

June 14, 2019

Debra Reeves
PO Box 780386
San Antonio, TX 78278-0386

Proj: Reeves Property - Duval County, Florida
Sections 15 and 22, Township 01 North, Range 25 East
Duval County Parcel ID: 002453 0000
(BTC File # 1215-61)
Re: Table-top Wetlands Assessment

Dear Ms. Reeves,

On June 11, 2019 Bio-Tech Consulting Inc. (BTC) conducted a table top wetlands assessment of the Reeves property which totals approximately 26.17 acres. This site is located on the west side of US Highway 1, approximately three quarters (3/4) of a mile south of Old Kings Road N within Sections 15 and 22, Township 01 North, Range 25 East in Duval County, FL (Figures 1-3). The wetlands assessment included the following elements:

- **Review of soil types mapped within the site boundaries**
- **Evaluation of site topography**
- **Evaluation of land use types/vegetation communities present**

METHODS

Table-top assessments are based on the identification of key characteristics of specific land use and land cover types detectable by an experienced environmental scientist examining available electronic data for the area of interest. The electronic data utilized in this assessment included:

Orlando Office
2002 East Robinson St.
Orlando, FL 32803

Vero Beach Office
1717 Indian River Blvd.
Suite 201
Vero Beach, FL 32960

Leesburg Office
414 West Main St.
Suite 204
Leesburg, FL 34748

Jacksonville Office
2036 Forbes St.
Jacksonville, FL 32204

Tampa Office
6011 Benjamin Rd.
Suite 101 B
Tampa, FL 33634

Key West Office
1107 Key Plaza
Suite 259
Key West, FL 33040

**Aquatic & Land
Management Operations**
3825 Rouse Rd.
Orlando, FL 32817

Native Plant Nursery
DCC Farms
8580 Bunkhouse Rd.
Orlando, FL 32832

407.894.5969
877.894.5969
407.894.5970 fax

Orlando

Vero Beach

Leesburg

Jacksonville

Tampa

Key West

- Historic aerial photographs (1973, 1983, 1993, 2016) provided by the Florida Department of Transportation (FDOT)
- Soil Survey of Duval County with associated maps and descriptions provided by the US Department of Agriculture Natural Resources Conservation Service (USDA NRCS)
- Land use, cover, and forms maps provided by the St. Johns River Water Management District (SJRWMD)
- US Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) maps
- US Geological Service (USGS) topographic maps

Utilizing the data above, land use within the subject parcel was mapped over the most recent aerial photograph available and described according to the categories specified in the FDOT Florida Land Use, Cover, and Forms Classification System (FLUCFCS) (Figure 5). That process included the mapping of wetland cover types and the identification of apparent wetland boundaries (Figure 6). A description of assessment findings is provided below.

SOILS

According to the Soil Survey of Duval County, Florida, prepared by the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS), three (3) soil types occur within the subject property boundaries (Figure 4). These soil types include the following:

- **(#63) Sapelo fine sand**
- **(#66) Surrency loamy fine sand**
- **(#82) Pelham fine sand**

The following presents a brief description of each of the soil types mapped for the subject property:

Sapelo fine sand, 0 to 2 percent slopes (#63) is a poorly drained, nearly level soil found in flatwoods. Slopes are smooth to convex. The surface layer is very dark gray fine sand about 6 inches thick. This soil has a water table at a depth of less than 10 inches for 2 to 4 months or more and at a depth of 10 to 30 inches for 2 to 6 months during most years. Permeability is very rapid to a depth of 23 inches, moderate to a depth of 28 inches, very rapid to a depth of 56 inches, and moderate below that depth.

Natural vegetation consists of second growth slash pine and longleaf pine, saw palmetto, inkberry, blackberry, wax myrtle, and fetterbush. Native grasses include lopsided Indian grass, pineland threeawn, panicum, and bluestems.

Surrency loamy fine sand, depressional, 0 to 2 percent slopes (#66) is a nearly level, very poorly drained soil in shallow depressions and broad drainageways. Slopes are smooth to concave. The surface layer is about 18 inches thick. The upper 14 inches is black loamy fine sand, and the lower 4 inches is dark brown fine sand. The subsurface layer is light brownish gray fine sand about 8 inches thick. The subsoil is fine sandy loam between depths of 26 and 70 inches. This soil has a water table at a depth of less than 10 inches or the soil is covered with water for 6 to 12 months during most years. Permeability is rapid in the surface and subsurface layers and moderate in the subsoil. Natural vegetation consists of cypress, bay, wax myrtle, sweetgum, water oak, and smilax.

Pelham fine sand, 0 to 2 percent slopes (#82) is a nearly level, poorly drained soil in broad flatwood areas. Slopes are smooth to convex. The surface layer is very dark gray loamy fine sand about 6 inches thick. The subsurface layer is fine sand about 15 inches thick; the upper 8 inches is grayish brown and lower 7 inches is light gray. The subsoil is at a depth between 21 and 69 inches; the upper 5 inches is light brownish gray fine sand, middle 34 inches is light brownish gray sandy clay loam, and lower 9 inches is light brownish gray fine sandy loam. This soil has a water table at a depth of less than 10 inches for 2 to 4 months and 10 to 30 inches for 4 to 12 months during most years. Permeability is rapid to a depth of 21 inches and moderate below. Natural vegetation consists of second growth slash pine and longleaf pine, sweetgum, bay, grape, blackberry, wax myrtle, and inkberry. Native grasses include lopsided Indian grass, panicum, and chalky bluestem. This soil has limitations for use due to excessive wetness and flooding.

The Florida Association of Environmental Soil Scientists (FAESS) considers the main components of Surrency loamy fine sand (#66) to be hydric. Furthermore, this Association identifies inclusions present in Sapelo fine sand (#63) as hydric. This information can be found in the Hydric Soils of Florida Handbook, Third Edition (March, 2000).

TOPOGRAPHY

Based upon a review of the USGS Topographic Map presented in Figure 3 (Dinsmore Quadrangle), the subject property is relatively flat with the majority of the site situated on a 15-foot NGVD elevation, though the available data suggest that the property falls slowly to the west-northwest, in the direction of nearby Thomas Creek.

LAND USE TYPES/VEGETATIVE COMMUNITIES

The Reeves property currently supports four (4) land use types/vegetative communities (Figure 5). The upland land use type/vegetative communities on the site are identified as Coniferous Plantation (411) and Coniferous Plantation, cleared (411). The wetlands/surface waters land use type/vegetative community is classified as Stream and Lake Swamps (615). Other classifications include an area in the northeastern portion of the property identified as Residential, low density (110) and a small area in the south of the property identified as Roads and highways (Primitive/trails) (814). These areas were mapped using the Florida Land Use, Cover and Forms

Classification System, Level III (FLUCFCS, FDOT, 1999). The following provides a brief description of the land use types/vegetative communities identified on the site:

Uplands

441- Coniferous Plantation/ Coniferous Plantation (cleared) (20.17 acres ±)

These are almost exclusively pine forests artificially generated by planting seedling stock or seeds and are typically managed to prevent the overgrowth of competing broadleaf species. These stands are characterized by high numbers of trees per acre and their uniform appearance. Although row patterns often stand out, this is not always the case, especially where stands are as a result of aerial seeding. When established on hydric soils this can be a wetland cover.

Wetlands/Surface Waters

615- Stream and Lake Swamps (4.91 acres ±)

This community, often referred to as bottomland or stream hardwoods, is usually found on but not restricted to river, creek and lake flood plain or overflow areas. Bottomlands are characterized by a mixed assemblage of primarily hardwood tree species with a lesser component of conifers. Typical species include red maple (*Acer rubrum*), river birch (*Betula nigra*), water oak (*Quercus nigra*), bays (*Persea* spp.), cypress (*Taxodium* spp.), slash pine (*Pinus elliottii*), and loblolly pine (*Pinus taeda*).

Others

814 - Roads and Highways (0.50 acres ±)

This area has identified as Primitive/Trails, typical of road ways used for logging purposes not recognized by local authority as a means of primary transportation.

110 - Residential Low density, Less than two (2) dwelling units per acre (0.58 acres ±)

This area is a small area in the north of the subject parcel that appears to have uses associated with the residential property to the north.

The environmental limitations described in this document are based on observations and technical information available at the time of the evaluation and are limited to the sources of information utilized. This report is for general planning purposes only. The limits of any on-site wetlands/surface waters can only be determined and verified through field delineation and/or on-site review by the pertinent regulatory agencies. The information provided here does not preclude the potential for wetlands to exist outside of those identified herein. Similarly, the information provided here does not preclude the potential for the subject property to be utilized by any listed species, as noted on Table 1 (attached), currently or in the future. Should you have any questions or require any additional information, please do not hesitate to contact our office at (407)894-5969. Thank you.

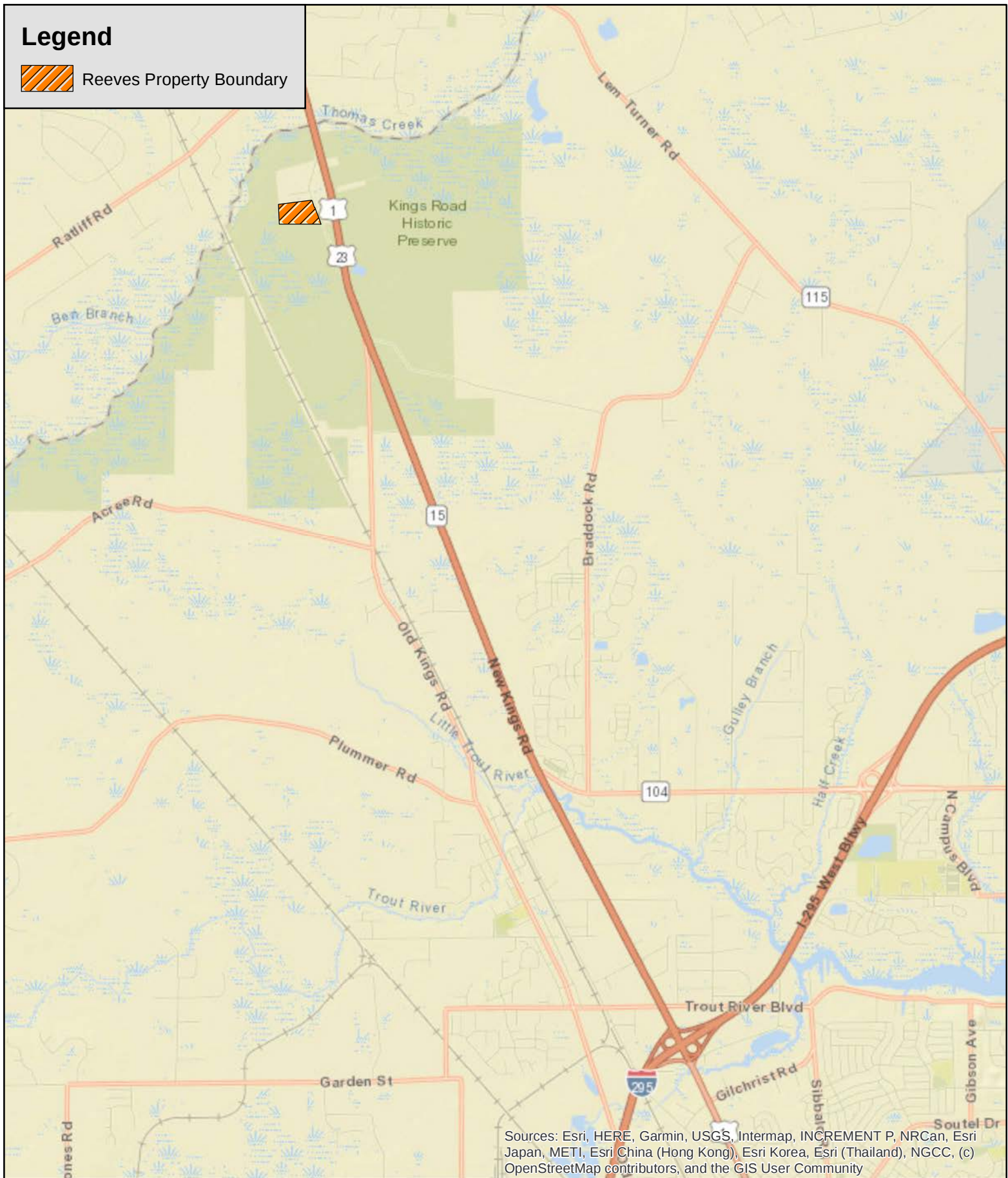
Regards,



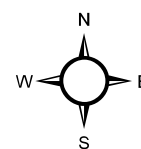
Chris R. McHan
Project Manager

Legend

 Reeves Property Boundary

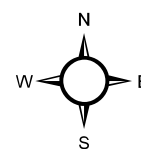


Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community



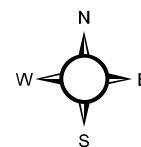
Legend

 Reeves Property Boundary



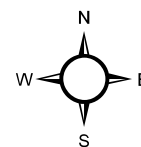
Legend

 Reeves Property Boundary



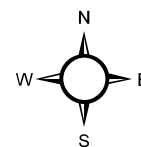
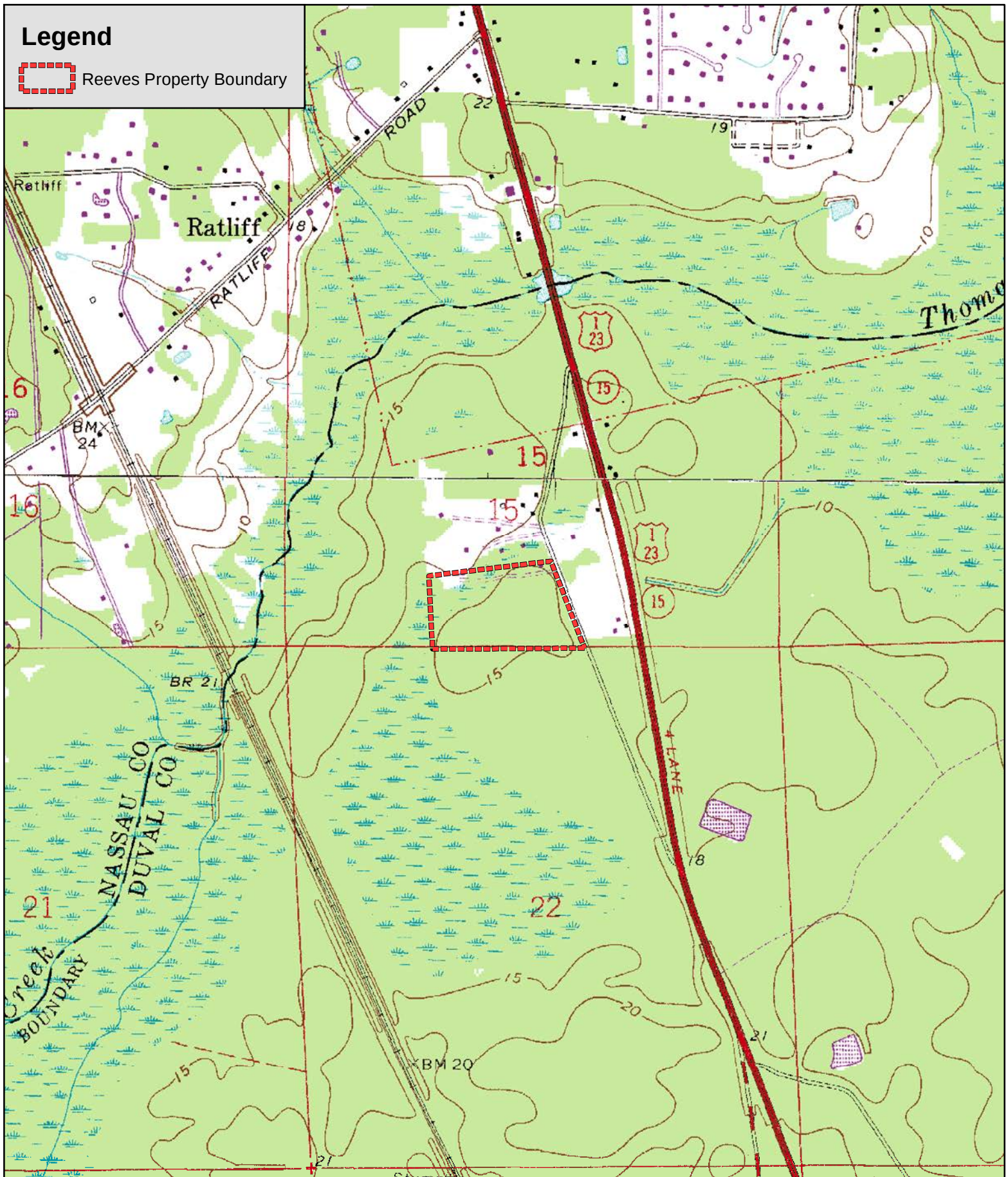
Legend

 Reeves Property Boundary



Legend

 Reeves Property Boundary



Legend

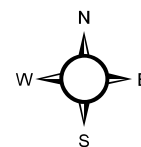
 Reeves Property Boundary

Soil Map Unit

 63: Sapelo fine sand, 0 to 2 percent slopes

 66: Surrency loamy fine sand, depressional, 0 to 2 percent slopes

 82: Pelham fine sand, ponded, 0 to 2 percent slopes



Legend

 Reeves Property Boundary

FLUCFCS

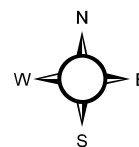
 110: Residential, low density (<2 units per acre)

 441: Coniferous plantation

 441: Coniferous plantation, cleared

 615: Stream and lake swamps (bottomland)

 814: Roads and highways (primitive/trails)



Legend

 Reeves Property Boundary

Wetlands

 615: Stream and lake swamps (bottomland)

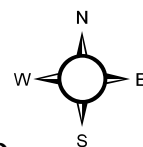


Table 1: Potentially Occurring Listed Wildlife and Plant Species in Duval County				
Scientific Name	Common Name	Federal Status	State Status	Occurrence Status
FISH				
<i>Acipenser brevirostrum</i>	shortnose sturgeon	LE	LE	P
<i>Acipenser oxyrinchus oxyrinchus</i>		N	N	C
<i>Agonostomus monticola</i>	mountain mullet	N	N	P
<i>Awaous tajasica</i>	river goby	N	N	P
<i>Microphis brachyurus</i>	opossum pipefish	N	N	C
<i>Petromyzon marinus</i>	sea lamprey	N	N	C
AMPHIBIANS				
<i>Ambystoma cingulatum</i>	flatwoods salamander	PT	N	C
<i>Notophthalmus perstriatus</i>	striped newt	N	N	C
<i>Rana capito</i>	gopher frog	N	LS	C
REPTILES				
<i>Alligator mississippiensis</i>	American alligator	T(S/A)	LS	C
<i>Caretta caretta</i>	loggerhead	LT	LT	C
<i>Chelonia mydas</i>	green turtle	LE	LE	N
<i>Clemmys guttata</i>	spotted turtle	N	N	C
<i>Crotalus adamanteus</i>	eastern diamondback rattlesnake	N	N	C
<i>Crotalus horridus</i>	timber rattlesnake	N	N	P
<i>Dermochelys coriacea</i>	leatherback	LE	LE	C
<i>Drymarchon corais couperi</i>	eastern indigo snake	LT	LT	C
<i>Gopherus polyphemus</i>	gopher tortoise	N	LS	C
<i>Lepidochelys kempii</i>	Kemp's ridley	LE	LE	P
<i>Pituophis melanoleucus mugitus</i>	Florida pine snake	N	LS	C

BIRDS				
<i>Accipiter cooperii</i>	Cooper's hawk	N	N	C
<i>Aimophila aestivalis</i>	Bachman's sparrow	N	N	C
<i>Ammodramus maritimus macgillivraii</i>	MacGillivray's seaside sparrow	N	N	C
<i>Aramus guarauna</i>	limpkin	N	LS	P
<i>Ardea alba</i>	great egret	N	N	C
<i>Charadrius melodus</i>	piping plover	LT	LT	C
<i>Cistothorus palustris griseus</i>	Worthington's marsh wren	N	LS	C
<i>Egretta caerulea</i>	little blue heron	N	LS	C
<i>Egretta thula</i>	snowy egret	N	LS	C
<i>Egretta tricolor</i>	tricolored heron	N	LS	C
<i>Elanoides forficatus</i>	swallow-tailed kite	N	N	P
<i>Eudocimus albus</i>	white ibis	N	LS	C
<i>Falco columbarius</i>	merlin	N	N	P
<i>Falco peregrinus</i>	peregrine falcon	LE	LE	P
<i>Falco sparverius paulus</i>	southeastern American kestrel	N	LT	P
<i>Haematopus palliatus</i>	American oystercatcher	N	LS	C
<i>Haliaeetus leucocephalus</i>	bald eagle	LT	LT	C
<i>Ixobrychus exilis</i>	least bittern	N	N	C
<i>Lanius ludovicianus</i>	loggerhead shrike	N	N	C
<i>Laterallus jamaicensis</i>	black rail	N	N	P
<i>Mycteria americana</i>	wood stork	LE	LE	C
<i>Nyctanassa violacea</i>	yellow-crowned night-heron	N	N	C
<i>Nycticorax nycticorax</i>	black-crowned night-heron	N	N	C
<i>Pandion haliaetus</i>	osprey	N	LS**	C
<i>Pelecanus occidentalis</i>	brown pelican	N	LS	P
<i>Picoides borealis</i>	red-cockaded woodpecker	LE	LT	C
<i>Picoides villosus</i>	hairy woodpecker	N	N	P
<i>Plegadis falcinellus</i>	glossy ibis	N	N	P
<i>Rynchops niger</i>	black skimmer	N	LS	P
<i>Speotyto cunicularia floridana</i>	Florida burrowing owl	N	LS	C
<i>Sterna antillarum</i>	least tern	N	LT	C
<i>Sterna caspia</i>	Caspian tern	N	N	P
<i>Sterna maxima</i>	royal tern	N	N	P
<i>Sterna sandvicensis</i>	sandwich tern	N	N	P
MAMMALS				
<i>Corynorhinus rafinesquii</i>	Rafinesque's big-eared bat	N	N	P
<i>Eubalaena glacialis</i>	black right whale	LE	LE	C
<i>Mustela frenata olivacea</i>	southeastern weasel	N	N	C

<i>Mustela vison lutensis</i>	Atlantic salt marsh mink	N	N	P
<i>Sciurus niger shermani</i>	Sherman's fox squirrel	N	LS	C
<i>Sorex longirostris longirostris</i>	southeastern shrew	N	N	P
<i>Trichechus manatus</i>	manatee	LE	LE	C
<i>Ursus americanus floridanus</i>	Florida black bear	C	LT**	C
INVERTEBRATES				
<i>Procambarus pictus</i>	Black Creek crayfish	N	LS	C
VASCULAR PLANTS				
<i>Agrimonia incisa</i>	incised groove-bur	N	N	C
<i>Aristida rhizomophora</i>	Florida three-awned grass	N	N	C
<i>Asclepias viridula</i>	southern milkweed	N	LT	C
<i>Calamovilfa curtissii</i>	Curtiss' sandgrass	N	LT	R
<i>Calydorea coelestina</i>	Bartram's ixia	N	LE	C
<i>Cheilanthes microphylla</i>	southern lip fern	N	LE	C
<i>Ctenium floridanum</i>	Florida toothache grass	N	N	C
<i>Drosera intermedia</i>	spoon-leaved sundew	N	LT	C
<i>Forestiera godfreyi</i>	Godfrey's privet	N	LE	C
<i>Gymnopogon chapmanianus</i>	Chapman's skeletongrass	N	N	C
<i>Helianthus carnosus</i>	lake-side sunflower	N	LE	R
<i>Lantana depressa</i> var <i>floridana</i>	Atlantic Coast Florida lantana	N	LE	C
<i>Matelea floridana</i>	Florida spiny-pod	N	LE	C
<i>Pavonia spinifex</i>	yellow hibiscus	N	N	C
<i>Peperomia humilis</i>	terrestrial peperomia	N	LE	C
<i>Physostegia leptophylla</i>	slender-leaved dragon-head	N	N	C
<i>Pycnanthemum floridanum</i>	Florida mountain-mint	N	N	C
<i>Ruellia noctiflora</i>	white-flowered wild petunia	N	LE	C
<i>Schwalbea americana</i>	chaffseed	LE	LE	C
<i>Spiranthes polyantha</i>	green ladies'-tresses	N	LE	C
<i>Verbesina heterophylla</i>	variable-leaf crownbeard	N	N	C

FEDERAL LEGAL STATUS

LE-Endangered: species in danger of extinction throughout all or a significant portion of its range.

LT-Threatened: species likely to become Endangered within the foreseeable future throughout all or a significant portion of its range.

E(S/A)-Endangered due to similarity of appearance to a species which is federally listed such that enforcement personnel have difficulty in attempting to differentiate between the listed and unlisted species.

T(S/A)-Threatened due to similarity of appearance (see above).

PE-Proposed for listing as Endangered species.

PT-Proposed for listing as Threatened species.

C-Candidate species for which federal listing agencies have sufficient information on biological vulnerability and threats to support proposing to list the species as Endangered or Threatened.

XN-Non-essential experimental population.

MC-Not currently listed, but of management concern to USFWS.

N-Not currently listed, nor currently being considered for listing as Endangered or Threatened.

STATE LEGAL STATUS - ANIMALS

LE-Endangered: species, subspecies, or isolated population so few or depleted in number or so restricted in range that it is in imminent danger of extinction.

LT-Threatened: species, subspecies, or isolated population facing a very high risk of extinction in the future.

LS-Species of Special Concern is a species, subspecies, or isolated population which is facing a moderate risk of extinction in the future.

PE-Proposed for listing as Endangered.

PT-Proposed for listing as Threatened.

PS-Proposed for listing as Species of Special Concern.

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

STATE LEGAL STATUS - PLANTS

LE-Endangered: species of plants native to Florida that are in imminent danger of extinction within the state, the survival of which is unlikely if the causes of a decline in the number of plants continue; includes all species determined to be endangered or threatened pursuant to the U.S. Endangered Species Act.

LT-Threatened: species native to the state that are in rapid decline in the number of plants within the state, but which have not so decreased in number as to cause them to be Endangered.

PE-Proposed for listing as Endangered.

PT-Proposed for listing as Threatened.

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

COUNTY OCCURRENCE STATUS

Vertebrates and Invertebrates:

C = Confirmed

P = Potential

N = Nesting

Plants, Natural Communities, and Other:

C = Confirmed

R = Reported

** See Rank and Status Explanations and Definitions, Special Animal Listings - Federal and State Status