, and excavation (U02HER01FLUS, PNDHER03FLUS, PNDSCH03FLUS).	2002-05-30: 2 active burrows were documented (U02HER01FLUS, PNDHER03FLUS, PNDSCH03FLUS).
GOPHPOLY*1294	Gopherus polyphemus	Gopher Tortoise	G3	S3	N	LT	2001-12-20	2001-12-20: ruderal site (limerock mine) (U02HER01FLUS, PNDHER03FLUS, PNDSCH03FLUS).	2001-12-20: one active burrow documented (U02HER01FLUS, PNDHER03FLUS, PNDSCH03FLUS).

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Florida Natural Areas Inventory

Biodiversity Matrix Report
Map 2 of 2

Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing
Matrix Unit ID: 23022					
Likely					
Aphelocoma coerulescens	Florida Scrub-jay	G2	S2	LT	LT
Drymarchon couperi	Eastern Indigo Snake	G3	S3	LT	LT
Heterodon simus	Southern Hognose Snake	G2	S2	N	N
Mesic flatwoods		G4	S4	N	N
Potential					
Agrimonia incisa	Incised Groove-bur	G3	S2	N	LE
Aimophila aestivalis	Bachman's Sparrow	G3	S3	N	N
Asplenium heteroresiliens	Wagner's Spleenwort	GNA	S1	N	N
Corynorhinus rafinesquii	Rafinesque's Big-eared Bat	G3G4	S2	N	N
Forestiera godfreyi	Godfrey's Swampprivet	G2	S2	N	LE
Gopherus polyphemus	Gopher Tortoise	G3	S3	N	LT
Justicia cooleyi	Cooley's Water-willow	G2	S2	LE	LE
Leitneria floridana	Corkwood	G3	S3	N	LT
Matelea floridana	Florida Spiny-pod	G2	S2	N	LE
Mustela frenata peninsulae	Florida Long-tailed Weasel	G5T3	S3	N	N
Myotis austroriparius	Southeastern Bat	G3G4	S3	N	N
Notophthalmus perstriatus	Striped Newt	G2G3	S2S3	N	N
Phyllanthus leibmannianus ssp. platylepis	Pinewood Dainties	G4T2	S2	N	LE
Podomys floridanus	Florida Mouse	G3	S3	N	LS
Sciurus niger shermani	Sherman's Fox Squirrel	G5T3	S3	N	LS
Spigelia loganioides	Pinkroot	G2Q	S2	N	LE
Stilosoma extenuatum	Short-tailed Snake	G3	S3	N	LT
Matrix Unit ID: 23023					
Likely					
Drymarchon couperi	Eastern Indigo Snake	G3	S3	LT	LT
Mesic flatwoods		G4	S4	N	N
Potential					
Agrimonia incisa	Incised Groove-bur	G3	S2	N	LE
Aimophila aestivalis	Bachman's Sparrow	G3	S3	N	N
Asplenium heteroresiliens	Wagner's Spleenwort	GNA	S1	N	N
Athene cunicularia floridana	Florida Burrowing Owl	G4T3	S3	N	LS
Forestiera godfreyi	Godfrey's Swampprivet	G2	S2	N	LE
Gopherus polyphemus	Gopher Tortoise	G3	S3	N	LT
Heterodon simus	Southern Hognose Snake	G2	S2	N	N
Justicia cooleyi	Cooley's Water-willow	G2	S2	LE	LE
Leitneria floridana	Corkwood	G3	S3	N	LT
Matelea floridana	Florida Spiny-pod	G2	S2	N	LE
Mustela frenata peninsulae	Florida Long-tailed Weasel	G5T3	S3	N	N
Myotis austroriparius	Southeastern Bat	G3G4	S3	N	N
Notophthalmus perstriatus	Striped Newt	G2G3	S2S3	N	N
Phyllanthus leibmannianus ssp. platylepis	Pinewood Dainties	G4T2	S2	N	LE
Pituophis melanoleucus mugitus	Florida Pine Snake	G4T3	S3	N	LS
Podomys floridanus	Florida Mouse	G3	S3	N	LS

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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Biodiversity Matrix Report
Map 2 of 2

Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing
Rana capito	Gopher Frog	G3	S3	N	LS
Sciurus niger shermani	Sherman's Fox Squirrel	G5T3	S3	N	LS
Spigelia loganioides	Pinkroot	G2Q	S2	N	LE
Stilosoma extenuatum	Short-tailed Snake	G3	S3	N	LT

Matrix Unit ID: 23024

Likely

Haliaeetus leucocephalus	Bald Eagle	G5	S3	N	N
Mesic flatwoods		G4	S4	N	N
Sandhill upland lake		G3	S2	N	N

Potential

Agrimonia incisa	Incised Groove-bur	G3	S2	N	LE
Aimophila aestivalis	Bachman's Sparrow	G3	S3	N	N
Asplenium heteroresiliens	Wagner's Spleenwort	GNA	S1	N	N
Athene cunicularia floridana	Florida Burrowing Owl	G4T3	S3	N	LS
Drymarchon couperi	Eastern Indigo Snake	G3	S3	LT	LT
Forestiera godfreyi	Godfrey's Swampprivet	G2	S2	N	LE
Gopherus polyphemus	Gopher Tortoise	G3	S3	N	LT
Heterodon simus	Southern Hognose Snake	G2	S2	N	N
Leitneria floridana	Corkwood	G3	S3	N	LT
Matelea floridana	Florida Spiny-pod	G2	S2	N	LE
Mustela frenata peninsulae	Florida Long-tailed Weasel	G5T3	S3	N	N
Myotis austroriparius	Southeastern Bat	G3G4	S3	N	N
Notophthalmus perstriatus	Striped Newt	G2G3	S2S3	N	N
Phyllanthus leibmannianus ssp. platylepis	Pinewood Dainties	G4T2	S2	N	LE
Pituophis melanoleucus mugitus	Florida Pine Snake	G4T3	S3	N	LS
Podomys floridanus	Florida Mouse	G3	S3	N	LS
Rana capito	Gopher Frog	G3	S3	N	LS
Sciurus niger shermani	Sherman's Fox Squirrel	G5T3	S3	N	LS
Spigelia loganioides	Pinkroot	G2Q	S2	N	LE
Stilosoma extenuatum	Short-tailed Snake	G3	S3	N	LT

Matrix Unit ID: 23025

Likely

Hydric hammock		G4	S4	N	N
Mesic flatwoods		G4	S4	N	N
Sandhill upland lake		G3	S2	N	N

Potential

Acipenser oxyrinchus desotoi	Gulf Sturgeon	G3T2	S2	LT	LS
Agrimonia incisa	Incised Groove-bur	G3	S2	N	LE
Aimophila aestivalis	Bachman's Sparrow	G3	S3	N	N
Ardea alba	Great Egret	G5	S4	N	N
Asplenium heteroresiliens	Wagner's Spleenwort	GNA	S1	N	N
Athene cunicularia floridana	Florida Burrowing Owl	G4T3	S3	N	LS
Corynorhinus rafinesquii	Rafinesque's Big-eared Bat	G3G4	S2	N	N
Drymarchon couperi	Eastern Indigo Snake	G3	S3	LT	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.
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Biodiversity Matrix Report
Map 2 of 2

Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing
Forestiera godfreyi	Godfrey's Swampprivet	G2	S2	N	LE
Gopherus polyphemus	Gopher Tortoise	G3	S3	N	LT
Heterodon simus	Southern Hognose Snake	G2	S2	N	N
Leitneria floridana	Corkwood	G3	S3	N	LT
Litsea aestivalis	Pondspice	G3	S2	N	LE
Matelea floridana	Florida Spiny-pod	G2	S2	N	LE
Mustela frenata peninsulae	Florida Long-tailed Weasel	G5T3	S3	N	N
Myotis austroriparius	Southeastern Bat	G3G4	S3	N	N
Notophthalmus perstriatus	Striped Newt	G2G3	S2S3	N	N
Phyllanthus leibmannianus ssp. platylepis	Pinewood Dainties	G4T2	S2	N	LE
Pituophis melanoleucus mugitus	Florida Pine Snake	G4T3	S3	N	LS
Podomys floridanus	Florida Mouse	G3	S3	N	LS
Pseudemys concinna suwanniensis	Suwannee Cooter	G5T3	S3	N	LS
Pteroglossaspis ecristata	Giant Orchid	G2G3	S2	N	LT
Rana capito	Gopher Frog	G3	S3	N	LS
Rhexia parviflora	Small-flowered Meadowbeauty	G2	S2	N	LE
Sciurus niger shermani	Sherman's Fox Squirrel	G5T3	S3	N	LS
Spigelia loganioides	Pinkroot	G2Q	S2	N	LE
Stilosoma extenuatum	Short-tailed Snake	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.

GLOBAL AND STATE RANKS

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

GLOBAL RANK DEFINITIONS

G1	Critically imperiled globally because of extreme rarity (5 or fewer occurrences or less than 1000 individuals) or because of extreme vulnerability to extinction due to some natural or man-made factor.
G2	Imperiled globally because of rarity (6 to 20 occurrences or less than 3000 individuals) or because of vulnerability to extinction due to some natural or man-made factor.
G3	Either very rare and local throughout its range (21-100 occurrences or less than 10,0000 individuals) or found locally in a restricted range or vulnerable to extinction from other factors.
G4	Apparently secure globally (may be rare in parts of range).
G5	Demonstrably secure globally.
G#?	Tentative rank (e.g., G2?)
G#G#	Range of rank; insufficient data to assign specific global rank (e.g., G2G3)
G#T#	Rank of a taxonomic subgroup such as a subspecies or variety; the G portion of the rank refers to the entire species and the T portion refers to the specific subgroup; numbers have same definition as above (e.g., G3T1)
G#Q	Rank of questionable species - ranked as species but questionable whether it is species or subspecies; numbers have same definition as above (e.g., G2Q)
G#T#Q	Same as above, but validity as subspecies or variety is questioned.
GH	Of historical occurrence throughout its range, may be rediscovered (e.g., ivory-billed woodpecker)
GNA	Ranking is not applicable because element is not a suitable target for conservation (e.g. as for hybrid species)
GNR	Not yet ranked (temporary)
GNRTNR	Neither the full species nor the taxonomic subgroup has yet been ranked (temporary)
GX	Believed to be extinct throughout range
GXC	Extirpated from the wild but still known from captivity/cultivation
GU	Unrankable. Due to lack of information, no rank or range can be assigned (e.g., GUT2).

STATE RANK DEFINITIONS

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

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

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

FEDERAL LEGAL STATUS

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

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

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

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

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

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

LS* Indicates that a species has LS status only in selected portions of its range in Florida. LS* for Pandion haliaetus (Osprey) state listed as LS (Species of Special Concern) in Monroe County only.

PE Proposed for listing as Endangered.

PT Proposed for listing as Threatened.

PS Proposed for listing as a Species of Special Concern.

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

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

LE Listed as Endangered Plants in the Preservation of Native Flora of Florida Act. Defined as species of plants native to the state that are in imminent danger of extinction within the state, the survival of which is unlikely if the causes of a decline in the number of plants continue, and includes all species determined to be endangered or threatened pursuant to the Federal Endangered Species Act of 1973, as amended.

PE Proposed by the FDACS for listing as Endangered Plants.

LT Listed as Threatened Plants in the Preservation of Native Flora of Florida Act. Defined as species native to the state that are in rapid decline in the number of plants within the state, but which have not so decreased in such number as to cause them to be endangered. LT* indicates that a species has LT status only in selected portions of its range in Florida.

PT Proposed by the FDACS for listing as Threatened Plants.

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

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FLORIDA
Natural Areas
INVENTORY

Tracking Florida's Biodiversity

Etoniah/Cross Florida Greenway

Clay, Putnam, Marion, Levy and Citrus Counties

Group A: Full Fee

Group A: Less-Than-Fee

Purpose for State Acquisition

Though partially logged and planted in pine, the large expanse of flatwoods, sandhills, and scrub in central Putnam County, extending to the Cross-Florida Greenway along the Ocklawaha River, is important for the survival of many kinds of wildlife and plants. The Greenway itself is a unique strip of land for recreation and conservation that makes a cross-section of the peninsula from the Withlacoochee River to the St. Johns. The Etoniah/Cross Florida Greenway project will conserve the Putnam County land as well as fill in gaps in the Greenway; ensure that wildlife such as Florida black bear and scrub jays and plants such as the Etoniah rosemary will have areas in which to live; and provide recreation for the public ranging from long-distance hiking trails to fishing, camping, and hunting. This project may also help complete the Florida National Scenic Trail, a statewide non-motorized trail that crosses a number of Florida Forever project sites.

Manager

Division of Forestry (DOF), Florida Department of Agriculture and Consumer Services (Etoniah Creek tract) and Office of Greenways and Trails (OGT), Florida Department Environmental Protection (remaining tracts). DOF will monitor compliance with the terms of any less-than-fee purchase agreement.

Etoniah/Cross Florida Greenway FNAI Elements - July 2009	
Etonia Rosemary	G1/S1
Florida Scrub-jay	G2/S2
Florida Black Bear	G5T2/S2
Eastern Indigo Snake	G3/S3
Gopher Tortoise	G3/S3
Florida Mouse	G3/S3
Swallow-tailed Kite	G5/S2
Pinkroot	G2Q/S2
Florida Willow	G2/S2
Variable-leaved Indian-plantain	G2/S2
Pinewood Dainties	G4T2/S2
Black Creek Crayfish	G2/S2
31 rare species are associated with the project	

General Description

The project consists of a large tract extending north from the Cross Florida Greenway to Clay County, and four smaller tracts designed to fill in gaps in state ownership along the Cross Florida Greenway. The original Etoniah/Cross Florida Greenway project is important for the survival of black bear in northeast Florida, includes many acres of pine plantation and cut-over flatwoods, but also high-quality sandhill, a unique white-cedar swamp along Deep Creek, and patches of sand pine scrub near Etoniah Creek that harbor at least a dozen rare species including fox squirrel, gopher tortoise, indigo and pine snakes, rare crayfish, and seven rare plants including the only known site for federally listed Etoniah rosemary. The smaller tracts include high-quality floodplain swamps along the Ocklawaha River; mixed forest land near U.S. 441 south of Ocala; and Inglis Island, disturbed pinelands between the old Cross Florida Barge Canal and the Withlacoochee River. Eight archaeological sites are known from the project. The greatest threat to the project area is intensive logging, but the uplands on the large tract are suitable for residential development. The smaller sites would lose their value as connectors if developed for residences.

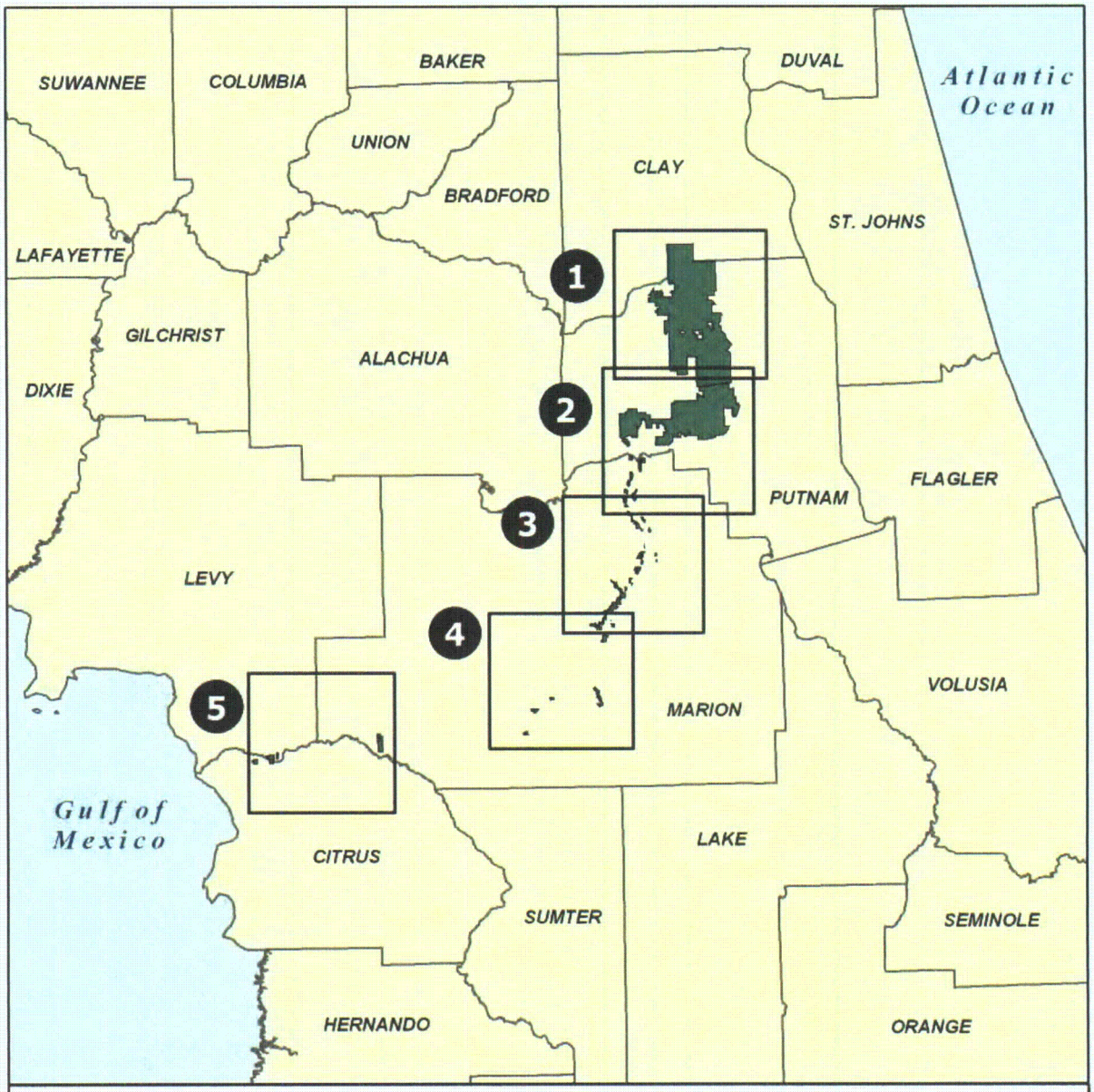
Public Use

The Cross Florida Greenway connectors will form part of a conservation and recreation area; the majority of

Placed on list	**1995***
Project Area (Not GIS Acreage)	**89,907**
Acres Acquired	**22,143****
at a Cost of	**$20,256,131****
Acres Remaining	**67,764**
with Estimated (Tax Assessed) Value of $174,247,293	

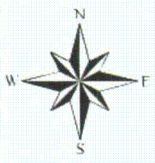
*Etoniah Creek, Cross Florida Greenways and Cross Florida Greenways Phase II were combined in 1995 to create Etoniah/Cross Florida Greenway. A Less-Than-Fee parcel of approximately 18,406 acres was added to the project in 1997.

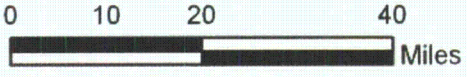
** Includes a donation of 43 acres and acreage acquired and funds spent by the SJRWMD on Plum Crk/Rick Co.



ETONIAH/CROSS FLORIDA GREENWAY: OVERVIEW

CLAY, PUTNAM, MARION, LEVY, AND CITRUS COUNTIES





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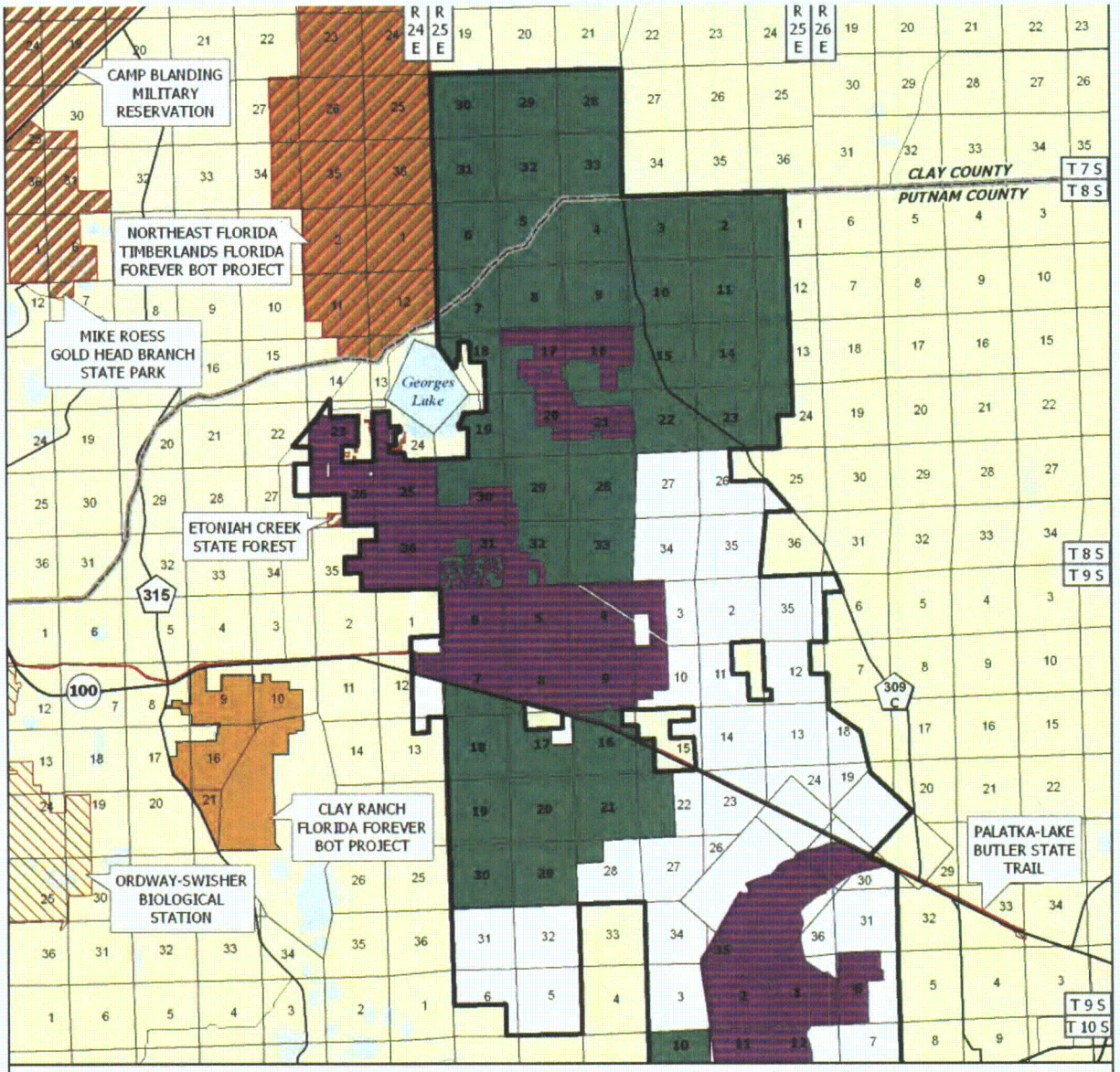
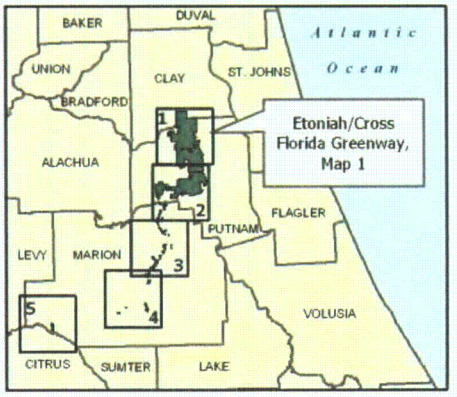


ETONIAH/CROSS FLORIDA GREENWAY: MAP 1 OF 5

CLAY AND PUTNAM COUNTIES

- Florida Forever BOT Project Boundary
- Acquired
- Essential Parcel(s) Remaining
- Other Florida Forever BOT Projects
- State Owned Lands
- Other Conservation Lands

0 1 2 4 Miles



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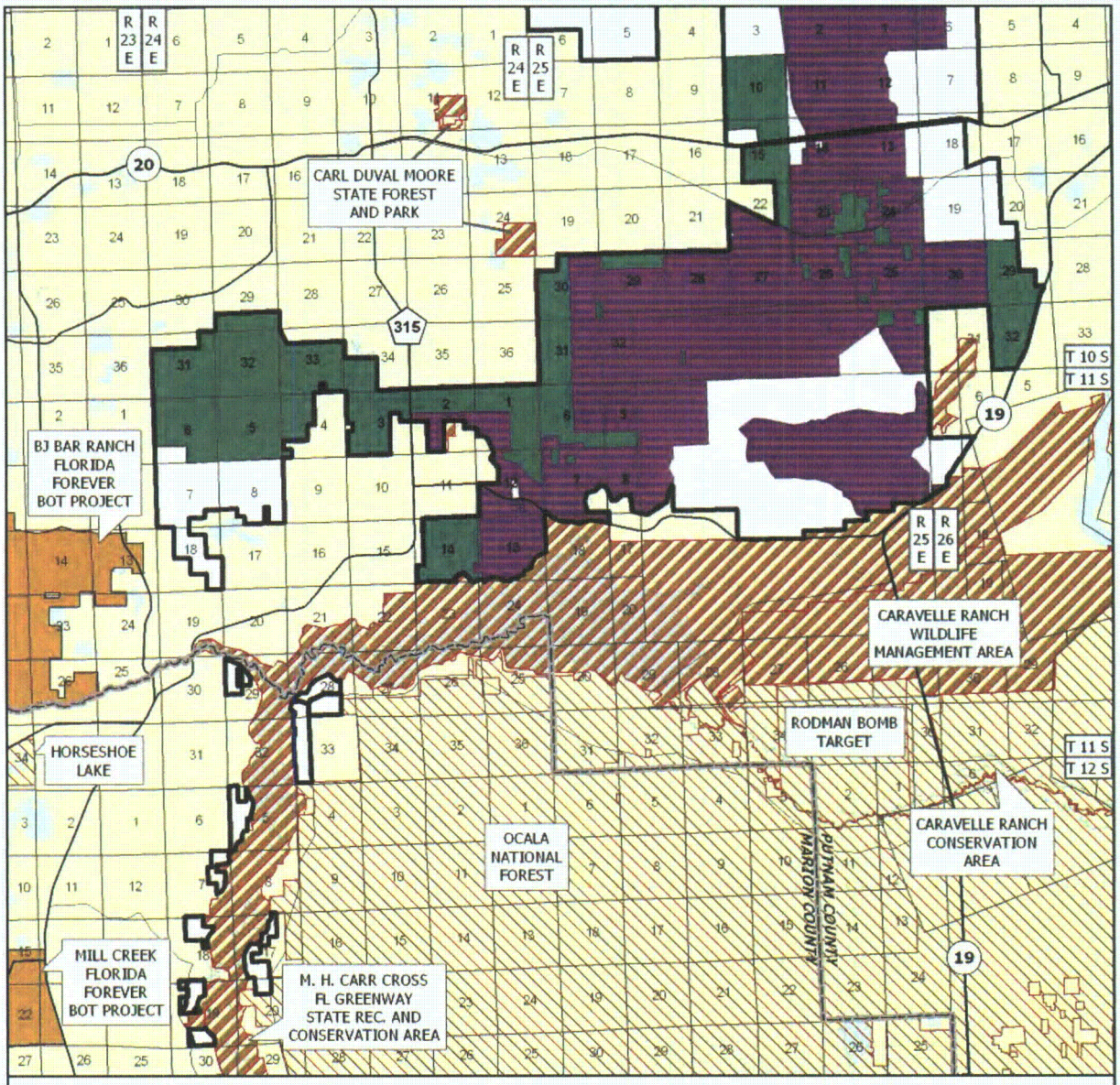


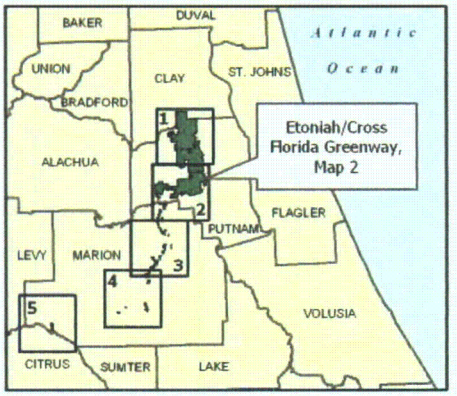
ETONIAH/CROSS FLORIDA GREENWAY: MAP 2 OF 5

PUTNAM AND MARION COUNTIES

- Florida Forever BOT Project Boundary
- Acquired
- Essential Parcel(s) Remaining
- Other Florida Forever BOT Projects
- State Owned Lands
- Other Conservation Lands

N W E S

0 1 2 4 Miles



JULY 2009

the large (Etoniah) tract will become a state forest. The various parts of the project will offer opportunities for hiking, hunting, fishing and nature appreciation.

Acquisition Planning

Etoniah Creek

Phase I tracts (essential) include Stokes and Agricola, formerly Deltona (acquired), Union Camp, Manning (acquired) and Interlachen Lake Estates Subdivision. Life-of-the-South (Odom) is also an essential tract. Phase II includes other large ownerships, such as Roberts, as well as other smaller tracts and subdivisions.

Cross Florida Greenway

Phase I (essential) includes the westernmost segment (Deep Creek Corridor) consisting of a portion of the Miller family ownerships and approximately 14 other owners.

Cross Florida Greenway Phase II

The priority tract (essential) within this portion of the project is the Inglis Island site (acquired by the Office of Greenways and Trails).

On July 20, 1994 the Council added 210 acres to the boundaries of the predecessor projects.

On December 7, 1995, the Council approved the addition of 2,664 acres to the project boundary. The addition included lakeshore and lake bottom associated with Rodman Reservoir. A second modification was made to allow the St. Johns River Water Management District to acquire, on the State's behalf, a large ownership (Odom) not identified in the original Phase I area. Acquisition of the canal easement areas is also a priority.

On March 15, 1996 the Council approved adding 141 acres to the project boundaries.

On December 5, 1996, the Council transferred the Georgia-Pacific ownership (18,146 acres) to the Less-Than-Fee category.

On October 15, 1998, the Council designated as essential an additional 9,870 acres - Georgia-Pacific and seven smaller tracts in a corridor between two already acquired tracts, and portions of the Roberts ownership.

On August 22, 2000, the Acquisition and Restoration Council (ARC) added 2,110 acres (Florida Power ownership along the Cross Florida Greenway State Recreation and Conservation areas) to the project.

On January 25, 2001, ARC added 1,543 acres to the project (boundary in the Deep Creek area).

On May 17, 2001, ARC added 1,110 acres to the boundaries of the project.

On February 25, 2003 the project was added to the Group A list of Florida Forever projects.

On April 13, 2007, the ARC approved a fee-simple, 85-acre addition, known as Foxtrotter Ranch, to the project boundary. It was sponsored by the Office of Greenways & Trails (OGT), consisted of one landowner, Richard Simon, one parcel, and a taxable value of $2,267,908. OGT will manage the site. The house (approximately 2.5 acres) is not included in the addition, however, it may be donated to the state subsequent to acquisition.

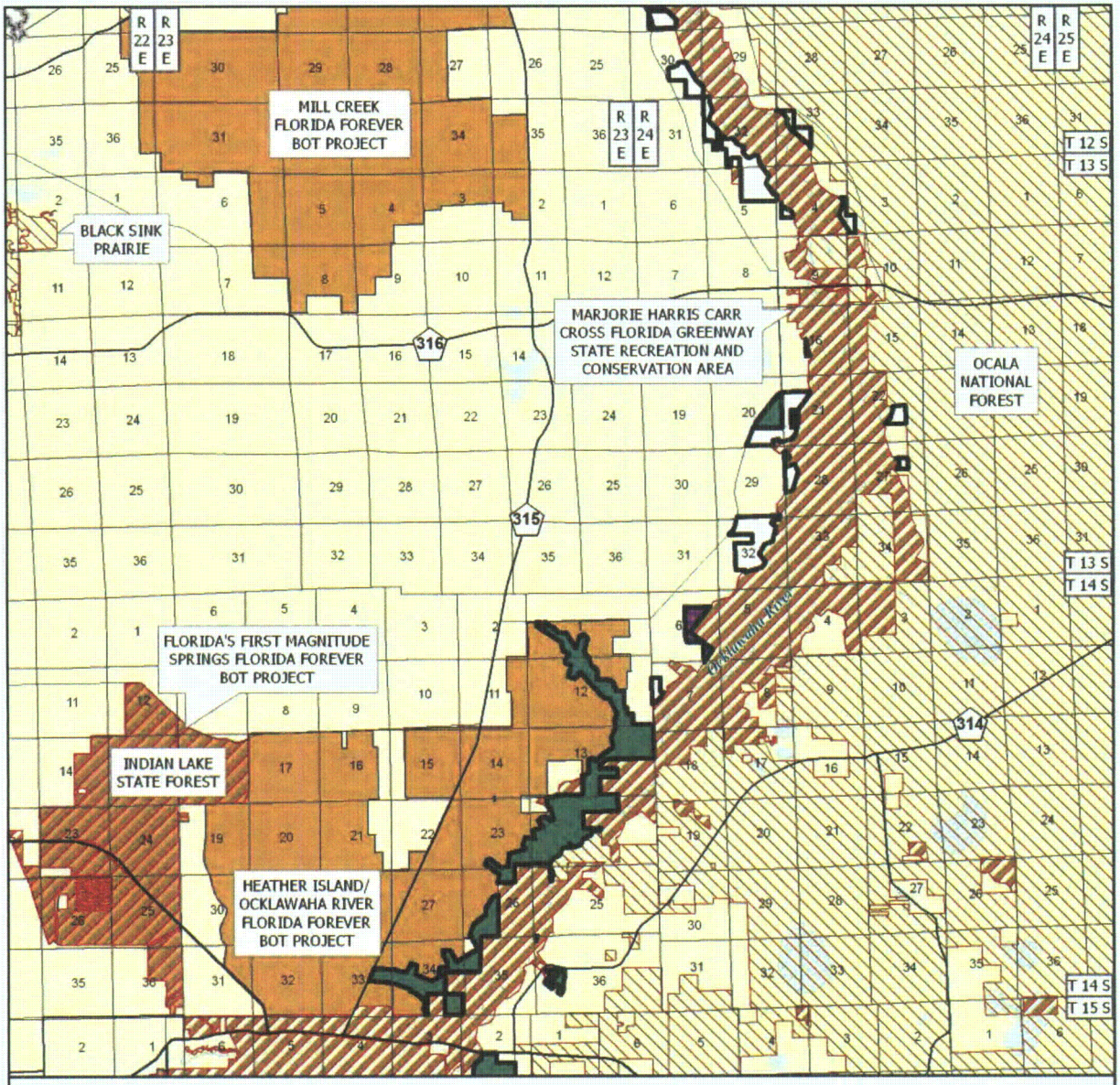
In June, 2008, some 1.19 acres of the Harrington ownership were purchased for $15,000 with the Division of Forestry (DOF) Florida Forever funds. Forestry will manage this section.

In September, 2008, the DOF used Florida Forever funds to buy the following acreages: 1.08 acres (Fred Yankee, LLC) for $13,500; 0.87 acres (Goddard) for $23,000; 1.01 acres (Land Reclamation, Inc.) for $15,000; 2.52 acres (Cann) for $23,000; 1.21 acres (Martin) for $14,000; 1.27 acres (Vehoski) for $14,000; and 1 acre (Murray) for $15,000. The DOF will manage all of these parcels.

In October, 2008, the DOF used Florida Forever funds to buy 1.25 acres (Uttech) for $11,500; 2.5 acres (Lachmansingh) for $25,000; 3.61 acres (Chapman) for $37,500; and 2.53 acres (Thornton) for $23,000. The DOF will manage these parcels.

In November, 2008, the DOF used Florida Forever funds to buy 1.27 acres (Dubay) for $14,000; 1.24 acres (Hood) for $15,500; 1.25 acres (Contreras) for $14,000; and 1.24 acres (South) for $14,000. The DOF will manage these parcels.

January 21, 2009 SJRWMD purchased 208 acres for $474,363 (Plum Creek/Rick Co.).

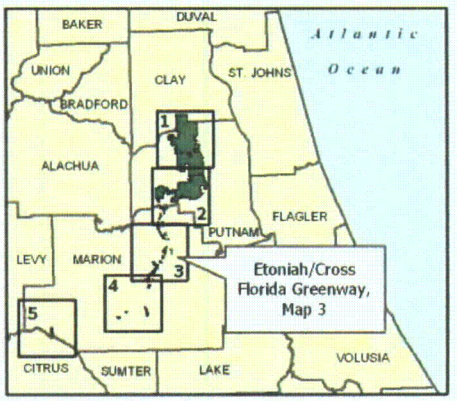


ETONIAH/CROSS FLORIDA GREENWAY: MAP 3 OF 5

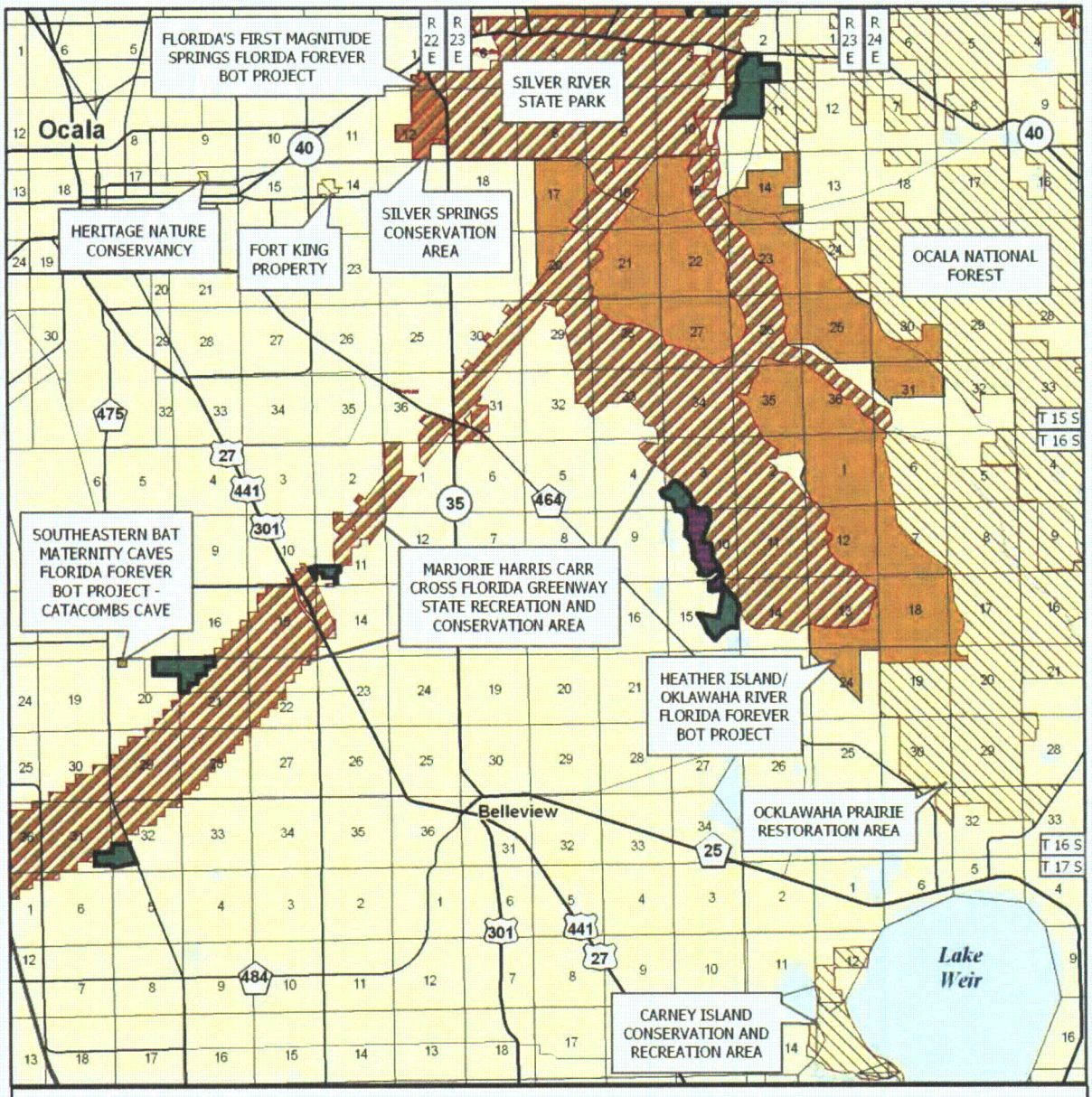
MARION COUNTY

- Florida Forever BOT Boundary
- Acquired
- Essential Parcel(s) Remaining
- Other Florida Forever BOT Projects
- State Owned Lands
- Other Conservation Lands

0 1 2 4 Miles



MARCH 2009

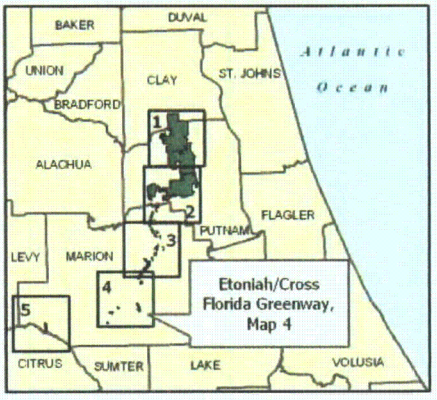


ETONIAH/CROSS FLORIDA GREENWAY: MAP 4 OF 5

MARION COUNTY

- Florida Forever BOT Boundary
- Acquired
- Essential Parcel(s) Remaining
- Other Florida Forever BOT Projects
- State Owned Lands
- Other Conservation Lands

0 1.25 2.5 5 Miles



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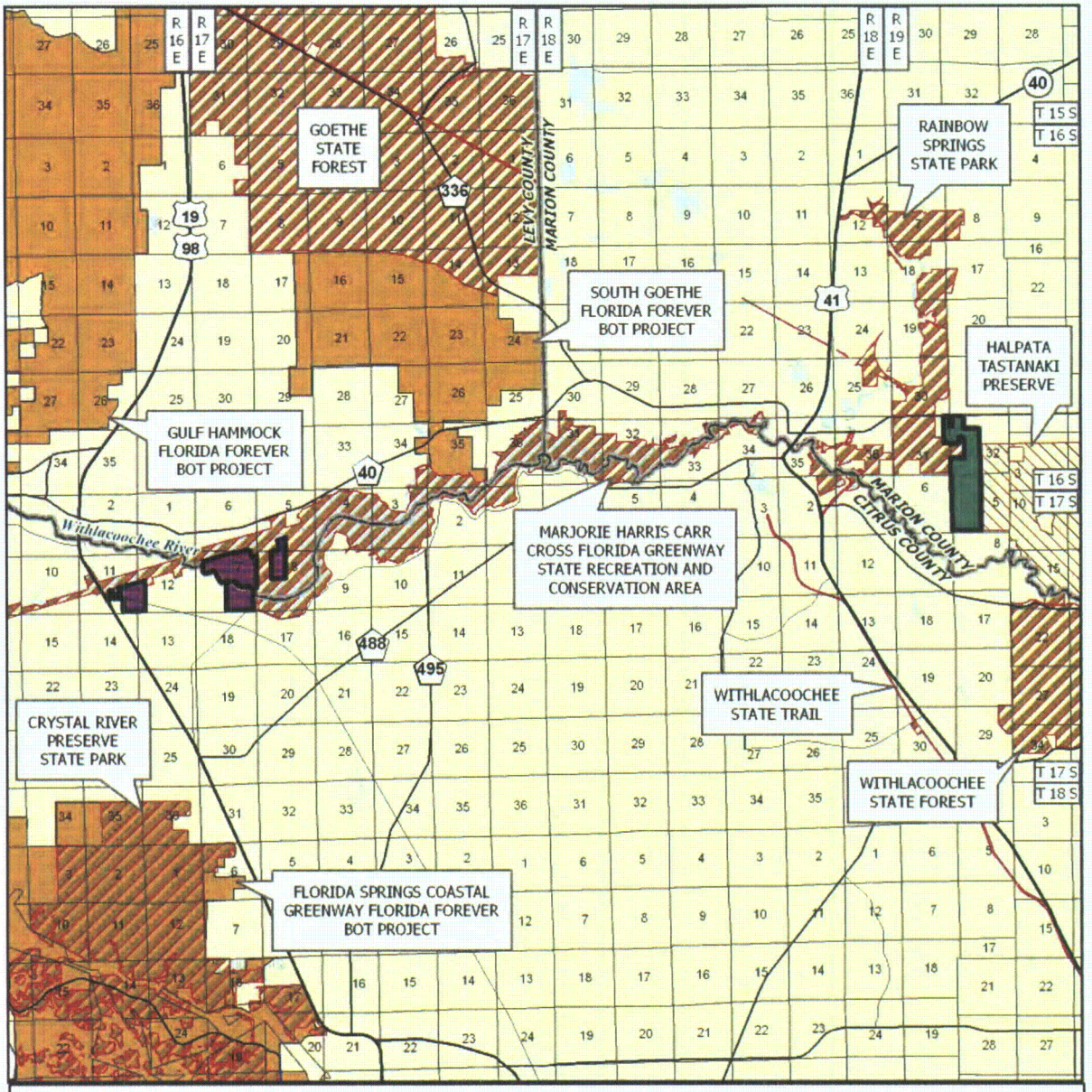
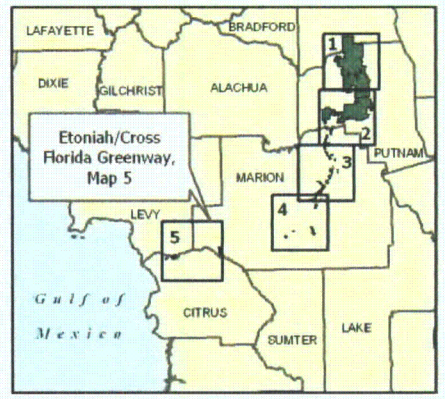


ETONIAH/CROSS FLORIDA GREENWAY: MAP 5 OF 5

MARION, LEVY, AND CITRUS COUNTIES

- Florida Forever BOT Boundary
- Acquired
- Essential Parcel(s) Remaining
- Other Florida Forever BOT Projects
- State Owned Lands
- Other Conservation Lands

0 1.25 2.5 5 Miles



JANUARY 2007

Coordination
The SJRWMD was the intermediary in the acquisition of the Manning tract and has provided information and expertise on several other tracts. The Office of Greenways and Trails used additions and inholding funds to acquire Inglis Island. The Division of State Lands will assume the lead on acquisition of the remaining tracts.

Management Policy Statement
The primary goals of management of the Etoniah/ Cross Florida Greenway project are: to conserve and protect environmentally unique and irreplaceable lands that contain native, relatively unaltered flora and fauna representing a natural area unique to, or scarce within, a region of this state or a larger geographic area; to conserve and protect significant habitat for native species or endangered and threatened species; to conserve, protect, manage, or restore important ecosystems, landscapes, and forests, in order to enhance or protect significant surface water, coastal, recreational, timber, fish or wildlife resources which local or state regulatory programs cannot adequately protect; and to provide areas, including recreational trails, for natural-resource-based recreation.

Management Prospectus
Qualifications for state designation The large size, restorable pine plantations, and diversity of the Etoniah Creek portion of this project make it highly desirable for management as a state forest. The Cross Florida Greenway State Recreation and Conservation Area includes scenic and historic rivers, lakes, wetlands, and uplands. It is also near, or contiguous with, many other state-owned lands. The Cross Florida Greenway portion of this project, together with the lands already in the Greenway, has the configuration, location, and resources to qualify as a state recreation area.
Manager The DOF proposes to manage the 57,000-acre Etoniah Creek portion of the project and the OGT will manage the remaining lands in the vicinity of the old Cross Florida Barge Canal.
Conditions affecting intensity of management There are no known major disturbances in the Etoniah Creek portion that will require extraordinary attention, so management intensity is expected to be typical for a state forest. Lands in the Cross Florida Greenway portion are generally moderate-need tracts.
Timetable for implementing management and provisions for security and protection of infrastructure Once the core area of the Etoniah Creek portion is acquired, the DOF will provide access to the public for low-intensity, non-facilities-related outdoor recreation. Initial activities will include securing the tract, providing public and fire management accesses, inventorying resources, and removing trash. The Division will provide access to the public while protecting sensitive resources. The tract's natural resources and threatened and endangered plants and animals will be inventoried to provide the basis for a management plan.
Long-range plans for the Etoniah Creek portion will generally be directed toward restoring disturbed areas to their original conditions, as far as possible, as well as protecting threatened and endangered species. An all-season burning program will use, whenever possible, existing roads, black lines, foam lines and natural breaks to contain fires. Timber management will mostly involve improvement thinning and regeneration harvests. Plantations will be thinned and, where appropriate, reforested with species found in natural ecosystems. Stands will not have a targeted rotation age. Infrastructure will primarily be located in disturbed areas and will be the minimum required for management and public access. The Division will promote environmental education. For the Greenway portion, activities within the first year after acquisition will primarily consist of site security, resource inventory, removal of trash, and resource-management planning. Long-range activities proposed include a multipurpose trail and facilities for public access.
Revenue-generating potential In the Etoniah Creek portion, the DOF sell timber as needed to improve or maintain desirable ecosystem conditions. These sales will provide a variable source of revenue, but the revenue-generating potential for this project is expected to be moderate. In the Greenway portion, no revenues are expected to be generated within the first three years after acquisition. However, as the Greenway is developed during its 20-year facility development plan, revenues will be derived from user fees, the sale of products from the lands (limerock berm and timber), and the sale of surplus lands.
Cooperators in management activities The DOF will cooperate with and seek the assistance of other state agencies, local government entities and interested parties as appropriate. Currently, properties along the Greenway are managed in partnership with Marion County, the Florida Game and Fresh Water Fish Commission, and private individuals for recreational purposes.

Full Fee:

Management Cost Summary/OGT

Category	Startup	Recurring
Source of Funds	LATF	LATF
Salary	$36,380	$36,380
OPS	$72,660	$72,660
Expense	$62,301	$46,362
OCO	$3,167	$0
FCO	$100,000	$0
TOTAL	$274,508	$185,402

Management Cost Summary/DOF

Category	1996/97	1997/98	1998/99
Source of Funds	CARL	CARL	CARL
Salary	$45,337	$56,489	$58,183.67
OPS	$0	$3,000	$7,650.00
Expense	$11,225	$22,825	$58,203.75
OCO	$43,320	$50,500	$128,775.00
FCO	$0	$0	$0
TOTAL	$99,882	$132,814	$252,812.42

FLORIDA
Natural Areas
INVENTORY

Technical Assistance Provided by:
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FLORIDA RESOURCES & ENVIRONMENTAL ANALYSIS CENTER
AT THE FLORIDA STATE UNIVERSITY

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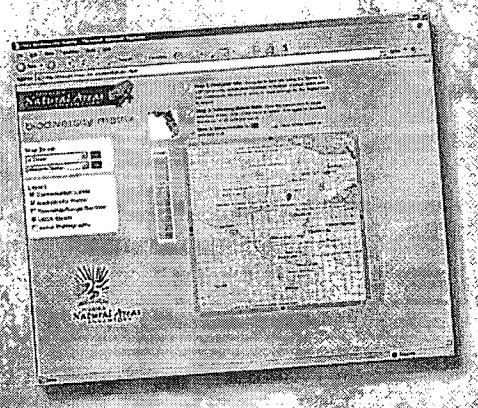
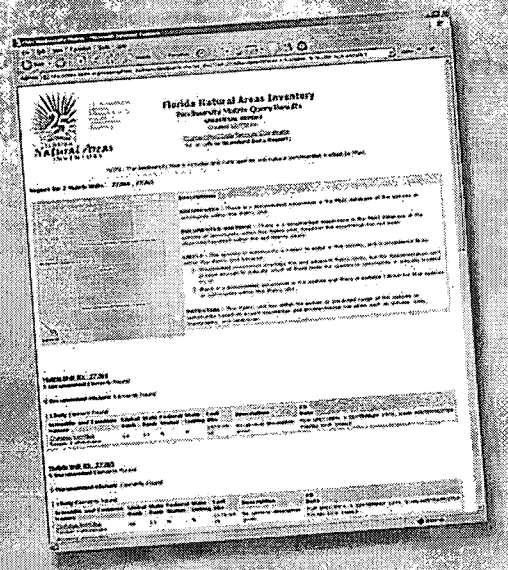


FNAI's Biodiversity Matrix Online

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



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

Try it today:

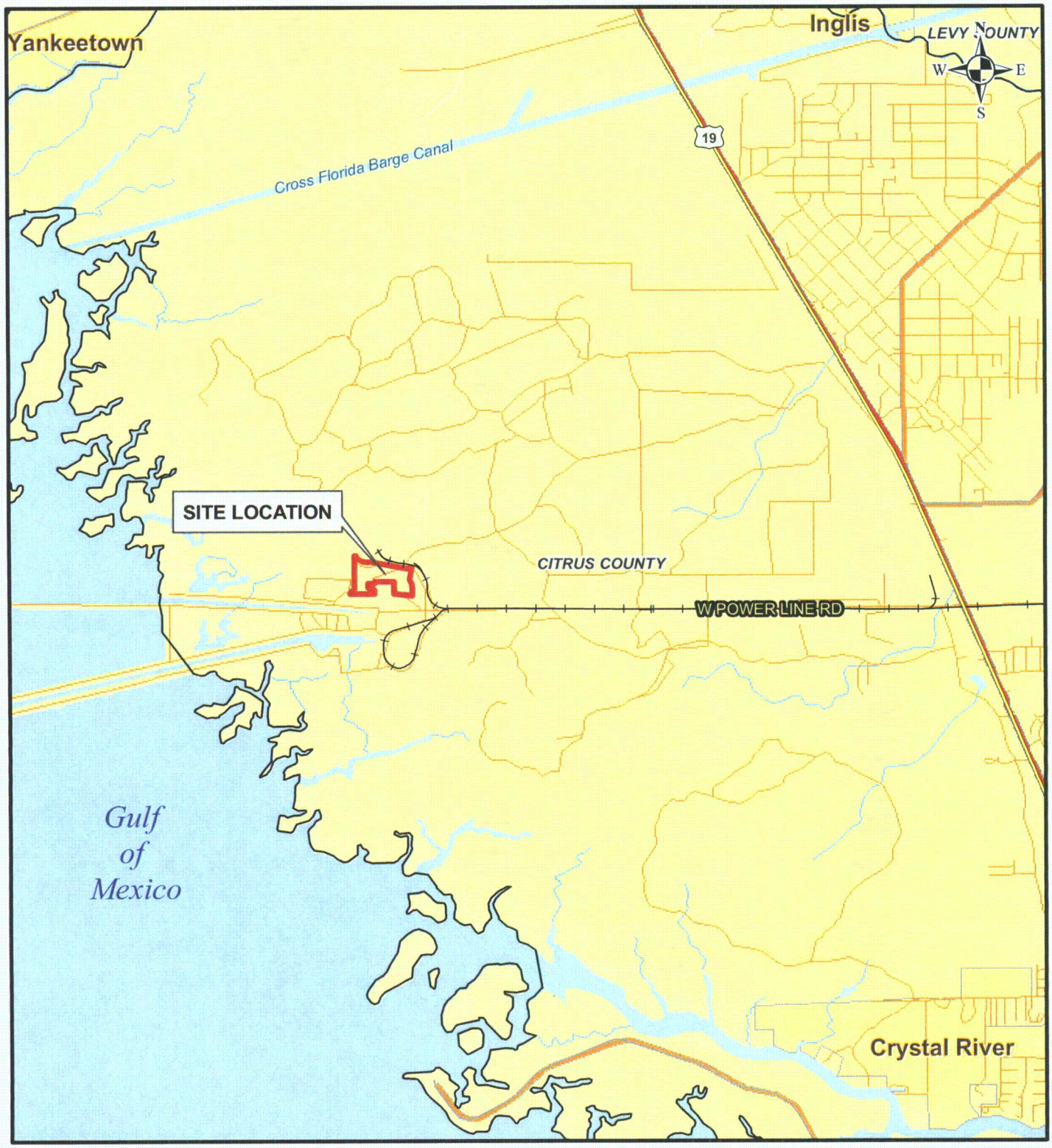
www.fnai.org/biointro.cfm

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

Progress Energy Florida
Levy Baseload Project
Citrus Substation Wetland Impacts

Wetland ID	FLUCFCS Code	FLUCFCS Definition	Impact Acreage	Total Impact Acreage	UMAM	Mitigation Credits	Total Mitigation Credits
A	641	Freshwater Marshes	7.75	7.75	0.73	5.66	5.66
D	534	Reservoirs < 10 acres	0.18	0.18	0.47	0.08	0.08
E	534	Reservoirs < 10 acres	0.57	0.57	0.47	0.27	0.27
G	534	Reservoirs < 10 acres	0.08	0.08	0.47	0.04	0.04
H	641	Freshwater Marshes	0.11	0.11	0.73	0.08	0.08
IB	511	Ditches	0.14	0.14	0.47	0.07	0.07
		Total		8.83			6.20

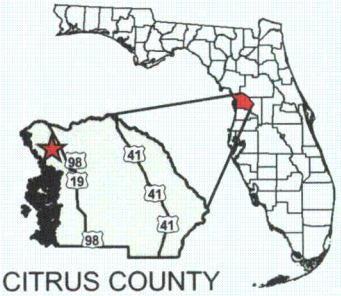
Golder Associates



LEGEND

- US Road
- Railroad
- Substation Expansion Area
- County Boundary

1 0.5 0 1 Miles



CITRUS COUNTY

REFERENCE

Substation Expansion Area: Progress Energy Florida, 2009; Roads: Florida Department of Transportation, 2010; Railroads: FDEP, 1992; County Boundaries: U.S. Census Bureau, 2000; BaseMap: StreetMap USA, 2007

PROGRESS ENERGY FLORIDA
LEVY NUCLEAR PLANT

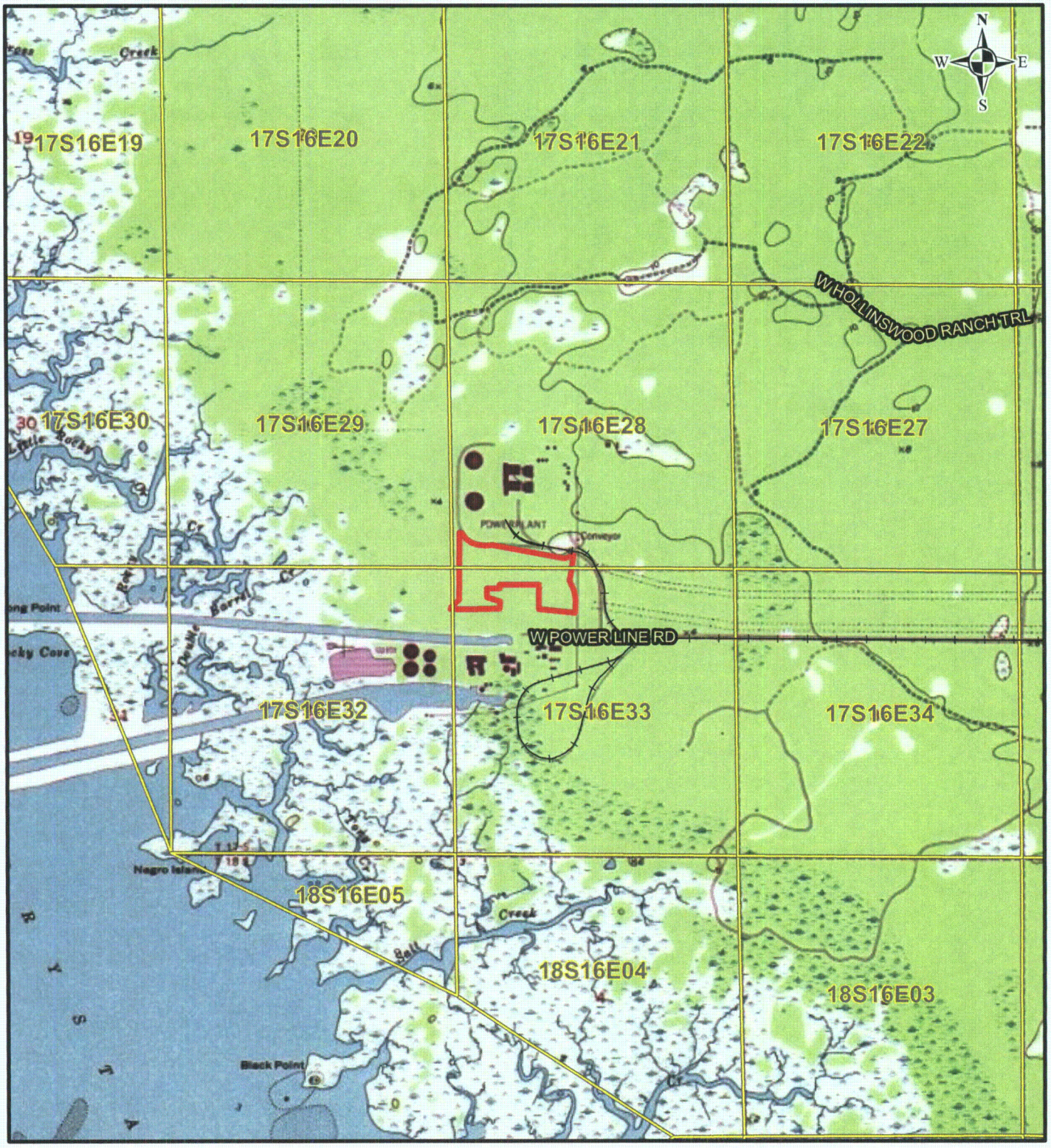
CRYSTAL RIVER ENERGY COMPLEX SUBSTATION EXPANSION GENERAL LOCATION MAP

Progress Energy

MXD File No. 093-89547L001			SCALE AS SHOWN	REV. 0
DESIGN	DLH	22 Sept 2009		
GIS	DLH	02 Mar 2010		
CHECK	SAR	02 Mar 2010		
REVIEW	KB	02 Mar 2010		

FIGURE 1

F:\PROJECTS\2009 PRO...547 PEFCP Wetland Delineation T&E Surveys\L - ERP CREC Substation\MXD\093-89547L001 Site Location.mxd



LEGEND

Substation Expansion Area

Township-Range-Section

0.5 0.25 0 0.5 Miles

REFERENCE

Substation Expansion Area: Progress Energy Florida, 2009; Roads: Florida Department of Transportation, 2010; Railroads: FDEP, 1992; USGS Topographic Map: National Geographic Society, 2009; Township-Range-Section: Florida Department of Environmental Protection, 1994

PROGRESS ENERGY FLORIDA
LEVY NUCLEAR PLANT

CRYSTAL RIVER ENERGY COMPLEX SUBSTATION EXPANSION USGS TOPOGRAPHIC MAP

Progress Energy

MXD File No. 093-89547L002			SCALE AS SHOWN	REV. 0
DESIGN	DLH	22 Sept 2009		
GIS	DLH	02 Mar 2010		
CHECK	SAR	02 Mar 2010		
REVIEW	KB	02 Mar 2010		

FIGURE 2

F:\PROJECTS\2009 PROJECTS\89547 PEFCF Wetland Delineation T&E Surveys\L - ERP CREC Substation\MXD\093-89547L002 USGS.mxd

LEGEND

Substation Expansion Area

500 250 0 500

Feet

REFERENCE

Substation Expansion Area: Progress Energy Florida, 2009; Roads: Florida Department of Transportation, 2010; Railroads: FDEP, 1992; Aerials: Progress Energy, 2009

PROGRESS ENERGY FLORIDA
LEVY NUCLEAR PLANT

CRYSTAL RIVER ENERGY COMPLEX SUBSTATION EXPANSION AERIAL MAP

Progress Energy

MXD File No. 093-89547L003			SCALE AS SHOWN	REV. 0
DESIGN	DLH	22 Sept 2009		
GIS	DLH	02 Mar 2010		
CHECK	SAR	02 Mar 2010		
REVIEW	KB	02 Mar 2010		

FIGURE 3

F:\PROJECTS\2009 PRO...547 PEFCF Wetland Delineation T&E Surveys\L - ERP CREC Substation\MXD\093-89547L003 Aerial.mxd

500 250 0 500 Feet

LEGEND

Substation Expansion Area

CITRUS SOILS

- 22, QUARTZIPSAMMENTS/0 TO 5 PERCENT SLOPES
- 39, HALLANDALE-ROCK OUTCROP COMPLEX/RARELY FLOODED
- 51, BOCA-PINEDA/LIMESTONE SUBSTRATUM COMPLEX
- 59, BOCA FINE SAND/DEPRESSIONAL
- 99, WATER

REFERENCE

Substation Expansion Area: Progress Energy Florida, 2009; Roads: Florida Department of Transportation, 2010; Railroads: FDEP, 1992; Soils: SWFWMD, 2006; Aerials: Progress Energy Florida, 2009

PROGRESS ENERGY FLORIDA
LEVY NUCLEAR PLANT

CRYSTAL RIVER ENERGY COMPLEX SUBSTATION EXPANSION SOILS MAP

Progress Energy

MXD File No. 093-89547L004		SCALE AS SHOWN	REV. 0
DESIGN	DLH	22 Sept 2009	FIGURE 4
GIS	DLH	02 Mar 2010	
CHECK	SAR	02 Mar 2010	
REVIEW	KB	02 Mar 2010	

F:\PROJECTS\2009 PROJECTS\93-89547 PEFCF Wetland Delineation T&E Surveys\L - ERP CREC Substation\MXD\093-89547L004 Soils_SWFWMD.mxd

LEGEND

Substation Expansion Area

400 200 0 400 Feet

LAND USE/LAND COVER CODES

- 212, UNIMPROVED PASTURES
- 511, DITCHES
- 534, RESERVOIRS <10 ACRES
- 615, STREAM AND LAKE SWAMPS (BOTTOMLAND)
- 630, WETLAND FORESTED MIXED
- 631, WETLAND SCRUB
- 641, FRESHWATER MARSHES
- 643, WET PRAIRIES
- 812, RAILROADS
- 816, CANALS AND LOCKS
- 831, ELECTRIC POWER FACILITIES

REFERENCE

Substation Expansion Area: Progress Energy Florida, 2009; Roads: Florida Department of Transportation, 2010; Railroads: FDEP, 1992; FLUCCS Data: SWFWMD, 2007, Golder edited 2009; Aerials: Progress Energy, 2009

PROGRESS ENERGY FLORIDA
LEVY NUCLEAR PLANT

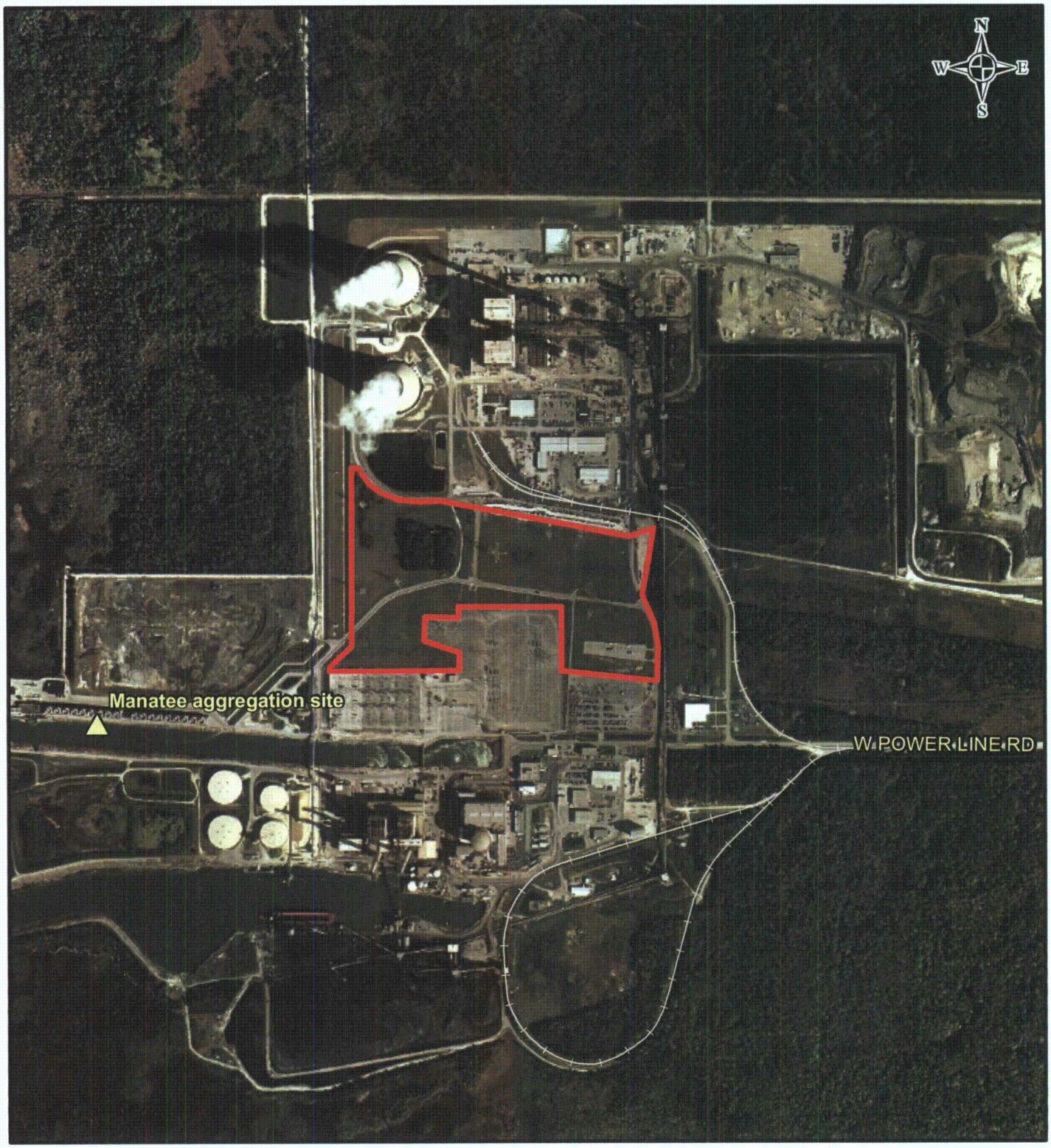
CRYSTAL RIVER ENERGY COMPLEX SUBSTATION EXPANSION HABITAT CLASSIFICATION MAP

Progress Energy

MXD File No. 093-89547L005			SCALE AS SHOWN	REV. 0
DESIGN	DLH	24 Sept 2009		
GIS	DLH	15 Mar 2010		
CHECK	SAR	15 Mar 2010		
REVIEW	KB	15 Mar 2010		

FIGURE 5

F:\PROJECTS\2009 PRO...547 PEFCF Wetland Delineation T&E Surveys\L - ERP CREC Substation\MXD\093-89547L005 FLUCCS.mxd



LEGEND

Substation Expansion Area

Florida Natural Areas Inventory Occurrence

1,000 500 0 1,000 Feet

NOTE: No portion of the Crystal River Energy Complex line lies within Wood Stork Core Foraging Areas.

REFERENCE

Substation Expansion Area: Progress Energy Florida, 2009; Roads: Florida Department of Transportation, 2010; Railroads: FDEP, 1992; Wood Stork Colony Data: U.S. Fish & Wildlife Service, 2009; Aerials: ESRI, 2009

PROGRESS ENERGY FLORIDA
LEVY NUCLEAR PLANT

CRYSTAL RIVER ENERGY COMPLEX SUBSTATION EXPANSION LISTED SPECIES MAP

Progress Energy

MXD File No. 093-89547L006			SCALE AS SHOWN	REV. 0
DESIGN	DLH	24 Sept 2009		
GIS	DLH	02 Mar 2010		
CHECK	SAR	02 Mar 2010		
REVIEW	KB	02 Mar 2010		

FIGURE 6

F:\PROJECTS\2009 PRO...547 PEFCF Wetland Delineation T&E Surveys\L...ERP CREC Substation\MXD\093-89547L006 FNAI.mxd

1,000 500 0 1,000
Feet

LEGEND

Substation Expansion Area

FEMA FLOOD ZONES

AE 100-yr Floodplain (Base Flood Elevations have been determined)

VE 100-yr Floodplain with wave velocity

REFERENCE

Substation Expansion Area: Progress Energy Florida, 2009; Roads: Florida Department of Transportation, 2010; Railroads: FDEP, 1992; Flood Zones: FEMA, 1996; Aerials: ESRI, 2009

PROGRESS ENERGY FLORIDA
LEVY NUCLEAR PLANT

CRYSTAL RIVER ENERGY COMPLEX SUBSTATION EXPANSION FEMA 100 YEAR FLOODPLAIN MAP

Progress Energy

MXD File No. 093-89547L007			SCALE AS SHOWN	REV. 0
DESIGN	DLH	28 Sept 2009		
GIS	DLH	02 Mar 2010		
CHECK	SAR	02 Mar 2010		
REVIEW	KB	02 Mar 2010		

FIGURE 7

F:\PROJECTS\2009 PRO...89547 PEFCF Wetland Delineation T&E Surveys\L - ERP CREC Substation\MXD\093-89547L007 FEMA.mxd

TA[illegible] A

Wetland Descriptions

Florida Power Corporation d/b/a Progress Energy Florida, Inc.

Crystal River Energy Complex Substation Expansion
Citrus County, Florida

Wetland ID	FLUCFCS Code	Acreage	UMAM Score	Soil Type	Corps Jurisdictional	OFW	Wetland Description
Wetland AC	641	0.09	0.40	Quartzipsamments, 0 to 5 percent slopes	No	No	This is an isolated, depressional marsh sprayed with herbicides. Dominant species in this wetland include *Panicum repens* and *Cladium jamaicense*.
Wetland AD	630	1.77	0.53	Quartzipsamments, 0 to 5 percent slopes	No	No	This is an isolated mixed forested wetland with a wet prairie fringe that has been mowed. Dominant woody species include *Pinus elliottii* and *Fraxinus* sp. Dominant species within the wet prairie area include *Eragrostis* sp. and *Rhynchospora colorata*.
	643	0.58	0.53	Quartzipsamments, 0 to 5 percent slopes	No	No	
Wetland AE	630	0.82	0.53	Quartzipsamments, 0 to 5 percent slopes	No	No	This is an isolated mixed forested wetland separated from Wetland AD by a road. Species composition is similar to Wetland AD.
Wetland AF	511	0.14	0.53	Quartzipsamments, 0 to 5 percent slopes	Yes	No	This is a ditch that drains the parking lots and switchyard. A culvert connects the ditch to the discharge canal. *Cyperus* sp., *Ludwigia* sp., *Setaria* sp. are the dominant species.
Wetland AG	630	0.41	0.53	Quartzipsamments, 0 to 5 percent slopes	No	No	This is an isolated mixed forested wetland with a wet prairie fringe that has been

TA[illegible] A

Wetland Descriptions

Florida Power Corporation d/b/a Progress Energy Florida, Inc.

Crystal River Energy Complex Substation Expansion
Citrus County, Florida

Wetland ID	FLUCFCS Code	Acreage	UMAM Score	Soil Type	Corps Jurisdictional	OFW	Wetland Description
	643	0.28	0.53	Quartzipsamments, 0 to 5 percent slopes	No	No	sprayed with herbicides. Dominant species within the wetland include *Vitis* sp., *Baccharis halimifolia*, and *Salix caroliniana*.
Wetland AH	641	0.44	0.40	Quartzipsamments, 0 to 5 percent slopes	No	No	This is an isolated stormwater retention area under an existing transmission line. The wetland has mucky soils and marsh vegetation dominated by *Cyperus* sp. and *Hydrocotyle umbellata*.
Wetland AI	534	0.81	0.40	Quartzipsamments, 0 to 5 percent slopes	No	No	This is an isolated retention pond that holds runoff from the car wash. *Ludwigia peruviana* is the dominant species in this wetland.

TABLE B

Florida Power Corporation d/b/a Progress Energy Florida, Inc.
Crystal River Energy Complex Substation Expansion

Protected Plants and Animals Potentially Occurring within the Crystal River Energy Complex Substation Expansion Area
Citrus County, Florida

Species	Habitat of Occurrence	Likelihood of Occurrence on Property	Status		Observed
			USFWS	FWC	
BIRDS					
Ammodramus maritimus peninsulae Scott's seaside sparrow	Saltwater marshes	Low	N	SSC	No
Aramus guarauna Limpkin	Freshwater marshes, swamps, springs, spring runs, pond, river, and lake margins	Low	N	SSC	No
Charadrius melodus Piping plover	Mudflats	Low	T	T	No
Cistothorus palustris marianae Marian's marsh wren	Saltwater marshes	Low	N	SSC	No
Egretta caerulea Little blue heron	Freshwater lakes, marshes, swamps, and streams, cypress	Low	N	SSC	No
Egretta thula Snowy egret	Wetlands, streams, lakes, and swamps, manmade impoundments, ditches	Low	N	SSC	No
Egretta tricolor Tricolored heron	Wetlands, ditches, pond and lake edges, coastal areas	Low	N	SSC	No
Eudocimus albus White ibis	Freshwater and brackish marshes, salt flats, forested wetlands, wet prairies, swales, man-made ditches	Low	N	SSC	No
Grus canadensis pratensis Florida sandhill crane	Prairies, freshwater marshes, and pastures	Low	N	T	No
Haematopus palliatus American oystercatcher	Saltwater marshes, estuaries, mudflats	Low	N	SSC	No
Haliaeetus leucocephalus Bald eagle	Coastal areas, bays, rivers, lakes, or other bodies of water	Low	N	N	No
Mycteria americana Wood stork	Cypress strands and domes, mixed hardwood swamps, freshwater marshes	Low	E	E	No
Platalea ajaja Roseate spoonbill	Tidal flats, coastal and freshwater marshes	Low	N	SSC	No
Rynchops niger Black skimmer	Bays, estuaries, lagoons, mudflats	Low	N	SSC	No

TABLE B

Florida Power Corporation d/b/a Progress Energy Florida, Inc.
Crystal River Energy Complex Substation Expansion

Protected Plants and Animals Potentially Occurring within the Crystal River Energy Complex Substation Expansion Area
Citrus County, Florida

Species	Habitat of Occurrence	Likelihood of Occurrence on Property	Status		Observed
			USFWS	FWC	
Sterna antillarum Least tern	Bays, estuaries, lagoons, mudflats	Low	N	T	No
MAMMALS					
None					
REPTILES					
Alligator mississippiensis American alligator	Most permanent bodies of fresh water, including marshes, swamps, lakes, and rivers	Low	T (SA)	SSC	No
PLANTS					
None					

Notes:
N = Not Listed
T = Threatened
E = Endangered
SSC = Species of Special Concern
T (SA) = Threatened due to similarity in appearance to a federally listed species

SPECIFIC PURPOSE SURVEY OF WETLAND JURISDICTIONAL DELINEATION AND THREATENED AND ENDANGERED SPECIES

OF

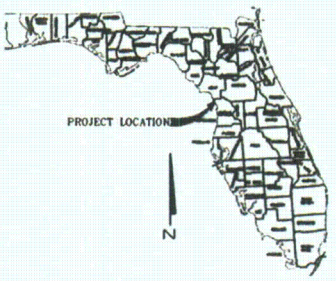
PROGRESS ENERGY FLORIDA

CRYSTAL RIVER ENERGY COMPLEX SUBSTATION EXPANSION

LOCATED IN
SECTION 29
TOWNSHIP 17 SOUTH, RANGE 17 EAST
CITRUS COUNTY, FLORIDA

WETLAND DESIGNATIONS	AREA WITHIN BOUNDARY	
	SQUARE FEET	ACRES +/-
AC, AD, AE, AF, AG, AH, AI	232506	5.34

WETLAND FLAG LOCATIONS			WETLAND FLAG LOCATIONS			WETLAND FLAG LOCATIONS		
Desc	Northing	Easting	Desc	Northing	Easting	Desc	Northing	Easting
ai-1	1683247	433784	ac-1	1683516	431946	an-19	1682877	436937
ai-2	1683357	433773	ac-4	1683477	431988	an-18	1682762	436918
ai-3	1683412	433482	ac-3	1683519	432036	an-21	1682998	436843
ai-4	1683292	433465	ac-2	1683567	431994	at-20	1683022	436961
af-6	1682823	433370	ag-2	1683741	431935	an-23	1683029	436628
af-1	1682822	433397	ag-1	1683741	432103	an-22	1683029	436728
af-2	1682643	433393	ag-7	1683783	432142	an-24	1683050	436533
af-5	1682648	433367	ag-6	1683812	432110	an-26	1683078	436385
af-4	1682588	433367	ag-4	1683981	431907	an-25	1683097	436494
af-3	1682591	433393	ag-3	1683902	431907	at-27	1683102	436283
ah-2	1683446	432986	ap-3	1682341	436979	an-28	1683118	436163
ah-3	1683364	433010	ap-2	1682357	437042	an-29	1683146	436036
ah-4	1683355	433176	ap-1	1682407	437053	an-30	1683164	435907
ah-5	1683435	433194	ap-4	1682157	436941	an-31	1683195	435764
ah-1	1683483	433050	ap-9	1682137	436946	an-32	1683227	435650
ae-2	1683623	432569	ap-10	1682099	436947	an-33	1683234	435534
ae-1	1683579	432486	ap-8	1682132	436968	an-34	1683257	435417
ad-7	1683576	432460	ap-7	1682128	437046	an-35	1683267	435349
ad-8	1683524	432471	ap-6	1682150	437060	an-36	1683291	435247
ae-7	1683302	432479	ap-5	1682166	437040	an-37	1683298	435158
ad-10	1683305	432460	ao-19	1682355	436913	an38	1683320	435120
ae-6	1683298	432598	ao-18	1682410	436913	an-39	1683328	435043
ae-4	1683465	432614	ao-2	1682410	436893	an-40	1683341	434855
ae-2	1683602	432586	ao-1	1682361	436888	an-41	1683364	434790
ae-3	1683592	432600	ao-3	1682430	436896	an-43	1683312	434604
ad-6	1683628	432405	ao-17	1682427	436920	an-44	1683318	434542
ad-5	1683671	432302	ao-16	1682525	436963	an-1	1683292	434494
ad-4	1683633	432162	ao-15	1682631	436973	an-2	1683189	434530
ad-3	1683490	432133	ao-14	1682692	436973	an-3	1683072	434571
ad-2	1683357	432184	ao-13	1682714	436974	an-4	1682967	434610
ad-1	1683299	432261	ao-12	1682744	436973	an-5	1682768	434604
ad-11	1683306	432338	ao-11	1682828	436977	an-6	1682758	434645
			at-6	1682894	436992	an-7	1682770	434695
			ao-10	1682961	436998	an-8	1682749	434751
			at-5	1682968	437006	an-9	1682643	435253
			at-4	1682971	437065	an-10	1682581	435666
			at-3	1683034	437068	at-19	1682475	437172
			at-2	1683110	437069	at-18	1682503	437172
			at-1	1683163	437103	at-17	1682581	437200
			ao-9	1682972	436983	at-16	1682639	437199
			ao-8	1682828	436959	ap-11	1682092	437392
			ao-7	1682717	436947	ap-12	1682094	437736
			an-17	1682696	436941	ap-13	1682090	437819
			ao-6	1682690	436952	ap-14	1682089	438024
			ao-5	1682629	436954	ap-15	1682095	438385
			an-16	1682631	436942	ap-16	1682162	438464
			an-15	1682538	436934	ap-17	1682160	438723
			ao-4	1682505	436938	ap-18	1682157	438983
			an-14	1682490	436922	ap-19	1682095	439097
			an-13	1682434	436888			
			an-12	1682414	436752			
			an-11	1682494	436159			
			at-10	1682712	437073			
			at-11	1682708	437223			
			at-12	1682693	437237			
			at-9	1682806	437107			
			at-8	1682907	437093			
			at-7	1682893	437078			



LEGEND:

———	=	WETLANDS JURISDICTIONAL DELINEATION LINE WITHIN SUBSTATION LIMITS
PEF	=	PROGRESS ENERGY FLORIDA
al-2, ac-1, an-19, etc.	=	WETLAND FLAG DELINEATOR
DGPS	=	DIFFERENTIAL GLOBAL POSITIONING SYSTEM
N.	=	NORTHING (coordinate)
E.	=	EASTING (coordinate)
P/L	=	BOUNDARY LINE
GIS	=	GEOGRAPHIC INFORMATION SYSTEM
●	=	GOPHER TORTOISE BURROWS

SURVEYOR'S NOTES:

1) THIS SPECIFIC PURPOSE SURVEY IS NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF THE SIGNING FLORIDA LICENSED SURVEYOR AND MAPPER.

2) THE SPECIFIC PURPOSE OF THIS SURVEY WAS TO LOCATE AND MAP WETLAND JURISDICTIONAL DELINEATIONS AND LOCATION OF THREATENED AND ENDANGERED SPECIES (AS DETERMINED BY OTHERS) IN RELATION TO THE APPROXIMATE SUBSTATION LIMITS, IN CONFORMANCE WITH U.S. ARMY CORPS OF ENGINEERS REQUIREMENTS.

3) LANDS SHOWN HEREON WERE NOT ABSTRACTED FOR OWNERSHIP, RIGHTS-OF-WAY, EASEMENTS OR OTHER MATTERS OF TITLE BY THIS FIRM, NOR WERE ANY SUCH DOCUMENTS PROVIDED BY CLIENT.

4) THE BOUNDARY DELINEATION OF THE PEF CRYSTAL RIVER ENERGY COMPLEX SHOWN HEREON IS BASED ON GIS SHAPE FILES PROVIDED BY GOLDER ASSOCIATES. THIS SPECIFIC PURPOSE SURVEY IS NOT A BOUNDARY SURVEY OF THE SUBSTATION PROPERTY.

5) THIS SURVEY WAS PERFORMED USING A COMBINATION OF GLOBAL POSITIONING SYSTEM AND CONVENTIONAL SURVEY METHODOLOGY. HORIZONTAL ACCURACY IS AT THE SUBMETER LEVEL.

6) COORDINATES OF WETLAND FLAGS SHOWN HEREON ARE RELATIVE TO THE FLORIDA STATE PLANE COORDINATE SYSTEM, WEST ZONE (902), NORTH AMERICAN DATUM OF 1983/2007 ADJUSTMENT.

7) WETLAND JURISDICTIONAL DELINEATIONS AND THREATENED AND ENDANGERED SPECIES LOCATIONS WERE DETERMINED AND FLAGGED BY GOLDER ASSOCIATES, GAINESVILLE, FLORIDA.

8) THE WETLAND FLAG DESCRIPTIONS AND/OR THREATENED AND ENDANGERED SPECIES LOCATIONS SHOWN HEREON CORRESPOND TO THE NUMBERS SHOWN ON EACH FLAG LOCATED IN THE FIELD.

9) THIS SURVEY IS CERTIFIED TO PROGRESS ENERGY FLORIDA AND GOLDER ASSOCIATES, INC..

10) EXCEPT AS SHOWN HEREON, INTERIOR IMPROVEMENTS WERE NOT LOCATED.

11) THE GEOREFERENCED AERIAL PHOTOGRAPHY DEPICTED HEREON WAS FLOWN IN 2008. SOURCE OF DATA: SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT.

HATCH LEGEND

DELINEATED WETLAND AREAS WITHIN SUBSTATION LIMITS

THIS IS NOT A BOUNDARY SURVEY

SHEET INDEX:

SHEET	DESCRIPTION
1	COVER SHEET
2	LOCATION MAP WITH PHOTO

COUNTY: CITRUS

LAST DATE IN FIELD: 11/11/2009

ROBERT M. JONES
FLORIDA PROFESSIONAL SURVEYOR AND MAPPER
LICENSE No. LS 4201

PROJECT TITLE:
SPECIFIC PURPOSE SURVEY OF WETLAND JURISDICTIONAL DELINEATION AND THREATENED AND ENDANGERED SPECIES
OF
PROGRESS ENERGY FLORIDA
CRYSTAL RIVER ENERGY COMPLEX SUBSTATION EXPANSION
Citrus County, Florida

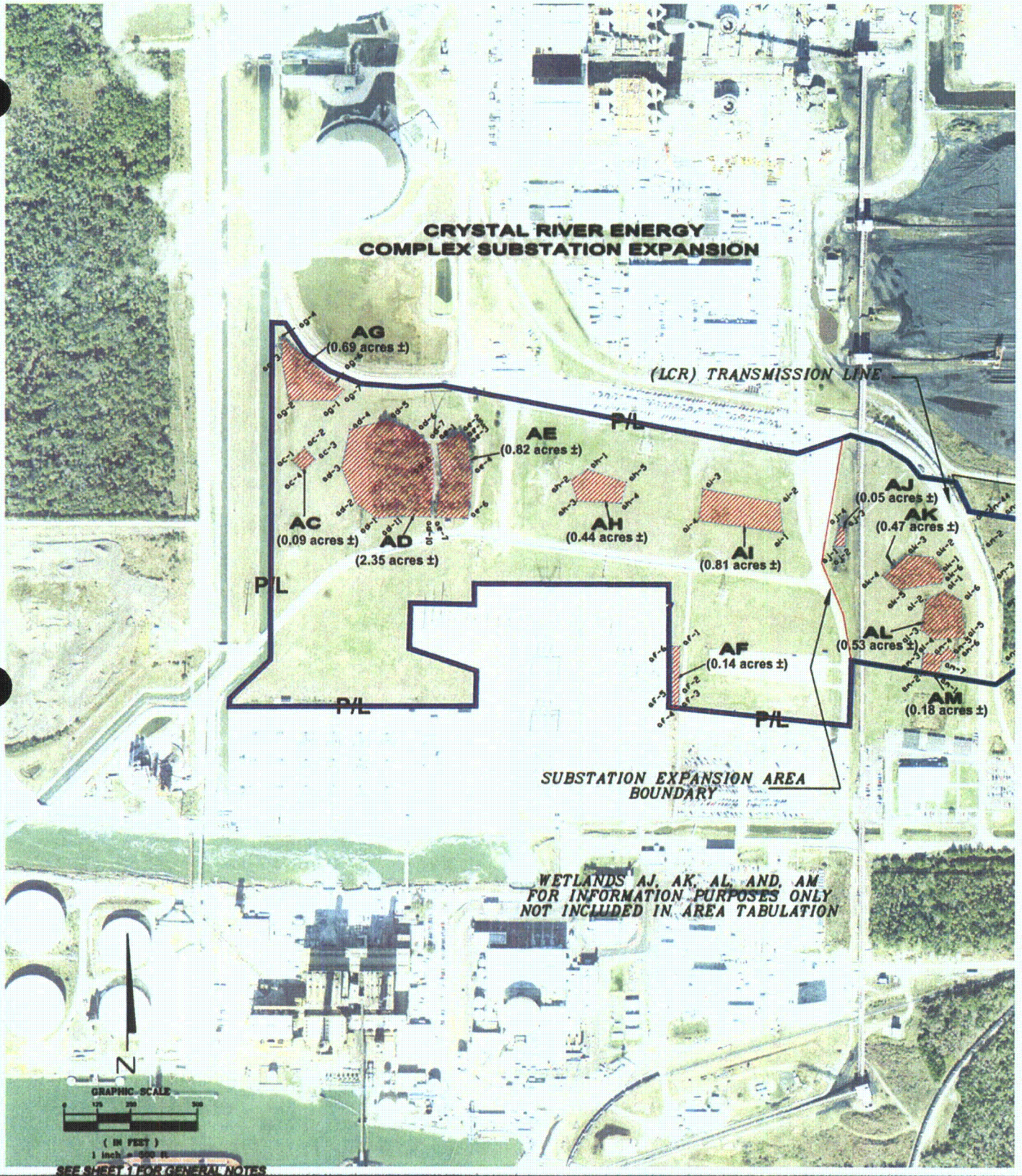
DATE	BY	DESCRIPTION

REVISION

DRAWN BY: P.E.W. DATE: 11/30/09
CHKD. BY: R.M.J. DATE: 11/30/09
JOB No. 6374090435
SCALE: n/a
SHT. 1 OF 2
DRAWING NAME: PHP Transmission Line.dwg

PREPARED BY:
MACTEC
MACTEC Engineering & Consulting, Inc.
4150 North John Young Parkway, Orlando, Florida 32804-2620
Phone: 407.522.7570 Fax: 407.522.7576
CERTIFICATE OF AUTHORIZATION: LB 6989

PREPARED FOR:
Golder Associates
Gainesville, Florida
GOLDER ASSOCIATES
6026 NW 1st Place
GAINESVILLE, FLORIDA 32607



SEE SHEET 1 FOR GENERAL NOTES

PROJECT TITLE:
SPECIFIC PURPOSE SURVEY OF WETLAND JURISDICTIONAL DELINEATION AND THREATENED AND ENDANGERED SPECIES
OF
PROGRESS ENERGY FLORIDA
CRYSTAL RIVER ENERGY COMPLEX SUBSTATION EXPANSION
Citrus County, Florida

DATE	BY	DESCRIPTION

REVISION

DRAWN BY: P.E.W. DATE: 11/30/09
CHKD. BY: R.M.J. DATE: 11/30/09
JOB No. 63740090435
SCALE: 1"=500'
SHT. 2 OF 2
DRAWNG NAME: Central Florida South Substation.dwg

PREPARED BY:
MACTEC
MACTEC Engineering & Consulting, Inc.
4150 North John Young Parkway Orlando, Florida 32804-2620
Phone: 407.522.7570 Fax: 407.522.7578
CERTIFICATE OF AUTHORIZATION: LB 6989

PREPARED FOR:
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Gainesville, Florida
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6026 NW 1st Place
GAINESVILLE, FLORIDA 32607

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Levy Nuclear Plant - Transmission Lines, CREC Substation City/County: Citrus Sampling Date: 10/28/09

Applicant/Owner: Progress Energy Florida, Inc. State: FL Sampling Point: AC

Investigator(s): Stacy Rizzo, Tony Davanzo Section, Township, Range: 28 17S 16E

Landform (hillslope, terrace, etc.): N/A Local relief (concave, convex, none): none Slope (%): _____

Subregion (LRR or MLRA): LRR U Lat: 28.963036 Long: -82.701071 Datum: WGS84

Soil Map Unit Name: Quartzipsamments, 0 to 5 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks)

Are Vegetation_____, Soil_____, or Hydrology_____ significantly disturbed? Are circumstances normal? Yes ✓ No_____

Are Vegetation_____, Soil_____, or Hydrology_____ naturally problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

✓ Surface Water (A1)	____Water-Stained Leaves (B9)	____Surface Soil Cracks (B6)
____ High Water Table (A2)	____Aquatic Fauna (B13)	____Sparsely Vegetated Concave Surface (B8)
✓ Saturation (A3)	____Marl Deposits (B15) **(LRR U)**	____Drainage Patterns (B10)
____ Water Marks (B1)	____Hydrogen Sulfide Odor (C1)	____Moss Trim Lines (B16)
____ Sediment Deposits (B2)	____Oxidized Rhizospheres on Living Roots (C3)	____Dry-Season Water Table (C2)
____ Drift Deposits (B3)	____Presence of Reduced Iron (C4)	____Crayfish Burrows (C8)
____ Algal Mat or Crust (B4)	____Recent Iron Reduction in Tilled Soils (C6)	____Saturation Visible on Aerial Imagery (C9)
____ Iron Deposits (B5)	____Thin Muck Surface (C7)	____Geomorphic Position (D2)
✓ Inundation Visible on Aerial Imagery (B7)	____Other (Explain in Remarks)	____Shallow Aquitard (D3)
		____FAC Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No _____	Depth (inches): 3
Water Table Present?	Yes ✓	No _____	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0

Wetland Hydrology Present? **Yes ✓ No _____**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: AC

Tree Stratum (Plot size:_____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Sapling Stratum (Plot size:____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Shrub Stratum (Plot size:_____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Herb Stratum (Plot size:_____)			
1. Cladium spp.	60	yes	OBL
2. Panicum repens	40	yes	FACW
3. Cyperus spp.	20	yes	FACW
4. Ludwigia repens	10	no	OBL
5. Polygonum spp.	5	no	FAC
6. Xyris spp.	1	no	OBL
7. Pluchea spp.	1	no	FACW
8.			
9.			
10.			
11.			
12.			
	137	= Total Cover	
Woody Vine Stratum (Plot size:___)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalance Index worksheet:

Total % Cover of:		Multiply by:
OBL species	x1=	
FACW species	x2=	
FAC species	x3=	
FACU species	x4=	
UPL species	x5=	
Column Totals:	(A)	(B)

Prevalance Index = B/A =

Hydrophytic Vegetation Indicators:

✓ Dominance Test is 50%

____ Prevalence Index is ≤3.0[1]

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub- Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb- All herbaceous (non-woody)plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine- All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ✓ No _____.

Remarks: (If observed, list morphological adaptations below).

Percent cover estimates based on meandering survey of the broader community.

County/soil: Citrus- Quartzipsamments

SOIL Sampling Point: AC

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10 YR 4/2	100						dark grayish brown sand
6-32	N 5/0; 10 YR 7/1	80	10 YR 6/2; 10 YR 8/1; 10 YR 5/2	20	RM	M	splotches and pockets	gray and light gray sand
32-42	7.5 YR 5/8	80	5 YR 3/4	20	RM	M	splotches	strong brown sand
42-60	10 YR 5/2	100						grayish brown sand

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___Histol (A1)
- ___Histic Epidon (A2)
- ___Black Histic (A3)
- ___Hydrogen Sulfide (A4)
- ___Stratified Layers (A5)
- ___Organic Bodies (A6) **(LRR P, T, U)**
- ___5 cm Mucky Mineral (A7) **(LRR P,T,U)**
- ✓ Muck Presence (A8) **(LRR U)**
- ___1 cm Muck (A9) **(LRR P,T)**
- ___Depleted Below Dark Surface (A11)
- ___Thick Dark Surface (A12)
- ___Coast Prairie Redox (A16) **(MLRA 150A)**
- ___Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___Sandy Gleyed Matrix (S4)
- ___Sandy Redox (S5)
- ___Stripped Matrix (S6)
- ___Dark Surface (S7) **(LRR P, S, T, U)**
- ___Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___Thin Dark Surface (S9) **(LRR S, T, U)**
- ___Loamy Mucky Mineral (F1) **(LRR O)**
- ___Loamy Gleyed Matrix (F2)
- ___Depleted Matrix (F3)
- ___Redox Dark Surface (F6)
- ___Depleted Dark Surface (F7)
- ___Redox Depressions (F8)
- ___Marl (F10) **(LRR U)**
- ___Depleted Orchric (F11) **(MLRA 151)**
- ___Iron-Manganese Masses (F12) **(LRR O, P,T)**
- ___Umbric Surface (F13) **(LRR P, T, U)**
- ___Delta Orchric (F17) **(MLRA 151)**
- ___Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils [3]:

- ___1 cm Muck (a9) **(LRR O)**
- ___2 cm Muck (A10) **(LRR S)**
- ___Reduced Vertic (F18) **(outside MLRA 150A, B)**
- ___Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ___Red Parent Material (TF2)
- ___Very Shallow Dark Surface (TF12) **(LRR T, U)**
- ___Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No _____.

Remarks:

Adapted from U.S. Army Corps of Engineers
Atlantic and Gulf Coastal Plain Region- Interim Version

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Levy Nuclear Plant - Transmission Lines, CREC Substation City/County: Citrus Sampling Date: 10/28/09

Applicant/Owner: Progress Energy Florida, Inc. State: FL Sampling Point: AD

Investigator(s): Stacy Rizzo, Tony Davanzo Section, Township, Range: 28 17S 16E

Landform (hillslope, terrace, etc.): N/A Local relief (concave, convex, none): none Slope (%):

Subregion (LRR or MLRA): LRR U Lat: 28.962904 Long: -82.699946 Datum: WGS84

Soil Map Unit Name: Quartzipsamments, 0 to 5 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No (If no, explain in Remarks)

Are Vegetation, Soil, or Hydrology significantly disturbed? Are circumstances normal? Yes ✓ No

Are Vegetation, Soil, or Hydrology naturally problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No	**Is the Sampled Area within a Wetland?** Yes ✓ No
Hydric Soil Present?	Yes ✓ No	
Wetland Hydrology Present?	Yes ✓ No	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

Surface Water (A1)	Water-Stained Leaves (B9)	
High Water Table (A2)	Aquatic Fauna (B13)	
✓ Saturation (A3)	Marl Deposits (B15) **(LRR U)**	
✓ Water Marks (B1)	Hydrogen Sulfide Odor (C1)	
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots (C3)	
Drift Deposits (B3)	Presence of Reduced Iron (C4)	
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	
Iron Deposits (B5)	Thin Muck Surface (C7)	
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- FAC Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes	No ✓	Depth (inches):
Water Table Present?	Yes	No ✓	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ✓	No	Depth (inches): 0-12

Wetland Hydrology Present? Yes ✓ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: AD

Tree Stratum (Plot size:_____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Fraxinus caroliniana	20	yes	OBL
2. Pinus elliottii	20	yes	FACW
3. Acer rubrum	10	no	OBL
4. Juniperus silicicola	10	no	FAC
5. Sabal palmetto	10	no	FAC
6. Nyssa sylvatica var. biflora	5	no	FAC
7. Persea palustris	5	no	NL
	80	= Total Cover	
Sapling Stratum (Plot size:____)			
1. Sabal palmetto	20	yes	FAC
2. Liquidambar styraciflua	10	yes	FAC
3. Salix caroliniana	2	no	OBL
4.			
5.			
6.			
7.			
	32	= Total Cover	
Shrub Stratum (Plot size:_____)			
1. Ilex cassine	5	yes	FACW
2. Baccharis sp.	5	yes	FAC
3. Myrica cerifera	5	yes	FAC
4.			
5.			
6.			
7.			
	15	= Total Cover	
Herb Stratum (Plot size:_____)			
1. Cladium spp.	5	yes	OBL
2. Centella asiatica	5	yes	FACW
3. Rhynchospora colorata	5	yes	OBL
4. Fimbristylis spp.	5	yes	FACW
5. Andropogon glomeratus	1	no	FACW
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	21	= Total Cover	
Woody Vine Stratum (Plot size:___)			
1. Vitus rotundifolia	10	yes	FAC
2. Smilax spp.	2	no	FAC
3.			
4.			
5.			
	12	= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 12 (A)

Total Number of Dominant Species Across All Strata: 12 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalance Index worksheet:

Total % Cover of:		Multiply by:
OBL species	x1=	
FACW species	x2=	
FAC species	x3=	
FACU species	x4=	
UPL species	x5=	
Column Totals:	(A)	(B)

Prevalance Index = B/A =

Hydrophytic Vegetation Indicators:

✓ Dominance Test is 50%

___ Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub- Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb- All herbaceous (non-woody)plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine- All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (If observed, list morphological adaptations below).

Percent cover estimates based on meandering survey of the broader community.

Adapted from U.S. Army Corps of Engineers
Atlantic and Gulf Coastal Plain Region- Interim Version

County/soil: Citrus- Quartzipsamments

SOIL

Sampling Point: AD

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10 YR 4/2	100						dark grayish brown sand
6-32	N 5/0; 10 YR 7/1	80	10 YR 6/2; 10 YR 8/1; 10 YR 5/2	20	RM	M	splotches and pockets	gray and light gray sand
32-42	7.5 YR 5/8	100	5 YR 3/4	20	RM	M	splotches	strong brown sand
42-60	10 YR 5/2	100						grayish brown sand

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___Histol (A1)
- ___Histic Epidon (A2)
- ___Black Histic (A3)
- ___Hydrogen Sulfide (A4)
- ___Stratified Layers (A5)
- ___Organic Bodies (A6) **(LRR P, T, U)**
- ___5 cm Mucky Mineral (A7) **(LRR P,T,U)**
- ✓ Muck Presence (A8) **(LRR U)**
- ___1 cm Muck (A9) **(LRR P,T)**
- ___Depleted Below Dark Surface (A11)
- ___Thick Dark Surface (A12)
- ___Coast Prairie Redox (A16) **(MLRA 150A)**
- ___Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___Sandy Gleyed Matrix (S4)
- ___Sandy Redox (S5)
- ___Stripped Matrix (S6)
- ___Dark Surface (S7) **(LRR P, S, T, U)**
- ___Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___Thin Dark Surface (S9) **(LRR S, T, U)**
- ___Loamy Mucky Mineral (F1) **(LRR O)**
- ___Loamy Gleyed Matrix (F2)
- ___Depleted Matrix (F3)
- ___Redox Dark Surface (F6)
- ___Depleted Dark Surface (F7)
- ___Redox Depressions (F8)
- ___Marl (F10) **(LRR U)**
- ___Depleted Orchric (F11) **(MLRA 151)**
- ___Iron-Manganese Masses (F12) **(LRR O, P,T)**
- ___Umbric Surface (F13) **(LRR P, T, U)**
- ___Delta Orchric (F17) **(MLRA 151)**
- ___Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils [3]:

- ___1 cm Muck (a9) **(LRR O)**
- ___2 cm Muck (A10) **(LRR S)**
- ___Reduced Vertic (F18) **(outside MLRA 150A, B)**
- ___Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ___Red Parent Material (TF2)
- ___Very Shallow Dark Surface (TF12) **(LRR T, U)**
- ___Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No _____.

Remarks:

Adapted from U.S. Army Corps of Engineers
Atlantic and Gulf Coastal Plain Region- Interim Version

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Levy Nuclear Plant - Transmission Lines, CREC Substation City/County: Citrus Sampling Date: 10/28/09

Applicant/Owner: Progress Energy Florida, Inc. State: FL Sampling Point: AE

Investigator(s): Stacy Rizzo, Tony Davanzo Section, Township, Range: 28 17S 16E

Landform (hillslope, terrace, etc.): N/A Local relief (concave, convex, none): none Slope (%): _____

Subregion (LRR or MLRA): LRR U Lat: 28.963037 Long: -82.699298 Datum: WGS84

Soil Map Unit Name: Quartzipsamments, 0 to 5 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks)

Are Vegetation_____, Soil_____, or Hydrology_____ significantly disturbed? Are circumstances normal? Yes ✓ No_____

Are Vegetation_____, Soil_____, or Hydrology_____ naturally problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

_____ Surface Water (A1)	_____ Water-Stained Leaves (B9)	_____ Surface Soil Cracks (B6)
_____ High Water Table (A2)	_____ Aquatic Fauna (B13)	_____ Sparsely Vegetated Concave Surface (B8)
✓ Saturation (A3)	_____ Marl Deposits (B15) **(LRR U)**	_____ Drainage Patterns (B10)
_____ Water Marks (B1)	_____ Hydrogen Sulfide Odor (C1)	_____ Moss Trim Lines (B16)
_____ Sediment Deposits (B2)	_____ Oxidized Rhizospheres on Living Roots (C3)	_____ Dry-Season Water Table (C2)
_____ Drift Deposits (B3)	_____ Presence of Reduced Iron (C4)	_____ Crayfish Burrows (C8)
_____ Algal Mat or Crust (B4)	_____ Recent Iron Reduction in Tilled Soils (C6)	_____ Saturation Visible on Aerial Imagery (C9)
_____ Iron Deposits (B5)	_____ Thin Muck Surface (C7)	_____ Geomorphic Position (D2)
_____ Inundation Visible on Aerial Imagery (B7)	_____ Other (Explain in Remarks)	_____ Shallow Aquitard (D3)
		_____ FAC Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____ No ✓ Depth (inches): _____	
Water Table Present?	Yes _____ No ✓ Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes ✓ No _____ Depth (inches): 0-12	**Wetland Hydrology Present?** Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: AE

Tree Stratum (Plot size:_____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Fraxinus caroliniana	20	yes	OBL
2. Pinus elliottii	20	yes	FACW
3. Acer rubrum	10	no	OBL
4. Juniperus silicicola	10	no	FAC
5. Sabal palmetto	10	no	FAC
6. Nyssa sylvatica var. biflora	5	no	FAC
7. Persea palustris	5	no	NL
	80	= Total Cover	
Sapling Stratum (Plot size:____)			
1. Sabal palmetto	20	yes	FAC
2. Liquidambar styraciflua	10	yes	FAC
3. Salix caroliniana	2	no	OBL
4.			
5.			
6.			
7.			
	32	= Total Cover	
Shrub Stratum (Plot size:_____)			
1. Ilex cassine	5	yes	FACW
2. Baccharis sp.	5	yes	FAC
3. Myrica cerifera	5	yes	FAC
4.			
5.			
6.			
7.			
	15	= Total Cover	
Herb Stratum (Plot size:_____)			
1. Cladium spp.	5	yes	OBL
2. Centella asiatica	5	yes	FACW
3. Rhynchospora colorata	5	yes	OBL
4. Fimbristylis spp.	5	yes	FACW
5. Andropogon glomeratus	1	no	FACW
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	21	= Total Cover	
Woody Vine Stratum (Plot size:____)			
1. Vitus rotundifolia	10	yes	FAC
2. Smilax spp.	2	no	FAC
3.			
4.			
5.			
	12	= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 12 (A)

Total Number of Dominant Species Across All Strata: 12 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalance Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x1=
FACW species		x2=
FAC species		x3=
FACU species		x4=
UPL species		x5=
Column Totals:	(A)	(B)

Prevalance Index = B/A =

Hydrophytic Vegetation Indicators:

✓ Dominance Test is 50%

___ Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub- Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb- All herbaceous (non-woody)plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine- All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ✓ No ___.

Remarks: (If observed, list morphological adaptations below).

Percent cover estimates based on meandering survey of the broader community.

Adapted from U.S. Army Corps of Engineers
Atlantic and Gulf Coastal Plain Region- Interim Version

County/soil: Citrus- Quartzipsamments

SOIL

Sampling Point: AE

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10 YR 4/2	100						dark grayish brown sand
6-32	N 5/0; 10 YR 7/1	80	10 YR 6/2; 10 YR 8/1; 10 YR 5/2	20	RM	M	splotches and pockets	gray and light gray sand
32-42	7.5 YR 5/8	80	5 YR 3/4	20	RM	M	splotches	strong brown sand
42-60	10 YR 5/2	100						grayish brown sand

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___Histol (A1)
- ___Histic Epidon (A2)
- ___Black Histic (A3)
- ___Hydrogen Sulfide (A4)
- ___Stratified Layers (A5)
- ___Organic Bodies (A6) **(LRR P, T, U)**
- ___5 cm Mucky Mineral (A7) **(LRR P,T,U)**
- ✓ Muck Presence (A8) **(LRR U)**
- ___1 cm Muck (A9) **(LRR P,T)**
- ___Depleted Below Dark Surface (A11)
- ___Thick Dark Surface (A12)
- ___Coast Prairie Redox (A16) **(MLRA 150A)**
- ___Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___Sandy Gleyed Matrix (S4)
- ___Sandy Redox (S5)
- ___Stripped Matrix (S6)
- ___Dark Surface (S7) **(LRR P, S, T, U)**
- ___Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___Thin Dark Surface (S9) **(LRR S, T, U)**
- ___Loamy Mucky Mineral (F1) **(LRR O)**
- ___Loamy Gleyed Matrix (F2)
- ___Depleted Matrix (F3)
- ___Redox Dark Surface (F6)
- ___Depleted Dark Surface (F7)
- ___Redox Depressions (F8)
- ___Marl (F10) **(LRR U)**
- ___Depleted Orchric (F11) **(MLRA 151)**
- ___Iron-Manganese Masses (F12) **(LRR O, P,T)**
- ___Umbric Surface (F13) **(LRR P, T, U)**
- ___Delta Orchric (F17) **(MLRA 151)**
- ___Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils [3]:

- ___1 cm Muck (a9) **(LRR O)**
- ___2 cm Muck (A10) **(LRR S)**
- ___Reduced Vertic (F18) **(outside MLRA 150A, B)**
- ___Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ___Red Parent Material (TF2)
- ___Very Shallow Dark Surface (TF12) **(LRR T, U)**
- ___Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ✓ **No** _____

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Levy Nuclear Plant - Transmission Lines, CREC Substation City/County: Citrus Sampling Date: 10/28/09

Applicant/Owner: Progress Energy Florida, Inc. State: FL Sampling Point: AF

Investigator(s): Stacy Rizzo, Tony Davanzo Section, Township, Range: 33 17S 16E

Landform (hillslope, terrace, etc.): N/A Local relief (concave, convex, none): none Slope (%): _____

Subregion (LRR or MLRA): LRR U Lat: 28.960825 Long: -82.696680 Datum: WGS84

Soil Map Unit Name: Quartzipsamments, 0 to 5 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks)

Are Vegetation_____, Soil_____, or Hydrology_____ significantly disturbed? Are circumstances normal? Yes ✓ No_____

Are Vegetation_____, Soil_____, or Hydrology_____ naturally problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

_____ Surface Water (A1)	____Water-Stained Leaves (B9)	____Surface Soil Cracks (B6)
_____ High Water Table (A2)	____Aquatic Fauna (B13)	____Sparsely Vegetated Concave Surface (B8)
✓ Saturation (A3)	____Marl Deposits (B15) **(LRR U)**	____Drainage Patterns (B10)
_____ Water Marks (B1)	____Hydrogen Sulfide Odor (C1)	____Moss Trim Lines (B16)
_____ Sediment Deposits (B2)	____Oxidized Rhizospheres on Living Roots (C3)	____Dry-Season Water Table (C2)
_____ Drift Deposits (B3)	____Presence of Reduced Iron (C4)	____Crayfish Burrows (C8)
_____ Algal Mat or Crust (B4)	____Recent Iron Reduction in Tilled Soils (C6)	____Saturation Visible on Aerial Imagery (C9)
_____ Iron Deposits (B5)	____Thin Muck Surface (C7)	____Geomorphic Position (D2)
_____ Inundation Visible on Aerial Imagery (B7)	____Other (Explain in Remarks)	____Shallow Aquitard (D3)
		____FAC Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No ✓	Depth (inches): _____
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0-12

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: AF

Tree Stratum (Plot size:_____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Sapling Stratum (Plot size:____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Shrub Stratum (Plot size:_____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Herb Stratum (Plot size:_____)			
1. Cyperus spp.	30	yes	FACW
2. Andropogon glomeratus	10	no	FACW
3. Ludwigia spp.	10	no	OBL
4. Setaria spp.	5	no	FAC
5. Eustachys petracea	5	no	FACU
6. Eupatorium serotinum	2	no	FAC
7. Aeschynomene spp.	2	no	FACW
8.			
9.			
10.			
11.			
12.			
	64	= Total Cover	
Woody Vine Stratum (Plot size:____)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalance Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x1=
FACW species		x2=
FAC species		x3=
FACU species		x4=
UPL species		x5=
Column Totals:	(A)	(B)

Prevalance Index = B/A =

Hydrophytic Vegetation Indicators:

✓ Dominance Test is 50%

___ Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub- Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb- All herbaceous (non-woody)plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine- All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (If observed, list morphological adaptations below).

Percent cover estimates based on meandering survey of the broader community.

Adapted from U.S. Army Corps of Engineers
Atlantic and Gulf Coastal Plain Region- Interim Version

County/soil: Citrus- Quartzipsamments

SOIL

Sampling Point: AF

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10 YR 4/2	100						dark grayish brown sand
6-32	N 5/0; 10 YR 7/1	80	10 YR 6/2; 10 YR 8/1; 10 YR 5/2	20	RM	M	splotches and pockets	gray and light gray sand
32-42	7.5 YR 5/8	100						strong brown sand
42-60	10 YR 5/2	100						grayish brown sand

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___Histol (A1)
___Histic Epidon (A2)
___Black Histic (A3)
___Hydrogen Sulfide (A4)
___Stratified Layers (A5)
___Organic Bodies (A6) **(LRR P, T, U)**
___5 cm Mucky Mineral (A7) **(LRR P,T,U)**
✓ Muck Presence (A8) **(LRR U)**
___1 cm Muck (A9) **(LRR P,T)**
___Depleted Below Dark Surface (A11)
___Thick Dark Surface (A12)
___Coast Prairie Redox (A16) **(MLRA 150A)**
___Sandy Mucky Mineral (S1) **(LRR O, S)**
___Sandy Gleyed Matrix (S4)
___Sandy Redox (S5)
___Stripped Matrix (S6)
___Dark Surface (S7) **(LRR P, S, T, U)**
___Polyvalue Below Surface (S8) **(LRR S, T, U)**
___Thin Dark Surface (S9) **(LRR S, T, U)**
___Loamy Mucky Mineral (F1) **(LRR O)**
___Loamy Gleyed Matrix (F2)
___Depleted Matrix (F3)
___Redox Dark Surface (F6)
___Depleted Dark Surface (F7)
___Redox Depressions (F8)
___Marl (F10) **(LRR U)**
___Depleted Orchric (F11) **(MLRA 151)**
___Iron-Manganese Masses (F12) **(LRR O, P,T)**
___Umbric Surface (F13) **(LRR P, T, U)**
___Delta Orchric (F17) **(MLRA 151)**
___Reduced Vertic (F18) **(MLRA 150A, 150B)**
___Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils [3]:

___1 cm Muck (a9) **(LRR O)**
___2 cm Muck (A10) **(LRR S)**
___Reduced Vertic (F18) **(outside MLRA 150A, B)**
___Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
___Anomalous Bright Loamy Soils (F20) (MLRA 153B)
___Red Parent Material (TF2)
___Very Shallow Dark Surface (TF12) **(LRR T, U)**
___Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No _____.

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Levy Nuclear Plant - Transmission Lines, CREC Substation City/County: Citrus Sampling Date: 10/28/09

Applicant/Owner: Progress Energy Florida, Inc. State: FL Sampling Point: AG

Investigator(s): Stacy Rizzo, Tony Davanzo Section, Township, Range: 28 17S 16E

Landform (hillslope, terrace, etc.): N/A Local relief (concave, convex, none): none Slope (%):

Subregion (LRR or MLRA): LRR U Lat: 28.963869 Long: -82.701050 Datum: WGS84

Soil Map Unit Name: Quartzipsamments, 0 to 5 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No (If no, explain in Remarks)

Are Vegetation, Soil, or Hydrology significantly disturbed? Are circumstances normal? Yes ✓ No

Are Vegetation, Soil, or Hydrology naturally problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No	**Is the Sampled Area within a Wetland?** Yes ✓ No
Hydric Soil Present?	Yes ✓ No	
Wetland Hydrology Present?	Yes ✓ No	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

Surface Water (A1)	Water-Stained Leaves (B9)	
High Water Table (A2)	Aquatic Fauna (B13)	
✓ Saturation (A3)	Marl Deposits (B15) **(LRR U)**	
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots (C3)	
Drift Deposits (B3)	Presence of Reduced Iron (C4)	
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	
Iron Deposits (B5)	Thin Muck Surface (C7)	
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- FAC Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes	No ✓	Depth (inches):
Water Table Present?	Yes	No ✓	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ✓	No	Depth (inches): 0-12

Wetland Hydrology Present? Yes ✓ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: AG

Tree Stratum (Plot size:_____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Sabal palmetto	5	yes	FAC
2. Taxodium distichum	2	yes	OBL
3. Ulmus americana	1	no	FACW
4. Fraxinus caroliniana	1	no	OBL
5.			
6.			
7.			
	9	= Total Cover	
Sapling Stratum (Plot size:____)			
1. Salix caroliniana	40	yes	OBL
2. Juniperus silicicola	2	no	FAC
3.			
4.			
5.			
6.			
7.			
	42	= Total Cover	
Shrub Stratum (Plot size:_____)			
1. Baccharis sp.	40	yes	FAC
2. Myrica cerifera	30	yes	FAC
3.			
4.			
5.			
6.			
7.			
	70	= Total Cover	
Herb Stratum (Plot size:_____)			
1. Fimbristylis spp.	10	yes	FACW
2. Panicum repens	10	yes	FACW
3. Cyperus spp.	5	no	FACW
4. Andropogon glomeratus	2	no	FACW
5. Eleocharis spp.	2	no	OBL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	29	= Total Cover	
Woody Vine Stratum (Plot size:____)			
1. Vitus rotundifolia	60	yes	FAC
2. Ampelopsis arborea	20	yes	FAC
3.			
4.			
5.			
	80	= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 9 (A)

Total Number of Dominant Species Across All Strata: 9 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalance Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x1=
FACW species		x2=
FAC species		x3=
FACU species		x4=
UPL species		x5=
Column Totals:	(A)	(B)

Prevalance Index = B/A =

Hydrophytic Vegetation Indicators:

✓ Dominance Test is 50%

___ Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

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Sapling- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub- Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb- All herbaceous (non-woody)plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine- All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (If observed, list morphological adaptations below).

Percent cover estimates based on meandering survey of the broader community.

County/soil: Citrus- Quartzipsamments

SOIL Sampling Point: AG

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10 YR 4/2	100						dark grayish brown sand
6-32	N 5/0; 10 YR 7/1	80	10 YR 6/2; 10 YR 8/1; 10 YR 5/2	20	RM	M	splotches and pockets	gray and light gray sand
32-42	7.5 YR 5/8	80	5 YR 3/4	20	RM	M	splotches	strong brown sand
42-60	10 YR 5/2	100						grayish brown sand

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___Histol (A1)
___Histic Epidon (A2)
___Black Histic (A3)
___Hydrogen Sulfide (A4)
___Stratified Layers (A5)
___Organic Bodies (A6) **(LRR P, T, U)**
___5 cm Mucky Mineral (A7) **(LRR P,T,U)**
✓ Muck Presence (A8) **(LRR U)**
___1 cm Muck (A9) **(LRR P,T)**
___Depleted Below Dark Surface (A11)
___Thick Dark Surface (A12)
___Coast Prairie Redox (A16) **(MLRA 150A)**
___Sandy Mucky Mineral (S1) **(LRR O, S)**
___Sandy Gleyed Matrix (S4)
___Sandy Redox (S5)
___Stripped Matrix (S6)
___Dark Surface (S7) **(LRR P, S, T, U)**
___Polyvalue Below Surface (S8) **(LRR S, T, U)**
___Thin Dark Surface (S9) **(LRR S, T, U)**
___Loamy Mucky Mineral (F1) **(LRR O)**
___Loamy Gleyed Matrix (F2)
___Depleted Matrix (F3)
___Redox Dark Surface (F6)
___Depleted Dark Surface (F7)
___Redox Depressions (F8)
___Marl (F10) **(LRR U)**
___Depleted Orchric (F11) **(MLRA 151)**
___Iron-Manganese Masses (F12) **(LRR O, P,T)**
___Umbric Surface (F13) **(LRR P, T, U)**
___Delta Orchric (F17) **(MLRA 151)**
___Reduced Vertic (F18) **(MLRA 150A, 150B)**
___Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils [3]:

___1 cm Muck (a9) **(LRR O)**
___2 cm Muck (A10) **(LRR S)**
___Reduced Vertic (F18) **(outside MLRA 150A, B)**
___Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
___Anomalous Bright Loamy Soils (F20) (MLRA 153B)
___Red Parent Material (TF2)
___Very Shallow Dark Surface (TF12) **(LRR T, U)**
___Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes ✓ No _____.

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Levy Nuclear Plant - Transmission Lines, CREC Substation City/County: Citrus Sampling Date: 10/29/09

Applicant/Owner: Progress Energy Florida, Inc. State: FL Sampling Point: AH

Investigator(s): Stacy Rizzo, Tony Davanzo Section, Township, Range: 28 17S 16E

Landform (hillslope, terrace, etc.): N/A Local relief (concave, convex, none): none Slope (%): _____

Subregion (LRR or MLRA): LRR U Lat: 28.962773 Long: -82.697632 Datum: WGS84

Soil Map Unit Name: Quartzipsamments, 0 to 5 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks)

Are Vegetation_____, Soil_____, or Hydrology_____ significantly disturbed? Are circumstances normal? Yes ✓ No_____

Are Vegetation_____, Soil_____, or Hydrology_____ naturally problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

_____ Surface Water (A1)	_____ Water-Stained Leaves (B9)	_____ Surface Soil Cracks (B6)
_____ High Water Table (A2)	_____ Aquatic Fauna (B13)	_____ Sparsely Vegetated Concave Surface (B8)
✓ Saturation (A3)	_____ Marl Deposits (B15) **(LRR U)**	_____ Drainage Patterns (B10)
_____ Water Marks (B1)	_____ Hydrogen Sulfide Odor (C1)	_____ Moss Trim Lines (B16)
_____ Sediment Deposits (B2)	_____ Oxidized Rhizospheres on Living Roots (C3)	_____ Dry-Season Water Table (C2)
_____ Drift Deposits (B3)	_____ Presence of Reduced Iron (C4)	_____ Crayfish Burrows (C8)
_____ Algal Mat or Crust (B4)	_____ Recent Iron Reduction in Tilled Soils (C6)	_____ Saturation Visible on Aerial Imagery (C9)
_____ Iron Deposits (B5)	_____ Thin Muck Surface (C7)	_____ Geomorphic Position (D2)
_____ Inundation Visible on Aerial Imagery (B7)	_____ Other (Explain in Remarks)	_____ Shallow Aquitard (D3)
		_____ FAC Neutral Test (D5)

Secondary Indicators (minimum of two required)

Field Observations:

Surface Water Present?	Yes _____	No ✓	Depth (inches): _____
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0-12

Wetland Hydrology Present? **Yes** ✓ **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: AH

Tree Stratum (Plot size:_____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Sapling Stratum (Plot size:____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Shrub Stratum (Plot size:_____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Herb Stratum (Plot size:_____)			
1. Cyperus spp.	60	yes	FACW
2. Hydrocotyle spp.	40	yes	OBL
3. Diodia virginiana	5	no	FACW
4. Chamaesyce serpens	5	no	FAC
5. Desmodium spp.	5	no	FACU
6. Galium spp.	2	no	FACU
7.			
8.			
9.			
10.			
11.			
12.			
	117	= Total Cover	
Woody Vine Stratum (Plot size:____)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	2	(A)
Total Number of Dominant Species Across All Strata:	2	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100.00	(A/B)

Prevalance Index worksheet:

Total % Cover of:		Multiply by:
OBL species	_____	x1= _____
FACW species	_____	x2= _____
FAC species	_____	x3= _____
FACU species	_____	x4= _____
UPL species	_____	x5= _____
Column Totals:	_____ (A)	_____ (B)

Prevalance Index = B/A =

Hydrophytic Vegetation Indicators:

✓ Dominance Test is 50%

_____ Prevalence Index is ≤3.0[1]

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub- Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb- All herbaceous (non-woody)plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine- All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ✓ No _____.

Remarks: (If observed, list morphological adaptations below).

Percent cover estimates based on meandering survey of the broader community.

Adapted from U.S. Army Corps of Engineers
Atlantic and Gulf Coastal Plain Region- Interim Version

County/soil: Citrus- Quartzipsamments

SOIL

Sampling Point: AH

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10 YR 4/2	100						dark grayish brown sand
6-32	N 5/0; 10 YR 7/1	80	10 YR 6/2; 10 YR 8/1; 10 YR 5/2	20	RM	M	splotches and pockets	gray and light gray sand
32-42	7.5 YR 5/8	80	5 YR 3/4	20	RM	M	splotches	strong brown sand
42-60	10 YR 5/2	100						grayish brown sand

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___Histol (A1)
___Histic Epidon (A2)
___Black Histic (A3)
___Hydrogen Sulfide (A4)
___Stratified Layers (A5)
___Organic Bodies (A6) **(LRR P, T, U)**
___5 cm Mucky Mineral (A7) **(LRR P,T,U)**
✓ Muck Presence (A8) **(LRR U)**
___1 cm Muck (A9) **(LRR P,T)**
___Depleted Below Dark Surface (A11)
___Thick Dark Surface (A12)
___Coast Prairie Redox (A16) **(MLRA 150A)**
___Sandy Mucky Mineral (S1) **(LRR O, S)**
___Sandy Gleyed Matrix (S4)
___Sandy Redox (S5)
___Stripped Matrix (S6)
___Dark Surface (S7) **(LRR P, S, T, U)**
___Polyvalue Below Surface (S8) **(LRR S, T, U)**
___Thin Dark Surface (S9) **(LRR S, T, U)**
___Loamy Mucky Mineral (F1) **(LRR O)**
___Loamy Gleyed Matrix (F2)
___Depleted Matrix (F3)
___Redox Dark Surface (F6)
___Depleted Dark Surface (F7)
___Redox Depressions (F8)
___Marl (F10) **(LRR U)**
___Depleted Orchric (F11) **(MLRA 151)**
___Iron-Manganese Masses (F12) **(LRR O, P,T)**
___Umbric Surface (F13) **(LRR P, T, U)**
___Delta Orchric (F17) **(MLRA 151)**
___Reduced Vertic (F18) **(MLRA 150A, 150B)**
___Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils [3]:

___1 cm Muck (a9) **(LRR O)**
___2 cm Muck (A10) **(LRR S)**
___Reduced Vertic (F18) **(outside MLRA 150A, B)**
___Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
___Anomalous Bright Loamy Soils (F20) (MLRA 153B)
___Red Parent Material (TF2)
___Very Shallow Dark Surface (TF12) **(LRR T, U)**
___Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No _____.

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Levy Nuclear Plant - Transmission Lines, CREC Substation City/County: Citrus Sampling Date: 10/29/09

Applicant/Owner: Progress Energy Florida, Inc. State: FL Sampling Point: AI

Investigator(s): Stacy Rizzo, Tony Davanzo Section, Township, Range: 33 17S 16E

Landform (hillslope, terrace, etc.): N/A Local relief (concave, convex, none): none Slope (%): _____

Subregion (LRR or MLRA): LRR U Lat: 28.962490 Long: -82.695989 Datum: WGS84

Soil Map Unit Name: Quartzipsamments, 0 to 5 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks)

Are Vegetation_____, Soil_____, or Hydrology_____ significantly disturbed? Are circumstances normal? Yes ✓ No_____

Are Vegetation_____, Soil_____, or Hydrology_____ naturally problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

✓ Surface Water (A1)	____Water-Stained Leaves (B9)	____Surface Soil Cracks (B6)
____ High Water Table (A2)	____Aquatic Fauna (B13)	____Sparsely Vegetated Concave Surface (B8)
✓ Saturation (A3)	____Marl Deposits (B15) **(LRR U)**	____Drainage Patterns (B10)
____ Water Marks (B1)	____Hydrogen Sulfide Odor (C1)	____Moss Trim Lines (B16)
____ Sediment Deposits (B2)	____Oxidized Rhizospheres on Living Roots (C3)	____Dry-Season Water Table (C2)
____ Drift Deposits (B3)	____Presence of Reduced Iron (C4)	____Crayfish Burrows (C8)
____ Algal Mat or Crust (B4)	____Recent Iron Reduction in Tilled Soils (C6)	____Saturation Visible on Aerial Imagery (C9)
____ Iron Deposits (B5)	____Thin Muck Surface (C7)	____Geomorphic Position (D2)
✓ Inundation Visible on Aerial Imagery (B7)	____Other (Explain in Remarks)	____Shallow Aquitard (D3)
		____FAC Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓ No _____	Depth (inches): 2	
Water Table Present?	Yes ✓ No _____	Depth (inches): 0	
Saturation Present? (includes capillary fringe)	Yes ✓ No _____	Depth (inches): 0	**Wetland Hydrology Present?** Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: A1

Tree Stratum (Plot size:_____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Sapling Stratum (Plot size:____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Shrub Stratum (Plot size:_____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Herb Stratum (Plot size:_____)			
1. Ludwigia peruviana	50	yes	OBL
2. Cyperus spp.	20	yes	FACW
3. Ludwigia leptocarpa	10	no	OBL
4. Setaria spp.	10	no	FAC
5. Aster subulatus	5	no	OBL
6. Diodia spp.	2	no	FAC
7.			
8.			
9.			
10.			
11.			
12.			
	97	= Total Cover	
Woody Vine Stratum (Plot size:____)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalance Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x1=
FACW species		x2=
FAC species		x3=
FACU species		x4=
UPL species		x5=
Column Totals:	(A)	(B)

Prevalance Index = B/A =

Hydrophytic Vegetation Indicators:

✓ Dominance Test is 50%

___ Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

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Shrub- Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb- All herbaceous (non-woody)plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine- All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (If observed, list morphological adaptations below).

Percent cover estimates based on meandering survey of the broader community.

Adapted from U.S. Army Corps of Engineers
Atlantic and Gulf Coastal Plain Region- Interim Version

County/soil: Citrus- Quartzipsamments

SOIL

Sampling Point: A1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10 YR 4/2	100						dark grayish brown sand
6-32	N 5/0; 10 YR 7/1	80	10 YR 6/2; 10 YR 8/1; 10 YR 5/2	20	RM	M	splotches and pockets	gray and light gray sand
32-42	7.5 YR 5/8	80	5 YR 3/4	20	RM	M	splotches	strong brown sand
42-60	10 YR 5/2	100						grayish brown sand

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___Histol (A1)
- ___Histic Epidon (A2)
- ___Black Histic (A3)
- ___Hydrogen Sulfide (A4)
- ___Stratified Layers (A5)
- ___Organic Bodies (A6) **(LRR P, T, U)**
- ___5 cm Mucky Mineral (A7) **(LRR P,T,U)**
- ✓ Muck Presence (A8) **(LRR U)**
- ___1 cm Muck (A9) **(LRR P,T)**
- ___Depleted Below Dark Surface (A11)
- ___Thick Dark Surface (A12)
- ___Coast Prairie Redox (A16) **(MLRA 150A)**
- ___Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___Sandy Gleyed Matrix (S4)
- ___Sandy Redox (S5)
- ___Stripped Matrix (S6)
- ___Dark Surface (S7) **(LRR P, S, T, U)**
- ___Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___Thin Dark Surface (S9) **(LRR S, T, U)**
- ___Loamy Mucky Mineral (F1) **(LRR O)**
- ___Loamy Gleyed Matrix (F2)
- ___Depleted Matrix (F3)
- ___Redox Dark Surface (F6)
- ___Depleted Dark Surface (F7)
- ___Redox Depressions (F8)
- ___Marl (F10) **(LRR U)**
- ___Depleted Orchric (F11) **(MLRA 151)**
- ___Iron-Manganese Masses (F12) **(LRR O, P,T)**
- ___Umbric Surface (F13) **(LRR P, T, U)**
- ___Delta Orchric (F17) **(MLRA 151)**
- ___Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils [3]:

- ___1 cm Muck (a9) **(LRR O)**
- ___2 cm Muck (A10) **(LRR S)**
- ___Reduced Vertic (F18) **(outside MLRA 150A, B)**
- ___Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ___Red Parent Material (TF2)
- ___Very Shallow Dark Surface (TF12) **(LRR T, U)**
- ___Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ✓ **No** _____.

Remarks:

Project: **Progress Energy Florida, Inc. Levy Nuclear Plant – Transmission Lines**
Assessment Area: **Crystal River Energy Complex Substation Expansion**

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):

B. DISTRICT OFFICE, FILE NAME, AND NUMBER:

C. PROJECT LOCATION AND BACKGROUND INFORMATION:
State: **Florida** County/parish/borough: **Citrus** City: **Crystal River**
Center coordinates of site (lat/long in degree decimal format): Lat. **28.962214°** N. Long. **-82.698695°** W.
Universal Transverse Mercator:
Name of nearest waterbody: **Crystal Bay**
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: **Crystal Bay**
Name of watershed or Hydrologic Unit Code (HUC): **Direct Runoff to Gulf/03100207**
☐ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc…) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):
☒ Office (Desk) Determination. Date: **November 30, 2009**
☒ Field Determination. Date(s): **October 28-29, 2009**

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are no** "*navigable waters of the U.S.*" within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [*Required*]
☐ Waters subject to the ebb and flow of the tide.
☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain:

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **are and are not** "*waters of the U.S.*" within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [*Required*]

1. **Waters of the U.S.**
   a. **Indicate presence of waters of U.S. in review area (check all that apply):** [1]
      ☐ TNWs, including territorial seas
      ☐ Wetlands adjacent to TNWs
      ☒ Relatively permanent waters[2] (RPWs) that flow directly or indirectly into TNWs **(Wetland AF)**
      ☐ Non-RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
      ☐ Impoundments of jurisdictional waters
      ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

   b. **Identify (estimate) size of waters of the U.S. in the review area:**
      Non-wetland waters: **230** linear feet: **10** width (ft) and/or **0.14** acres.
      Wetlands: acres.

   c. **Limits (boundaries) of jurisdiction** based on: **1987 Delineation Manual**
      Elevation of established OHWM (if known):

2. **Non-regulated waters/wetlands (check if applicable):**[3]
   ☒ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
   Explain: **Wetlands AC, AD, AE, AG, AH, and AI are isolated wetlands that are not hydrologically connected to TNWs or RPWs that flow into TNWs, and are therefore not jurisdictional.**

---

[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.
[2] For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).
[3] Supporting documentation is presented in Section III.F.

Project: **Progress Energy Florida, Inc. Levy Nuclear Plant – Transmission Lines**
Assessment Area: **Crystal River Energy Complex Substation Expansion**

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. **TNW**
   Identify TNW: .

   Summarize rationale supporting determination: .

2. **Wetland adjacent to TNW**
   Summarize rationale supporting conclusion that wetland is "adjacent": .

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody[4] is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. **Characteristics of non-TNWs that flow directly or indirectly into TNW**

   (i) General Area Conditions:
   Watershed size: **31,476 acres**
   Drainage area: **31,476 acres**
   Average annual rainfall: **52** inches
   Average annual snowfall: **0** inches

   (ii) Physical Characteristics:
   (a) Relationship with TNW:
   ☐ Tributary flows directly into TNW.
   ☒ Tributary flows through **2** tributaries before entering TNW.

   Project waters are **1 (or less)** river miles from TNW.
   Project waters are **1 (or less)** river miles from RPW.
   Project waters are **1 (or less)** aerial (straight) miles from TNW.
   Project waters are **1 (or less)** aerial (straight) miles from RPW.
   Project waters cross or serve as state boundaries. Explain: **N/A**.

[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

Identify flow route to TNW[5]: **Wetland AF is a ditch with intermittent flow that is hydrologically connected by a culvert to a second perennial ditch to the south. The perennial ditch flows directly into the discharge canal, which is a TNW (portion of Crystal Bay).**
Tributary stream order, if known:

(b) General Tributary Characteristics (check all that apply):
Tributary is: ☐ Natural
☒ Artificial (man-made). Explain: **Wetland AF is a man-made ditch that drains the switchyard and parking lots during high rain events.**
☐ Manipulated (man-altered). Explain:.

Tributary properties with respect to top of bank (estimate):
Average width: **10** feet
Average depth: **3** feet
Average side slopes: **Vertical (1:1 or less).**

Primary tributary substrate composition (check all that apply):

☐ Silts	☐ Sands	☐ Concrete
☐ Cobbles	☐ Gravel	☐ Muck
☐ Bedrock	☒ Vegetation. Type/% cover: **Herbaceous/90%**	
☐ Other. Explain:		

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: **Stable - no erosion evident.**
Presence of run/riffle/pool complexes. Explain: **N/A.**
Tributary geometry: **Relatively straight**
Tributary gradient (approximate average slope): **2 %**

(c) Flow:
Tributary provides for: **Intermittent but not seasonal flow**
Estimate average number of flow events in review area/year: **11-20**
Describe flow regime: Intermittent based on high rain events.
Other information on duration and volume:
Surface flow is: **Confined.** Characteristics: **Surface flow is contained within the banks of the ditch.**

Subsurface flow: **Unknown**. Explain findings:
☐ Dye (or other) test performed:

Tributary has (check all that apply):
☒ Bed and banks
☐ OHWM[6] (check all indicators that apply):

☒ clear, natural line impressed on the bank	☐ the presence of litter and debris
☐ changes in the character of soil	☐ destruction of terrestrial vegetation
☐ shelving	☐ the presence of wrack line
☐ vegetation matted down, bent, or absent	☐ sediment sorting
☐ leaf litter disturbed or washed away	☐ scour
☐ sediment deposition	☐ multiple observed or predicted flow events
☐ water staining	☐ abrupt change in plant community
☐ other (list):	

☐ Discontinuous OHWM.[7] Explain:

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

☒ High Tide Line indicated by:	☒ Mean High Water Mark indicated by:
☐ oil or scum line along shore objects	☐ survey to available datum;
☐ fine shell or debris deposits (foreshore)	☐ physical markings;
☐ physical markings/characteristics	☐ vegetation lines/changes in vegetation types.
☐ tidal gauges	
☐ other (list):	

[5] Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.
[6] A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.
[7] Ibid.

(iii) Chemical Characteristics:
Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).
Explain: **Unknown**.
Identify specific pollutants, if known: .

(iv) Biological Characteristics. Channel supports (check all that apply):
- ☐ Riparian corridor. Characteristics (type, average width): .
- ☐ Wetland fringe. Characteristics: .
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings: .
  - ☐ Fish/spawn areas. Explain findings: .
  - ☐ Other environmentally-sensitive species. Explain findings: .
  - ☐ Aquatic/wildlife diversity. Explain findings:

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:
(a) General Wetland Characteristics:
Properties:
Wetland size: acres
Wetland type. Explain:.
Wetland quality. Explain:.
Project wetlands cross or serve as state boundaries. Explain: .

(b) General Flow Relationship with Non-TNW:
Flow is: **Pick List**. Explain: .

Surface flow is: **Pick List**
Characteristics:.

Subsurface flow: **Pick List**. Explain findings: .
- ☐ Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:
- ☐ Directly abutting
- ☐ Not directly abutting
  - ☐ Discrete wetland hydrologic connection. Explain: .
  - ☐ Ecological connection. Explain: .
  - ☐ Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW
Project wetlands are **Pick List** river miles from TNW.
Project waters are **Pick List** aerial (straight) miles from TNW.
Flow is from: **Pick List.**
Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) Chemical Characteristics:
Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain:.
Identify specific pollutants, if known: .

(iii) Biological Characteristics. Wetland supports (check all that apply):
- ☐ Riparian buffer. Characteristics (type, average width): .
- ☐ Vegetation type/percent cover. Explain:.
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings: .
  - ☐ Fish/spawn areas. Explain findings: .
  - ☐ Other environmentally-sensitive species. Explain findings: .
  - ☐ Aquatic/wildlife diversity. Explain findings: .

3. Characteristics of all wetlands adjacent to the tributary (if any)
All wetland(s) being considered in the cumulative analysis: **Pick List**
Approximately () acres in total are being considered in the cumulative analysis.

Project: **Progress Energy Florida, Inc. Levy Nuclear Plant – Transmission Lines**
Assessment Area: **Crystal River Energy Complex Substation Expansion**

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)

Summarize overall biological, chemical and physical functions being performed:

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: .

2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: Due to the distance from the Withlacoochee River and because the tributaries are intermittent, it is not expected that the tributaries or the wetlands that abut the tributaries within the review area have a significant effect on the chemical, physical, or biological integrity of the Withlacoochee River.

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
   - ☒ TNWs: linear feet width (ft), Or, acres.
   - ☒ Wetlands adjacent to TNWs: acres.

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☒ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: .
   - ☒ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: **At the time of the site visit, there was no standing or flowing water in Wetland AF, but there was hydrophytic vegetation present, indicating that the ditch receives water at least seasonally/intermittently so that it is able to support wetland vegetation.**

Provide estimates for jurisdictional waters in the review area (check all that apply):
- ☒ Tributary waters: **230** linear feet **10** width (ft).
- ☐ Other non-wetland waters: acres.
  Identify type(s) of waters: .

3. **Non-RPWs[8] that flow directly or indirectly into TNWs.**
   ☒ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

   Provide estimates for jurisdictional waters within the review area (check all that apply):
   - ☐ Tributary waters: linear feet width (ft).
   - ☐ Other non-wetland waters: acres.
     Identify type(s) of waters: .

4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**
   ☐ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
   - ☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .
   - ☐ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:.

   Provide acreage estimates for jurisdictional wetlands in the review area: acres.

5. **Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**
   ☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.

   Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. **Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**
   ☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

   Provide estimates for jurisdictional wetlands in the review area: **3.68** acres.

7. **Impoundments of jurisdictional waters.[9]**
   As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.
   - ☐ Demonstrate that impoundment was created from "waters of the U.S.," or
   - ☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
   - ☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[10]
- ☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
- ☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- ☐ which are or could be used for industrial purposes by industries in interstate commerce.
- ☐ Interstate isolated waters. Explain: .

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[8] See Footnote # 3.
[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.
[10] **Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA *Memorandum Regarding CWA Act Jurisdiction Following Rapanos.***

☐ Other factors. Explain: .

Identify water body and summarize rationale supporting determination: .

Provide estimates for jurisdictional waters in the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .
☐ Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):
☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
☒ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
☐ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: .
☐ Other: (explain, if not covered above): .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☒ Wetlands: **5.2** acres **(Wetlands AC, AD, AE, AG, AH, and AI)**.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):
☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: .
☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
☐ Office concurs with data sheets/delineation report.
☐ Office does not concur with data sheets/delineation report.
☐ Data sheets prepared by the Corps: .
☐ Corps navigable waters' study: .
☒ U.S. Geological Survey Hydrologic Atlas: USGS 2006; www.fgdl.org.
☒ USGS NHD data.
☒ USGS 8 and 12 digit HUC maps.
☐ U.S. Geological Survey map(s). Cite scale & quad name:.
☐ USDA Natural Resources Conservation Service Soil Survey. Citation: .
☒ National wetlands inventory map(s). Cite name: USFWS, HRC 2008; www.fgdl.org.
☐ State/Local wetland inventory map(s): .
☐ FEMA/FIRM maps: .
☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date): AerialExpress 2008.
or ☐ Other (Name & Date): .
☐ Previous determination(s). File no. and date of response letter: .
☐ Applicable/supporting case law: .
☐ Applicable/supporting scientific literature: .
☐ Other information (please specify): .

Project: **Progress Energy Florida, Inc. Levy Nuclear Plant – Transmission Lines**
Assessment Area: **Crystal River Energy Complex Substation Expansion**

B. ADDITIONAL COMMENTS TO SUPPORT JD:

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Progress Energy Florida, Inc./Levy Nuclear Plant - Transmission Lines/Crystal River Energy Complex Substation Expansion		FLUCFCS 511 - Wetland AF

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
511 - Ditches		Impact	0.14 acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Direct Runoff to Gulf/03100207		None

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Located within the Crystal River Energy Complex property, west of the existing substation. Hydrologically connected to ditch to the south by a culvert, which flows to the discharge canal and ultimately the Gulf of Mexico.

Assessment area description

Wetland AF is a ditch located west of the existing switchyard, and it drains stormwater from the switchyard and adjacent parking lot. Vegetation consists of herbaceous species including flatsedges (*Cyperus* spp.), bushy bluestem (*Andropogon glomeratus*), primrosewillow (*Ludwigia* spp.), bristlegrass (*Setaria* spp.), fingergrass (*Eustachys* spp.), lateflowering thoroughwort (*Eupatorum serotinum*), and jointvetch (*Aeschynomene* spp.).

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Crystal River Energy Complex, Gulf of Mexico	Not unique

Functions	Mitigation for previous permit/other historic use
Water storage, foraging habitat for wading birds	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Wading birds, various amphibians and herpetofauna	Potential foraging by wading birds such as white ibis (SSC), little blue heron (SSC), snowy egret (SSC), tricolored heron (SSC), sandhill crane (T), limpkin (SSC), wood stork (E).

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

none

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
S. Rizzo, T. Davanzo	10/28/2009

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Progress Energy Florida, Inc./Levy Nuclear Plant - Transmission Lines/Crystal River Energy Complex Substation Expansion		FLUCFCS 511 - Wetland AF
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact - Fill	S. Rizzo, T. Davanzo	10/28/2009

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

		w/o pres or current	with
.500(6)(a) Location and Landscape Support	Location and landscape support variable is reduced due to location within Crystal River Energy Complex. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 4, reduced due to location within plant; b) Invasive exotic species = 10, none observed; c) Wildlife access to and from outside = 4, decreased due to limitations imposed by plant; d) functions that benefit fish & wildlife downstream-distance or barriers = 4, plant is a barrier; e) Impacts to wildlife listed in Part 1 by outside land uses = 4, reduced due to surrounding habitat loss; f) Hydrologically connected areas downstream of assessment area = 8, connected to ditch to the south; g) Dependency of downstream areas on assessment area = 6, little benefit to downstream areas.	5	0
.500(6)(b)Water Environment (n/a for uplands)	The water environment score is reduced due to location within plant and land clearing associated with the existing plant. Individual parameter scores: a) water levels and flows = 4, altered due to surrounding plant; b) water level indicators = 4, not consistent with expected; c) soil moisture = 4, drier than expected; d) soil erosion or deposition = 8, minimal erosion; e) evidence of fire history = N/A; f) vegetation community zonation = 6, mostly consistent with expected, although may be reduced by occasional mowing; g) hydrologic stress on vegetation = 8, not apparent; h) use by animal species with specific hydrological requirements = 4, dry at the time of site visit, so no animal species expected; i) vegetative species tolerant of and associated with water quality degradation = 4, community generally consists of typical species; j) direct observation of water quality = N/A, no water present; K) existing water quality data = N/A; l) water depth wave, wave energy, currents and light penetration = N/A.	5	0
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	The vegetative community structure is dominated by herbaceous species, and is reduced due to some upland vegetation encroachment. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 6, some upland vegetation encroachment; b) invasive exotics or other invasive plant species = 10, no coverage; c) regeneration and recruitment = 6, mostly consistent with expected, although may be reduced by occasional mowing; d) age & size distribution = 6, reduced by occasional mowing; e) density and quality of coarse woody debris, snag, den, and cavity = N/A; f) plant condition = 6, mostly consistent with expected; g) land management practices = 6, reduced by occasional mowing; h) topographic features = 4, man made; i) siltation or algal growth in submerged aquatic plant communities = N/A.	6	0

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres	with
	0.53	0

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas
FL = delta x acres = -0.53 x 0.14 = 0.07

Delta = [with-current]
-0.53

If mitigation
Time lag (t-factor) =
Risk factor =

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Progress Energy Florida, Inc./Levy Nuclear Plant - Transmission Lines/Crystal River Energy Complex Substation Expansion		FLUCFCS 534 - Wetland AI

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
534 - Reservoirs < 10 acres		Impact	0.81 acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Direct Runoff to Gulf/03100207		None

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Located within the Crystal River Energy Complex property, north and west of the existing substation. No hydrologic connection to other wetlands or surface waters.

Assessment area description

Wetland AI is an isolated retention area that retains runoff water from the adjacent car wash and roadways. Vegetation consists of herbaceous species including Peruvian primrosewillow (*Ludwigia peruviana*), anglestem primrosewillow (*Ludwigia leptocarpa*), flatsedges (*Cyperus* spp.), bristlegrass (*Setaria* spp.), annual saltmarsh aster (*Symphyotrichum subulatum*), Virginia buttonweed (*Diodia virginiana*), sawgrass (*Cladium jamaicense*), spotflower (*Acmella* spp.), marsh mermaidweed (*Proserpinaca palustris*), and lizard's tail (*Saururus cernuus*).

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Crystal River Energy Complex, Gulf of Mexico	Not unique

Functions	Mitigation for previous permit/other historic use
Water storage, foraging habitat for wading birds	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Wading birds, various amphibians and herpetofauna	Potential foraging by wading birds such as white ibis (SSC), little blue heron (SSC), snowy egret (SSC), tricolored heron (SSC), sandhill crane (T), limpkin (SSC), wood stork (E).

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

none

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
S. Rizzo, T. Davanzo	10/29/2009

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Progress Energy Florida, Inc./Levy Nuclear Plant - Transmission Lines/Crystal River Energy Complex Substation Expansion Area		FLUCFCS 534 - Wetland AI
Impact or Mitigation	Assessment conducted by:	Assessment date:
Impact - Fill	S. Rizzo, T. Davanzo	10/28/09, 10/29/09

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support w/o pres or current: 4 with: 0	Location and landscape support variable is reduced due to location within Crystal River Energy Complex. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 4, reduced due to location within plant; b) Invasive exotic species = 4, Peruvian primrosewillow dominant; c) Wildlife access to and from outside = 4, decreased due to limitations imposed by plant; d) functions that benefit fish & wildlife downstream-distance or barriers = 4, areas isolated; e) Impacts to wildlife listed in Part 1 by outside land uses = 4, reduced due to surrounding habitat loss; f) Hydrologically connected areas downstream of assessment area = 4, isolated; g) Dependency of downstream areas on assessment area = 4, areas isolated and provide no benefit.	
.500(6)(b)Water Environment (n/a for uplands) w/o pres or current: 4 with: 0	The water environment score is reduced due to isolation from other wetlands, location within plant, and land clearing associated with the existing plant. Individual parameter scores: a) water levels and flows = 4, altered due to surrounding plant; b) water level indicators = 4, not consistent with expected; c) soil moisture = 4, drier than expected; d) soil erosion or deposition = 8, minimal erosion; e) evidence of fire history = N/A; f) vegetation community zonation = 8, mostly consistent with expected; g) hydrologic stress on vegetation = 4, apparent; h) use by animal species with specific hydrological requirements = 4, potential wading bird habitat, but no wading birds observed; i) vegetative species tolerant of and associated with water quality degradation = 4, community generally consists of typical species; j) direct observation of water quality = N/A, no water present; K) existing water quality data = N/A; l) water depth wave, wave energy, currents and light penetration = N/A.	
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community w/o pres or current: 4 with: 0	The vegetative community structure is dominated by herbaceous wetland species, and is reduced due to presence of invasive species. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 4, dominated by some undesirable wetland species; b) invasive exotics or other invasive plant species = 4, moderate coverage; c) regeneration and recruitment = 4, impacted by application of herbicides and mowing; d) age & size distribution = 4, impacted by application of herbicides and mowing; e) density and quality of coarse woody debris, snag, den, and cavity = N/A; f) plant condition = 4, impacted by application of herbicides and mowing; g) land management practices = 4, impacted by application of herbicides and mowing; h) topographic features = 4, man made except for Wetland AC; i) siltation or algal growth in submerged aquatic plant communities = N/A.	

Score = sum of above scores/30 (if uplands, divide by 20)	If preservation as mitigation,	For impact assessment areas
current or w/o pres: 0.40 with: 0	Preservation adjustment factor = Adjusted mitigation delta =	FL = delta x acres = -0.40 x 0.81 = 0.32

Delta = [with-current]	If mitigation	For mitigation assessment areas
-0.40	Time lag (t-factor) = Risk factor =	RFG = delta/(t-factor x risk) =

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Progress Energy Florida, Inc./Levy Nuclear Plant - Transmission Lines/Crystal River Energy Complex Substation Expansion		FLUCFCS 630, 643 - Wetlands AD and AG; FLUCFCS 630 - Wetland AE

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
630 - Mixed Forested Wetland; 643 - Wet Prairie		Impact	3.86 acres (Wetland AD = 2.35; Wetland AE = 0.82; Wetland AG = 0.69)

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Direct Runoff to Gulf/03100207		None

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Located within the Crystal River Energy Complex property, north of the existing substation. No hydrologic connection to other wetlands or surface waters.

Assessment area description

Wetlands AD and AE are isolated mixed forested wetlands bisected by a dirt road. Wetlands AD and AG have small areas of wet prairie fringe. All wetlands have been impacted by either herbicide application, mowing, dumping, or rutting by tires. Dominant canopy species included slash pine (*Pinus elliotti*), Carolina ash (*Fraxinus caroliniana*), cabbage palm (*Sabal palmetto*), sweetgum (*Liquidambar styraciflua*), and red maple (*Acer rubrum*). Dominant herbaceous species included torpedograss (*Panicum repens*), sawgrass (*Cladium jamaicense*), flatsedges (*Cyperus* spp.), hurricanegrass (*Fimbristylis cymosa*), spadeleaf (*Centella asiatica*), and starrush whitetop (*Rhynchospora colorata*).

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Crystal River Energy Complex, Gulf of Mexico	Not unique

Functions	Mitigation for previous permit/other historic use
Water storage, foraging habitat for wading birds	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Wading birds, various amphibians and herpetofauna	Potential foraging by wading birds such as white ibis (SSC), little blue heron (SSC), snowy egret (SSC), tricolored heron (SSC), sandhill crane (T), limpkin (SSC), wood stork (E).

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

black vulture, red-winged blackbird

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
S. Rizzo, T. Davanzo	10/28/2009

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Progress Energy Florida, Inc./Levy Nuclear Plant - Transmission Lines/Crystal River Energy Complex Substation Expansion		FLUCFCS 630, 643 - Wetlands AD and AG; FLUCFCS 630 - Wetland AE
Impact or Mitigation	Assessment conducted by:	Assessment date:
Impact - Fill	S. Rizzo, T. Davanzo	10/28/2009

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support w/o pres or current: 4 with: 0	Location and landscape support variable is reduced due to location of wetlands within Crystal River Energy Complex. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 4, reduced due to location within plant; b) Invasive exotic species = 4, torpedograss dominant; c) Wildlife access to and from outside = 4, decreased due to limitations imposed by plant; d) functions that benefit fish & wildlife downstream-distance or barriers = 4, areas isolated; e) Impacts to wildlife listed in Part 1 by outside land uses = 4, reduced due to surrounding habitat loss; f) Hydrologically connected areas downstream of assessment area = 4, isolated; g) Dependency of downstream areas on assessment area = 4, areas isolated and provide no benefit.	
.500(6)(b)Water Environment (n/a for uplands) w/o pres or current: 5 with: 0	The water environment score is reduced due to isolation from other wetlands, location within plant, and land clearing associated with the existing plant. Individual parameter scores: a) water levels and flows = 4, altered due to surrounding plant; b) water level indicators = 4, not consistent with expected; c) soil moisture = 4, drier than expected; d) soil erosion or deposition = 8, minimal erosion; e) evidence of fire history = N/A; f) vegetation community zonation = 6, most areas consistent with expected; g) hydrologic stress on vegetation = 8, not apparent; h) use by animal species with specific hydrological requirements = 4, potential wading bird habitat, but no wading birds observed; i) vegetative species tolerant of and associated with water quality degradation = 8, community generally consists of typical species; j) direct observation of water quality = N/A, no water present; K) existing water quality data = N/A; l) water depth wave, wave energy, currents and light penetration = N/A.	
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community w/o pres or current: 7 with: 0	The vegetative community structure is slightly reduced due to presence of exotic species torpedograss and application of herbicides. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 8, dominated by mostly desirable wetland species; b) invasive exotics or other invasive plant species = 6, moderate coverage; c) regeneration and recruitment = 8, some areas impacted by application of herbicides and mowing; d) age & size distribution = 8, some areas impacted by application of herbicides and mowing; e) density and quality of coarse woody debris, snag, den, and cavity = 8; f) plant condition = 8, some areas impacted by application of herbicides and mowing; g) land management practices = 8, some areas impacted by application of herbicides and mowing; h) topographic features = 8, mostly consistent with expected; i) siltation or algal growth in submerged aquatic plant communities = N/A.	

Score = sum of above scores/30 (if uplands, divide by 20)	If preservation as mitigation,	For impact assessment areas
current or w/o pres: 0.53 with: 0	Preservation adjustment factor = Adjusted mitigation delta =	FL = delta x acres = -0.53 x 2.35 = 1.34 (Wetland AD); -0.53 x 0.82 = 0.43 (Wetland AE); -0.53 x 0.69 = 0.37 (Wetland AG); total of 3.86 acres and total FL of 2.14

Delta = [with-current]	If mitigation	For mitigation assessment areas
-0.53	Time lag (t-factor) = Risk factor =	RFG = delta/(t-factor x risk) =

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Progress Energy Florida, Inc./Levy Nuclear Plant - Transmission Lines/Crystal River Energy Complex Substation Expansion		FLUCFCS 641 - Wetlands AC and AH

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
641 - Freshwater Marshes		Impact	0.53 acres (Wetland AC = 0.09; Wetland AH = 0.44)

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Direct Runoff to Gulf/03100207		None

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Located within the Crystal River Energy Complex property, north of the existing substation. No hydrologic connection to other wetlands or surface waters.

Assessment area description

Wetland AC is an isolated depressional freshwater marsh sprayed with herbicides, and Wetland AH is an isolated stormwater retention area that retains water from surrounding parking lots. Vegetation consists of herbaceous species including torpedograss (*Panicum repens*), sawgrass (*Cladium jamaicense*), flatsedges (*Cyperus* spp.), creeping primrosewillow (*Ludwigia repens*), manyflower marshpennywort (*Hydrocotyle umbellata*), Virginia buttonweed (*Diodia virginiana*), ticktrefoil (*Desmodium* spp.), bedstraw (*Galium* spp.), and smartweed (*Polygonum* spp.).

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Crystal River Energy Complex, Gulf of Mexico	Not unique

Functions	Mitigation for previous permit/other historic use
Water storage, foraging habitat for wading birds	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Wading birds, various amphibians and herpetofauna	Potential foraging by wading birds such as white ibis (SSC), little blue heron (SSC), snowy egret (SSC), tricolored heron (SSC), sandhill crane (T), limpkin (SSC), wood stork (E).

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

chipping sparrow

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
S. Rizzo, T. Davanzo	10/28/09, 10/29/09

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Progress Energy Florida, Inc./Levy Nuclear Plant - Transmission Lines/Crystal River Energy Complex Substation Expansion		FLUCFCS 641 - Wetlands AC and AH
Impact or Mitigation	Assessment conducted by:	Assessment date:
Impact - Fill	S. Rizzo, T. Davanzo	10/28/09, 10/29/09

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support w/o pres or current: 4 with: 0	Location and landscape support variable is reduced due to location of wetlands within Crystal River Energy Complex. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 4, reduced due to location within plant; b) Invasive exotic species = 4, torpedograss dominant; c) Wildlife access to and from outside = 4, decreased due to limitations imposed by plant; d) functions that benefit fish & wildlife downstream-distance or barriers = 4, areas isolated; e) Impacts to wildlife listed in Part 1 by outside land uses = 4, reduced due to surrounding habitat loss; f) Hydrologically connected areas downstream of assessment area = 4, isolated; g) Dependency of downstream areas on assessment area = 4, areas isolated and provide no benefit.	
.500(6)(b)Water Environment (n/a for uplands) w/o pres or current: 4 with: 0	The water environment score is reduced due to isolation from other wetlands, location within plant, and land clearing associated with the existing plant. Individual parameter scores: a) water levels and flows = 4, altered due to surrounding plant; b) water level indicators = 4, not consistent with expected; c) soil moisture = 4, drier than expected; d) soil erosion or deposition = 8, minimal erosion; e) evidence of fire history = N/A; f) vegetation community zonation = 4, altered due to application of herbicides and mowing; g) hydrologic stress on vegetation = 4, apparent; h) use by animal species with specific hydrological requirements = 4, potential wading bird habitat, but no wading birds observed; i) vegetative species tolerant of and associated with water quality degradation = 4, community generally consists of typical species; j) direct observation of water quality = N/A, no water present; K) existing water quality data = N/A; l) water depth wave, wave energy, currents and light penetration = N/A.	
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community w/o pres or current: 4 with: 0	The vegetative community structure is dominated by herbaceous wetland species, and is reduced due to presence of exotic species torpedograss. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 4, dominated by some undesirable wetland species; b) invasive exotics or other invasive plant species = 4, moderate coverage; c) regeneration and recruitment = 4, impacted by application of herbicides and mowing; d) age & size distribution = 4, impacted by application of herbicides and mowing; e) density and quality of coarse woody debris, snag, den, and cavity = N/A; f) plant condition = 4, impacted by application of herbicides and mowing; g) land management practices = 4, impacted by application of herbicides and mowing; h) topographic features = 4, man made except for Wetland AC; i) siltation or algal growth in submerged aquatic plant communities = N/A.	

Score = sum of above scores/30 (if uplands, divide by 20)	If preservation as mitigation,	For impact assessment areas
current or w/o pres: 0.40 with: 0	Preservation adjustment factor = Adjusted mitigation delta =	FL = delta x acres = -0.40 x 0.09 = 0.04 (Wetland AC); -0.40 x 0.44 = 0.18 (Wetland AH); total of 0.53 acres and total FL of 0.22

Delta = [with-current]	If mitigation	For mitigation assessment areas
-0.40	Time lag (t-factor) = Risk factor =	RFG = delta/(t-factor x risk) =