



June 13, 2019

Mr. Tony Iorio
Hanover Land Company, LLC
605 Commonwealth Ave
Orlando, FL 32803

**Re: McElyea / 623
Lake County, Florida
Listed Species Report
ECS Project No. 191.104.18**

Dear Mr. Iorio:

On December 17 & 18, 2018 and June 13, 2019 a listed species survey was conducted on McElyea / 623 Property. The proposed project site is located immediately west of Number Two Rd. and bisected by McElyea Lane. in Okahumpka, Florida. More specifically, the project site is located in Section 18 & 19, Township 20 South and Range 25 East of Lake County, Florida (Figure 1).

The subject property was a former pine plantation and citrus grove with areas that have historically been used as pasture. The property has been left to regrow naturally with the western side still being logged. There are four wetlands present within the project boundary.

A survey of the project boundaries was conducted to assess the potential occurrence of flora and fauna listed as threatened or endangered by the United States Fish and Wildlife Service (USFWS), Florida Fish and Wildlife Conservation Commission (FWC), and the Florida Department of Agriculture (FDA). Tables 1 and 2 provide a listing of the species known to occur within Lake County and their expected occurrence of the project site. The findings and conclusions of the survey are reported in this letter.

The survey was conducted by Ecological Consulting Solutions Inc (ECS) for the purpose of evaluating the site for the presence or absence of wetland habitat and protected flora and fauna or their habitat. The survey was conducted by means of pedestrian transects in the early morning to assure the potential of observing listed fauna as recommended by the FWC and the USFWS.

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The following resources were used for supporting information during the site assessment and letter preparation:

- Color aerial photographs (1" = 300), 2019, Google Earth, Lake County, Florida.
- National Wetlands Inventory Mapping, U.S. Fish and Wildlife Service.
- United States Geological Survey (USGS) 7.5 minute quadrangle map, Lake County, Florida, (ArcGIS).
- Official Lists of Endangered and Potentially Endangered Fauna and Flora in Florida (USFWS and FWC).

Pedestrian surveys of the project site were conducted in order to qualitatively document the existing vegetation and to assess the present land use patterns according to the Florida Land Use, Cover and Forms Classification System, Department of Transportation (FLUCFCS; DOT 1999). Seven (7) land-use types were determined for the project site (Figure 1). A brief description of each FLUCFCS community is provided below.

110 – Residential Low Density

There is a home present while a garage associated with it on the property. The home is currently occupied. Vegetation consists of grass and weedy species including bahia grass (*Paspalum notatum*) and dogfennel (*Eupatorium capillifolium*).

211 – Improved Pasture

Two of these areas exist on the subject site. There is a small pasture area in the central portion of the project site as well as a large pasture on the northern portion of the site. This area is currently grazed by cattle so groundcover is low and consists of bahia grass (*Paspalum notatum*) and prickly-pear cactus (*Opuntia humifusa*).

212 – Unimproved Pastures

This community is found in the southern portion of the subject property and is the dominant upland habitat type. This community is dominated by herbaceous groundcover species with some scattered tree species. Groundcover is overgrown and consists of dense bahia grass with weedy species such as blackberry (*Rubus beautifulius*), common beggarticks (*Bidens alba*), American beautyberry (*Callicarpa americana*), Caesar weed (*Urena lobata*), broomsedge (*Andropogon virginicus*), grapevine (*Vitis rotundifolia*), ragweed (*Ambrosia artemisiifolia*), natal grass (*Rhynchelytrum repens*), prickly-pear cactus (*Opuntia humifusa*), and cogongrass (*Imperata cylindrica*).

224 – Abandoned Groves

The abandoned grove is found in the northern portion of the project site. Citrus (*Citrus aurantium*) trees are the dominant species as well as slash pine (*Pinus elliottii*). Groundcover is dense and consists of bahia grass, blackberry, common beggarticks and oldfield toadflax (*Linaria canadensis*).

411 – Pine Flatwoods

The majority of the property consists of an abandoned pine plantation with scattered slash pins (*Pinus elliottii*). The groundcover consists of bahia grass. Additional species include marsh pennywort (*Hydrocotyle umbellata*), dogfennel, sedge grass (*Cyperaceae spp.*), common beggarticks, blackberry, lantana (*Lantana camara*) and broomsedge.

641 – Freshwater Marsh

There are two wetlands within the property boundary that are classified within this land use type. Edge tree species consist of sweetgum (*Liquidambar styraciflua*), cabbage palm (*Sabal palmetto*) and wax myrtle (*Myrica spp.*). The dominant aquatic vegetation includes cattail (*Typha spp.*), sawgrass (*Cladium jamaicense*), maidencane (*Panicum hemitomon*), sand cordgrass (*Spartina bakeri*) with St. Johns wort (*Hypericum spp.*), little blue maidencane (*Amphicarpum muehlenbergianum*), marsh pennywort and spikerush (*Eleocharis baldwinii*). Standing water was observed within these wetlands.

740 – Disturbed Land

There is fill for a burm in the southeastern corner of the property that has been filled to raise the wetland edge.

Listed Species Survey Results

A survey was conducted using pedestrian transects throughout the site to assess the occurrence, or potential for occurrence, of flora and fauna listed as threatened, endangered, or as species of special concern (SSC) by the Florida Fish and Wildlife Conservation Commission (FWC), United States Fish and Wildlife Service (USFWS), and Florida Department of Agriculture (FDA).

On January 11, 2017, the FWC State listing status changes, originally proposed back in 2010, became official after the approval of Florida's Imperiled Species Management Plan by FWC Commissioners.

- 15 species were removed from Florida's Endangered and Threatened Species List: Eastern chipmunk, Florida mouse, brown pelican, limpkin, snowy egret, white ibis, peninsula ribbon snake (Lower Keys population), red rat snake Lower Keys population), striped mud turtle (Lower Keys population), Suwannee cooter, gopher frog, Pine Barrens tree frog, Lake Eustis pupfish, mangrove rivulus, and Florida tree snail.

- 23 species changed from State-designated Species of Special Concern to State-designated Threatened species: Sherman's short-tailed shrew, Sanibel rice rat, little blue heron, tricolored heron, reddish egret, roseate spoonbill, American oystercatcher, black skimmer, Florida burrowing owl, Marian's marsh wren, Worthington's Marsh wren, Scott's seaside sparrow, Wakulla seaside sparrow, Barbour's map turtle, Florida Keys mole skink, Florida pine snake, Georgia blind salamander, Florida bog frog, bluenose shiner, saltmarsh top minnow, Southern tessellated darter, Santa Fe crayfish, and Black Creek crayfish.

- 14 species keep their State-designated Threatened status: Everglades mink, Big Cypress fox squirrel, Florida sandhill crane, snowy plover, least tern, white-crowned pigeon, Southeastern American kestrel, Florida brown snake (Lower Keys population), Key ringneck snake, short-tailed snake, rim rock crowned snake, Key silverside, blackmouth shiner, and crystal darter.

- Five species listed as State-designated Species of Special Concern: (list species): Homosassa shrew, Sherman's fox squirrel, osprey (Monroe County population), alligator snapping turtle, and harlequin darter.

Birds

Birds

Approximately 35 species (and sub-species) of birds found in Florida are protected by the FWC and/or the USFWS. For Lake County, the USFWS federally lists four (4) bird species. Only a few are expected to occur in central Florida. No listed birds were observed at this site. (Table 1).

Florida scrub jays (*Aphelocoma c. coerulescens*) were not observed on the project site. This species is listed as threatened at the state and federal levels. The property does contain scrub habitat. The survey guidelines outlined in the *Ecology & Development-Related Habitat Requirements of the Florida Scrub Jay (April 1991)* were reviewed prior to the site visit. No scrub jays were observed or vocalizations heard. The surrounding areas to the north, south, east and west do not contain scrub habitat.

Red-cockaded woodpeckers (*Picoides borealis*) are endangered (USFWS) and endangered (FWC). No red-cockaded woodpeckers were observed and the upland habitat type is not suitable. There were no open pine flatwoods with old-growth pines that characterize RCW nesting and foraging habitat.

Listed wading birds such as limpkin (*Aramus guarauna*), little blue heron (*Egretta caerulea*), snowy egret (*Egretta thula*), tricolored heron (*Egretta tricolor*), white ibis (*Eudocimus albus*) and wood stork (*Mycteria americana*) were not observed. The onsite wetlands do provide wading bird habitat. No listed wading birds were observed within project boundaries.

Bald eagles (*Haliaeetus leucocephalus*) or their nests were not observed on the site. Bald eagles are protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act. The USFWS has established a 660 foot protection zone around a bald eagle nest.

ECS searched the FWC website to determine if any documented bald eagle nests are within 660 feet of the site. There are no bald eagle nests near the proposed project site. Therefore the project site is well outside of the 660 foot eagle nest protection zone and the development will not affect any bald eagle nests.

No other listed raptors such as Southeastern American kestrels (*Falco sparverius paulus*) or Arctic peregrine falcons (*Falco peregrinus tundrius*) were observed on or around the sites. There is little foraging habitat for kestrels. No birds were observed on or offsite at the time of the survey.

Amphibians and Reptiles

About thirty (30) species of Florida's amphibians and reptiles are protected. For Lake County, the USFWS federally lists three (3) reptile species. Only a few could occur on this site.

Sand Skink

The sand skink (*Neoseps reynoldsi*) is listed as threatened by both FWS and FWC. The sand skink is primarily found in rosemary scrub, sand pine and oak scrub. Sand skinks require loose sand with large area of no groundcover or canopy cover.

On April 4, 2011, the U.S. Fish and Wildlife Service published a revised sand and bluetail mole skink survey protocol, which impacts owners of properties in interior Central Florida. The known range of the sand skink now includes Highlands, **Lake**, Marion, Orange, Osceola, Polk, and Putnam Counties with principal populations along the Lake Wales Ridge, the Winter Haven Ridge, and the Mount Dora Ridge. The habitat of the sand skink and bluetail mole skinks is affected by the conversion of citrus groves to pasture lands as well as to residential land uses. Coverboard surveys will determine the actual area of occupation. Only the area where sand skinks are found will be considered occupied and only that area will require mitigation.

According to the revised protocol, if a property lies within the sand skink consultation area, has suitable habitat, has an elevation of 80 feet above sea level and contains sandy soils, then sand skink surveys are required. The burden is on the property owner to document the absence of sand skinks. Mitigation costs for sand skinks approach \$60,000.00 to \$70,000.00 per impacted acre.

The property is within the sand skink consultation area, therefore approvals from the USFWS will have to be obtained prior to development of the McElyea / 623 property.

ECS surveyed for the presence of sand skink tracts. No tracks were observed. According to USFWS guidelines, if no sand skink tracts are observed, then coverboard surveys must be performed. Coverboard surveys can only be performed during March 01st through May 15th. Should sand skinks tracts be observed prior to conducting coverboard surveys, then the coverboard survey would not be required. Consultation with USFWS staff concerning proposed impacts to sand skink habitat can commence if sand skink tracts are observed.

Due to the dense overgrowth and historical agricultural land uses, it is our opinion that there is very little suitable sand skink habitat onsite. A small sand skink coverboard survey may be required. At the appropriate time, ECS staff will reach out to the USFWS to get confirmation that no surveys will be necessary.

Gopher Tortoise

A 100% survey was conducted throughout the property for gopher tortoises (*Gopherus polyphemus*), a species listed by the FWC as a Threatened. One hundred and eleven (111) gopher tortoise burrows were observed throughout the property.

Currently, there are four suitable options to conduct activities that may adversely impact tortoises. The options are to:

1. Avoid developing the area occupied by the tortoises.
2. Avoid individual burrow entrances to ensure the protection of the entire burrow, usually a distance of 50 feet.
3. Capture and relocate the tortoises to a separate onsite location.
4. Capture and relocate the tortoises to an offsite FWC-approved recipient site.

Tortoises may be relocated to an on-site preserve at a density of up to four tortoises per acre of suitable upland habitat. Onsite recipient sites must be suitable set-aside areas that are not disturbed by construction activities, that provide a safe environment, and that exclude (through temporary fencing or other means) tortoises from development areas until such development activities have been completed.

Gopher tortoises need access to the following: 1) sufficient areas of forage (herbaceous and low-growing plants including native broadleaf grasses, legumes [bean/pea family], asters, blackberries and other fruits, prickly pear cactus, and a variety of other non-native grasses, except cogon grass; 2) open sandy, well-drained, open (uncanopied), sunny sites for burrows and basking; 3) protection from dogs, cats, other exotic predators, human harassment, and busy roads. Such general conditions must remain after development, outside the built footprint on the site.

Small sites typically have gopher tortoises that normally "roam" between adjoining neighboring parcels to forage or burrow, so this should be considered as well. The herbaceous vegetation must be maintained (mowing, burning, etc.), and pesticides/herbicides should not be used in the recipient area.

A permanent FWC-approved easement must also be placed over the onsite recipient area to be maintained in perpetuity.

If the project site does not have a dedicated onsite preserve for tortoises, then offsite relocation will be necessary. In this event, tortoises can be relocated by biologists to an FWC approved recipient site. ECS biologists are authorized by the FWC to relocate gopher tortoises by various means including backhoe extraction. ECS also manages five (5) gopher tortoise recipient sites which are long-term protected sites.

The tasks associated with conducting an offsite relocation of tortoises would include reserving as yet to be determined number of acres at the recipient site, submitting an application to the FWC for the relocation, removing the tortoises from the donor site to the recipient site and reporting the results of the relocation to the FWC.

It typically takes 14 to 30 days to obtain the permit to relocate the onsite gopher tortoise population to an approved recipient site. Once the relocation permit is received, ECS can complete the relocation using either the backhoe or bucket trapping extraction methods.

Several commensal species associated with gopher tortoise burrows, including the gopher frog (*Rana areolata aesopus*) and eastern indigo snake (*Drymarchon corais couperi*) also receive protection, but were not observed.

Eastern Indigo Snake

For the eastern indigo snake, ECS conducted survey transects to identify potential above-ground and underground refugia which eastern indigo snakes may inhabit. Underground refugia includes active or inactive gopher tortoise burrows, mammal burrows, hollows at the base of trees and other similar formations. Above ground refugia includes thick shrub formations, stumps, the base of thick palmetto, ground litter, brush piles, trash piles, and abandoned structures, and crevices of rock-lined ditch walls and other similar refugia.

The USFWS requires the developer to notify the local field office via email at least **30 days prior** to any clearing/land alteration activities.

The notification has to include an eastern indigo snake protection/education plan. This notification can occur via email with the protection/education plan attached. As long as the signatory of the e-mail certifies compliance with the protection/education plan (including use of the USFWS informational poster and brochure), no further written confirmation or “approval” from the USFWS is needed and the applicant may move forward with the project.

Mammals

Thirty-three (33) mammals are currently protected in Florida. For Lake County, the USFWS federally lists eight (8) mammal species. About four could occur in the region of this project site. None were observed on this site.

We focused our search on fox squirrels (*Sciurus niger shermani*) and the Florida mouse (*Peromyscus floridanus*) and their possible den or nest sites. Gopher tortoise burrows are present which increases the likelihood for the presence of the Florida mouse. Listed mammals or their potential den sites were not observed.

Listed Plants

There were no protected plant species found on the project sites (Table 2). Protected plants are not expected to occur on the project site since the area has been previously cleared and used as a landscape nursery. Currently, there are no technical reports available by the state or federal agencies mentioned in this letter report for the survey of the nearly 400 protected plant species. None of the agencies require relocation or mitigation for protected plant species.

The Department of Agriculture and Consumer Services (DACS) designates and regulates plants listed as “endangered”, “commercially exploited” and “threatened”. There is no statutory prohibition against a landowner from harvesting an endangered or threatened plant from his property. However, it is unlawful for an individual to harvest an endangered or threatened species from the private land of another or any public land without first obtaining written permission of that landowner and a permit from DACS. Additionally, harvesting three or more commercially exploited plants from the private land of another or any public land will also require a DACS permit.

Summary

In summary, one listed species, the gopher tortoise, was observed on site. There are also four wetland systems present on site.

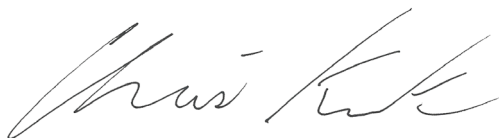
ECS can prepare and submit the permit to relocate the onsite gopher tortoise population to an offsite longterm protected gopher tortoise recipient site. The permit can be obtained within 30 days for the Florida Fish and Wildlife Conservation Commission.

ECS recommends reaching out to the USFWS to verify that the majority of the property is unsuitable for sand skinks and what areas, if any, will require a coverboard survey.

Ecological Consulting Solutions Inc. appreciates the opportunity to provide you with our services. Should you have any questions or require additional information, please do not hesitate to contact me.

Sincerely,

ECOLOGICAL CONSULTING SOLUTIONS INC

A handwritten signature in black ink, appearing to read "Chris Krack", written in a cursive style.

Chris Krack

Attachments

PHOTOGRAPHS OF THE SUBJECT PROPERTY

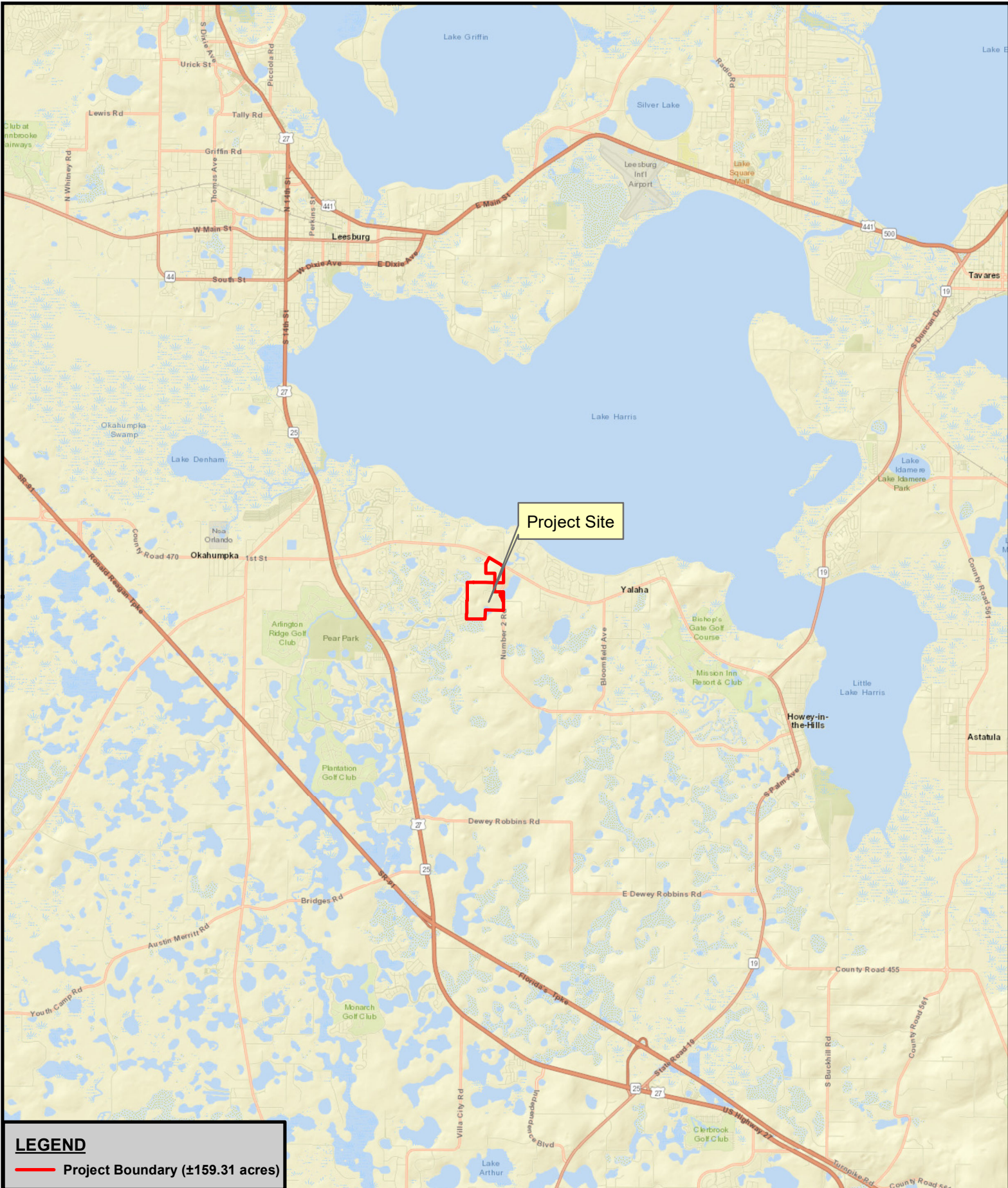


Typical Upland Habitat



Typical Wetland Habitat

FIGURES



LEGEND

— Project Boundary (±159.31 acres)



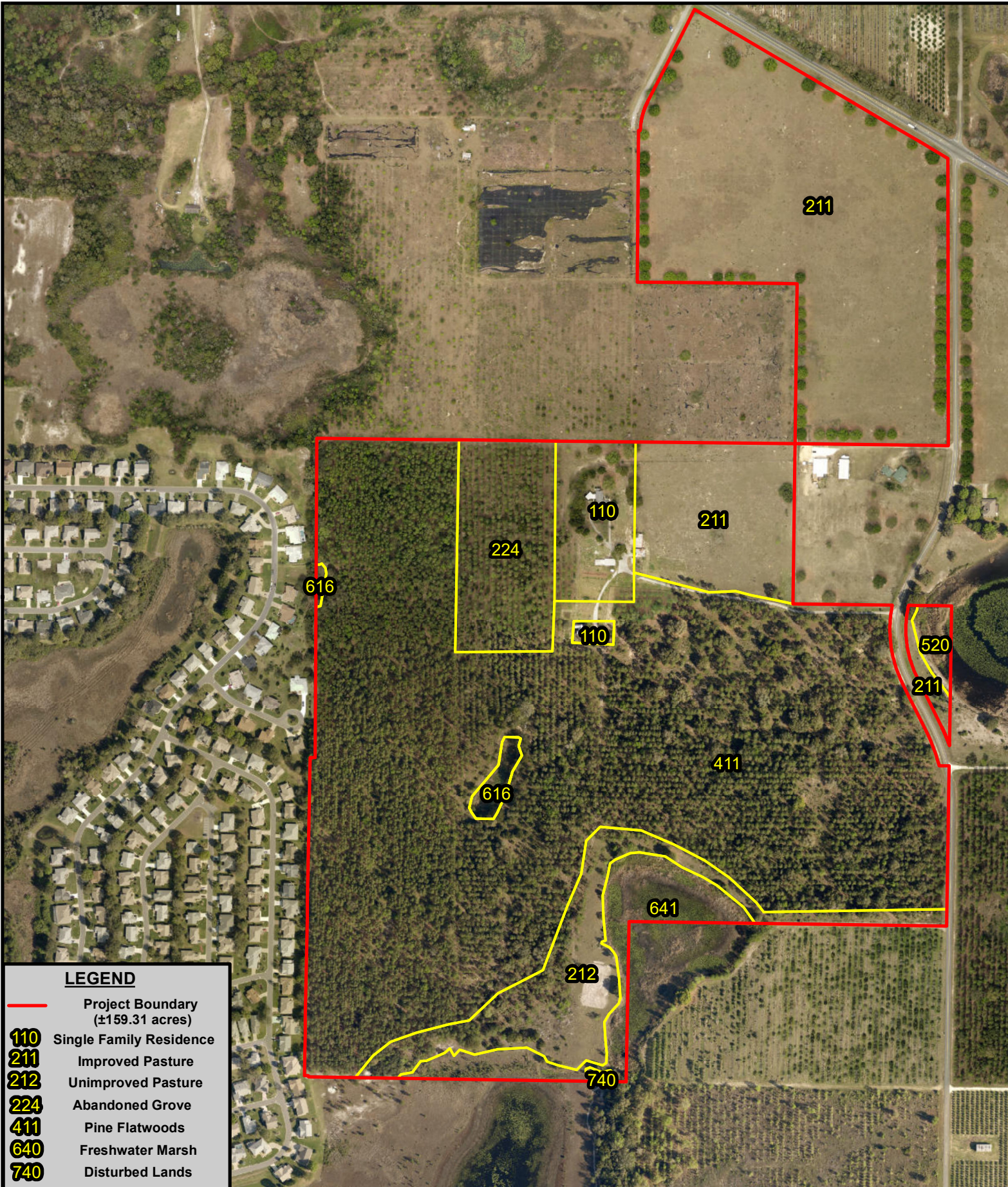
MCELYEA PROPERTY LAKE COUNTY, FLORIDA LOCATION MAP

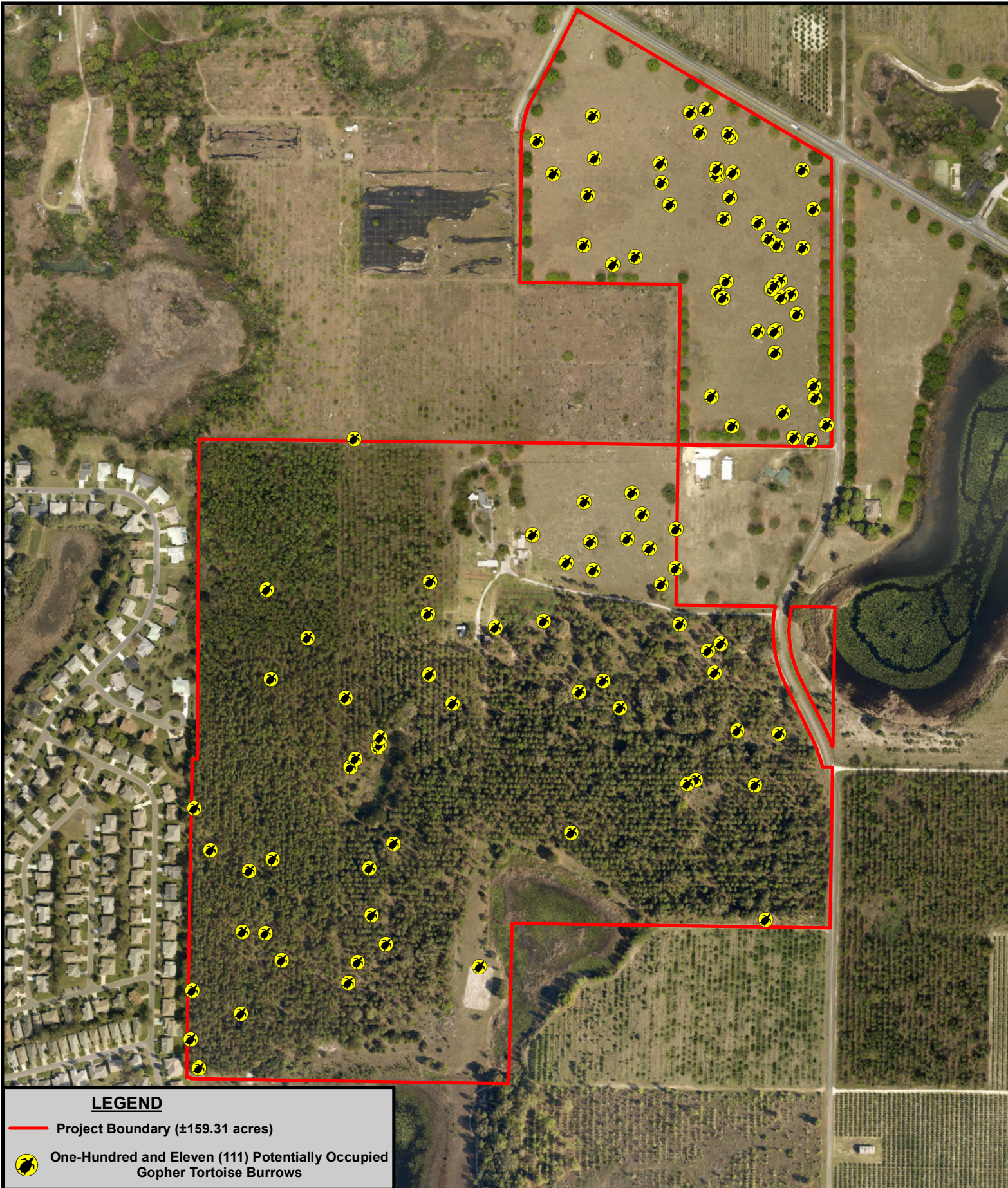
PROJECT #: 191.104.18 DATE: 06/11/19 FIGURE #: 1

0 2,500 5,000 10,000 Feet



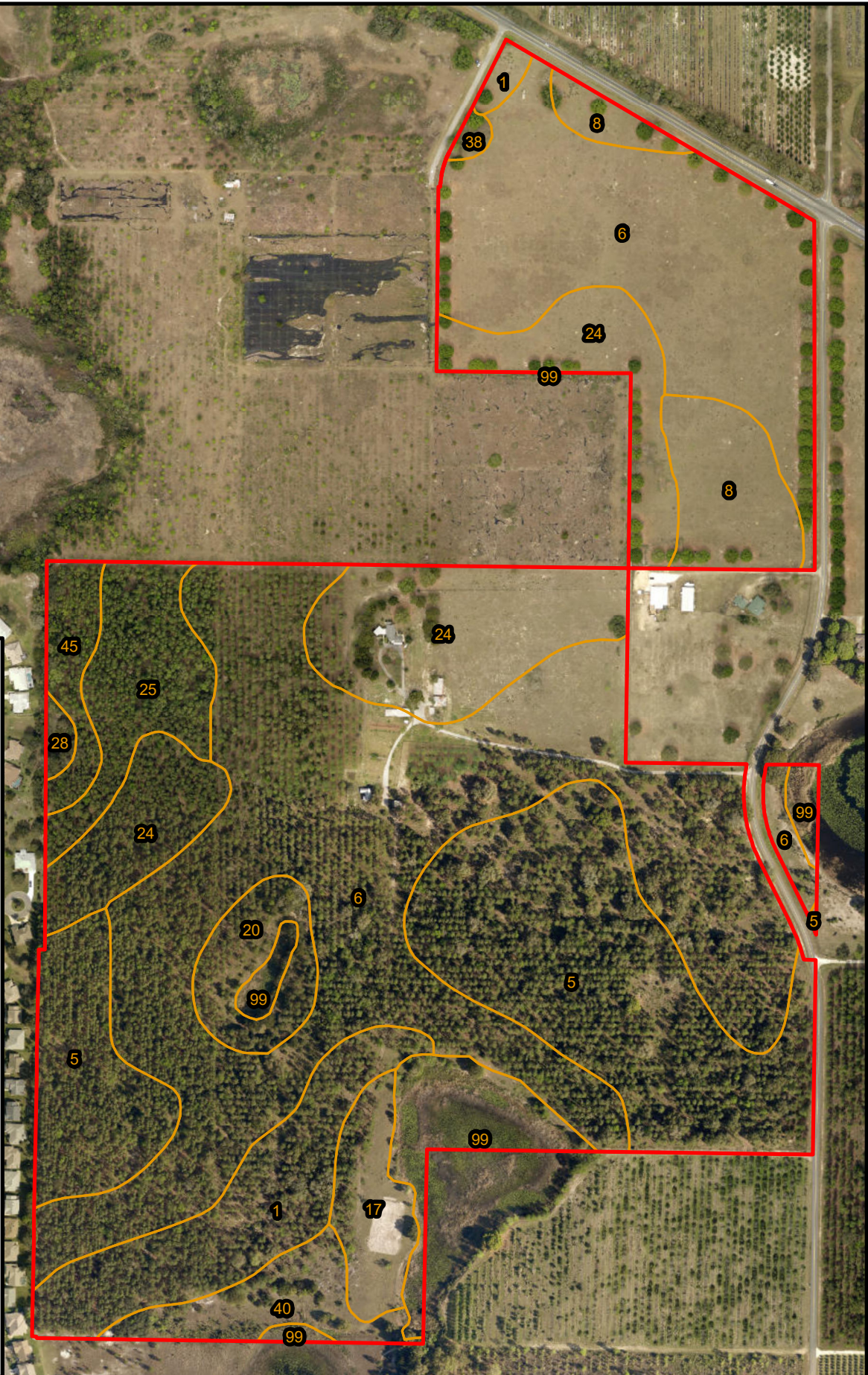
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LEGEND

- Project Boundary (±159.31 acres)
- 1 - Sparr sand, 0 to 5 percent slopes
- 5 - Apopka sand, 0 to 5 percent slopes
- 6 - Apopka sand, 5 to 12 percent slopes
- 8 - Candler sand, 0 to 5 percent slopes
- 17 - Arents
- 20 - Immokalee sand
- 24 - Kendrick sand, 0 to 5 percent slopes
- 25 - Kendrick sand, 5 to 12 percent slopes
- 28 - Myakka-Myakka, wet, sands, 0 to 2 percent slopes
- 38 - Placid sand, frequently ponded, 0 to 2 percent slopes
- 40 - Placid and Myakka sands, depressional
- 45 - Tavares sand, 0 to 5 percent slopes
- 99 - Water



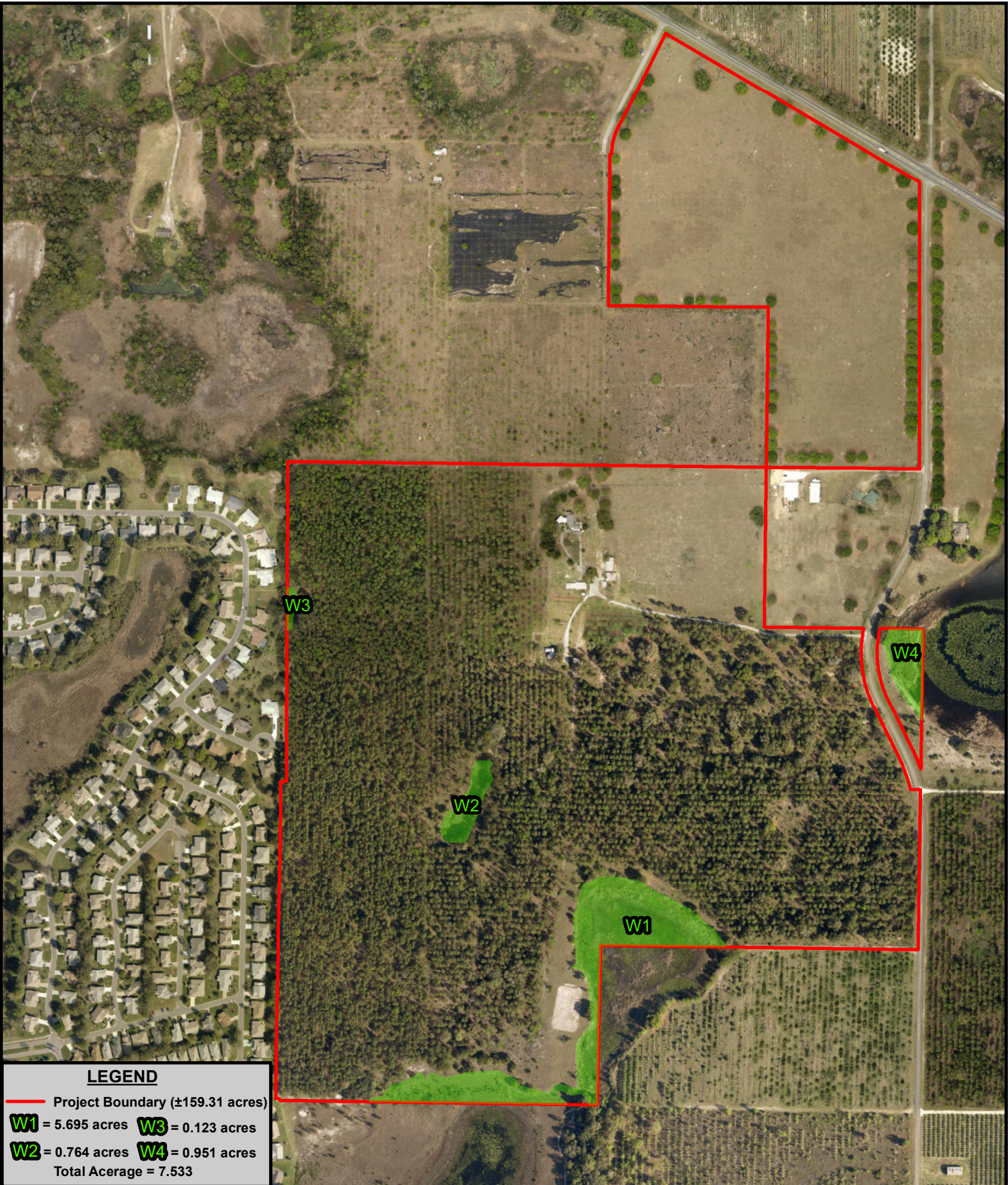
MCELYEA PROPERTY LAKE COUNTY, FLORIDA NRCS SOILS MAP

PROJECT #: 191.104.18 DATE: 06/11/19 FIGURE #: 4

0 600 1,200 Feet



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TABLES

TABLE 1: PROTECTED FAUNA FOUND IN LAKE COUNTY, FLORIDA AND THEIR EXPECTED OCCURRENCE ON THE MCELYEA / 623 PROPERTY.

SPECIES	FWC STATUS (1)	USFWS STATUS (2)	PREFERRED HABITAT (3)	PROBABILITY OF OCCURRENCE (4)
REPTILES				
<u>Alligator mississippiensis</u> American alligator	T(S/A)	T(S/A)	Vegetated lakes and deepwater swamps	Low: open water habitat available, none sighted
<u>Drymarchon corais couperi</u> Eastern indigo snake	T	T	Dry habitats bordered by water; often occupy <i>G. polyphemus</i> burrows	Low: habitat available, gopher tortoise burrows observed
<u>Gopherus polyphemus</u> Gopher tortoise	T	—	Well drained soil; xeric pine-oak hammocks and scrub; pine flatwoods	High: habitat available, burrows located
<u>Eumeces egregius lividus</u> Bluetail mole skink	T	T	Dry, white sands of scrub, high pine and citrus grove in the Lake Wales Ridge system	Low: habitat available, no tracks observed
<u>Neoseps reynoldsi</u> Sand skink	T	T	Dry, white sands of scrub, high pine and citrus grove in the Lake Wales Ridge system	Low: habitat available, no tracks observed
AMPHIBIANS				
<u>Rana capito</u> Florida gopher frog	SSC	-	Dry, xeric habitats with wetlands such as isolated permanent ponds and cypress domes	Low: habitat available, gopher tortoise burrows observed
BIRDS				
<u>Aphelocoma coerulescens</u> Florida scrub jay	T	T	Level, sterile, white sand with low, xeric oak scrub	Low: no habitat available, none sighted
<u>Aramus guarauna</u> Limpkin	SSC	—	Densely vegetated swamps, lakeshores and slow streams	Low: habitat available on site, none sighted
<u>Egretta caerulea</u> Little blue heron	T	—	Lake littorus; shallow ponds and marshes	Medium: foraging habitat available, no birds sighted
<u>Polyborus plancus audubonii</u> Audubon's crested caracara	T	T	Mesic temperate hammock and pine flatwoods, dry prairie and wet prairies	Low: habitat not available, no birds sighted

TABLE 1: PROTECTED FAUNA FOUND IN LAKE COUNTY, FLORIDA AND THEIR EXPECTED OCCURRENCE ON MCELYEA / 623 PROPERTY.

SPECIES	FWC STATUS (1)	USFWS STATUS (2)	PREFERRED HABITAT (3)	PROBABILITY OF OCCURRENCE (4)
BIRDS (cont.)				
<u>Ammodramus savannarum floridanus</u> Florida grasshopper sparrow	E	E	Dry prairie and wet prairies	Low: no habitat available, none sighted
<u>Rostrhamus sociabilis plumbeus</u> Everglade snail kite	E	E	Hydric pine flatwoods, freshwater marshes, open water swamps	Low: habitat available, none sighted
<u>Athene cunicularia floridana</u> Florida burrowing owl	T	—	Open treeless areas such as pastures, fields, golf courses, airports, and vacant lots	Low: habitat not available, none sighted.
<u>Falco sparverius paulus</u> Southeastern American kestrel	T	—	Forest edges, and clearings; nests in mature pines	Low: habitat not available, none sighted
<u>Grus canadensis pratensis</u> Florida sandhill crane	T	—	Marshes, wet prairies, pastures, and open herbaceous rangeland	Low: habitat available, no birds sighted
<u>Haliaeetus leucocephalus</u> Bald eagle	State Eagle Rule	Federal Law	Open (<60% canopy cover), mature pine forests < 2 km from expansive open waters	Low: habitat not available, birds not sighted, nest search was negative
<u>Mycteria americana</u> Wood stork	T	T	Nests in cypress swamps; forage sites range from shallow marshes to roadway borrow pits	Low: foraging habitat available, no birds sighted
<u>Picoides borealis</u> Red-cockaded Woodpecker		E	Old-growth pine flatwoods with regular fire occurrence are required for nesting	Low: habitat not available, none sighted
MAMMALS				
<u>Podomys floridanus</u> Florida mouse	SSC	—	Sand pine scrub; xeric oak-pine flatwoods; often associated with <i>G. polyphemus</i> burrows	Low: habitat (tortoise burrows) present, none sighted
<u>Sciurus niger shermani</u> Sherman's fox squirrel	SSC	—	Mature flatwoods of sandhills; occasional in tall cypress-bay forests	Low: habitat not available, none sighted
<u>Felis concolor coryi</u> Florida panther	E	E	High pine, tropical and mesic hammocks, scrub, pine flatwoods, wet prairie, marshes, mangrove	Low: habitat not available, none sighted

Footnotes to Table 1

- 1 FWC - Florida Fish and Wildlife Conservation Commission, formerly the Florida Game and Fresh Water Fish Commission; Official Lists of Florida's Endangered Species, Threatened Species and Species of Special Concern, published August 1997.
- 2 USFWS – United States Fish and Wildlife Service; List obtained from FWC's Florida's Endangered Species, Threatened Species and Species of Special Concern, published August 1997.

(E-endangered, T-threatened, SSC-species of special concern, CE-commercially exploited). C1 (candidate for federal listing, with enough substantial information on biological vulnerability and threats to support proposals for listing) and C2 (candidate for listing, with some evidence of vulnerability, but for which not enough data exists to support listing) are no longer official categories.
- 3 Habitats described by:

Ashton, R.E. and P.S. Ashton. 1985 Handbook of Reptiles and Amphibians of Florida (3 vols.). Windward Publ. Inc. Miami.
Conant, R. 1975 A Field Guide to Reptiles and Amphibians of Eastern/Central North America (2nd ed.). Houghton Mifflin Co. Boston 430 pp.
Kale, H.W. 1978. Volume Two; Birds. In P.C.H. Pritchard (ed.), Rare and Endangered Biota of Florida. University Presses of Florida. Gainesville. 121 pp.
Kale, H.W. and D.S. Maehr. 1990. Florida's Birds: A Handbook and Reference. Pineapple Press. Sarasota. 288 pp.
Layne, L.N. 1978 Volume One: Mammals. In P.C.H. Pritchard (ed.), Rare and Endangered Biota of Florida. University Presses of Florida. Gainesville, 52 pp.
McLane, W.M. 1985. The Fishes of the St. Johns River, Florida. Ph.D. diss. University of Florida, Gainesville. 361 pp.
Peterson, R.T. 1980. A Field Guide to the Birds of East of the Rockies (4th ed.). Houghton Mifflin Co. Boston. 384 pp.
- 4 Likelihood of occurrence: Low, Moderate or High, based on the best available data and selective field observations.

TABLE 2: PROTECTED FLORA FOUND IN LAKE COUNTY, FLORIDA AND THEIR EXPECTED OCCURRENCE ON THE MCELYEA / 623 PROPERTY.

SPECIES	FDA STATUS (1)	USFWS STATUS (2)	PREFERRED HABITAT (3)	PROBABILITY OF OCCURRENCE (4)
<u>Bonamia grandiflora</u> Florida bonamia	—	T	High pine, scrub, scrubby high pine	Low: habitat not available, none found
<u>Chionanthus pygmaeus</u> Pygmy fringe-tree	—	E	Scrub, scrubby high pine	Low: habitat not available, none found
<u>Cladonia perforate</u> Florida perforate cladonia	—	E	Scrub – Lake Wales Ridge system	Low: habitat not available, none found
<u>Clitoria fragrans</u> Pigeon wings	—	T	High pine, scrub, scrubby high pine, scrubby flatwoods	Low: habitat not available, none found
<u>Conradina brevifolia</u> Short-leaved rosemary	E	E	High pine, scrub	Low: habitat not available, none found
<u>Crotalaria avonensis</u> Avon Park harebells	—	E	Scrub – Lake Wales Ridge system	Low: habitat not available, none found
<u>Eriogonum long. var. gnaphalifolium</u> Scrub Buckwheat	—	T	High pine, scrub, scrubby high pine	Low: habitat not available, none found
<u>Hypericum cumulicola</u> Highlands scrub hypericum		E	Scrub – Lake Wales Ridge system	Low: habitat not available, none found
<u>Liatris ohlingerae</u> Scrub blazing star	—	E	High pine, scrub, scrubby flatwoods	Low: habitat not available, none found
<u>Nolina brittoniana</u> Britton's beargrass	—	E	High pine, scrub, scrubby high pine, scrubby flatwoods	Low: habitat not available, none found
<u>Paronychia chartacea</u> Papery whitlow-wort	—	T	High pine, scrub	Low: habitat not available, none found
<u>Platanthera cristata</u> Golden fringed orchid	T	—	Low moist meadows and damp pine woods	Low: no habitat available, none found
<u>Platanthera flava</u> Southern tubercled orchid	T	—	Very wet habitats such as swamps, bogs and wet forests with thick, black mud	Low: habitat not available, none found

TABLE 2: PROTECTED FLORA FOUND IN LAKE COUNTY, FLORIDA AND THEIR EXPECTED OCCURRENCE ON THE MCELYEA / 623 PROPERTY.

SPECIES	FDA STATUS (1)	USFWS STATUS (2)	PREFERRED HABITAT (3)	PROBABILITY OF OCCURRENCE (4)
<u>Platanthera nivea</u> Snowy orchid	T	—	Open bogs and sunny, wet meadows	Low: no habitat available, none found
<u>Pogonia ophioglossoides</u> Rose pogonia	T	—	Open, wet meadows and sphagnum bogs, poorly drained roadside ditches	Low: no habitat available, none found
<u>Polygala lewtonii</u> Scrub (Lewton's) milkwort	E	E	Dry oak woodlands and scrub	Low: habitat not available, none found.
<u>Polygonella basiramia</u> Wireweed	—	E	Scrub- Lake Wales Ridge system	Low: habitat not available, none found
<u>Polygonella myriophylla</u> Sandlace	—	E	Scrub, scrubby high pine	Low: habitat not available, none found
<u>Prunus geniculata</u> Scrub plum	E	E	High pine, scrub, scrubby high pine	Low: habitat not available, none found
<u>Spiranthes laciniata</u> Lace-tip ladies' tresses	T	—	Marshes and cypress swamps; road banks and ditches	Low: habitat available, none found
<u>Spiranthes longilabris</u> Long-tip ladies' tresses	T	—	Marshes and wet prairies	Low: habitat available, none found
<u>Stenorrhynchos lanceolatus</u> var. <u>lanceolatus</u> Leafless beaked orchid	T	—	Vacant lots, open pastures, pine flatwoods and mowed roadsides	Low: habitat available , none found
<u>Warea amplexifolia</u> Wide-leaf warea	E	E	High pine	Low: no habitat available, none found
<u>Warea carteri</u> Carter's mustard	—	E	High pine, scrub, scrubby high pine, scrubby flatwoods, mesic pine flatwoods	Low: habitat not available, none found
<u>Ziziphus celata</u> Florida ziziphus	—	E	High pine, scrub	Low: habitat not available, none found

Table 2 Footnotes

- 1 FDA – Florida Department of Agriculture and Consumer Services; List obtained from FWC’s Florida’s Endangered Species, Threatened Species and Species of Special Concern, published August 1997. Supporting information from FNAI - Florida Natural Inventory; Matrix of habitats and distribution by county of rare/endangered fauna and flora in Florida, published April 1990.
- 2 USFWS – United States Fish and Wildlife Service; List obtained from FWC’s Florida’s Endangered Species, Threatened Species and Species of Special Concern, published August 1997.

[E-endangered, T-threatened, SSC- species of special concern, CE-commercially exploited.] C1 (candidate for federal listing, with enough substantial information on biological vulnerability and threats to support for listing) and C2 (candidate for listing with some evidence of vulnerability, but for which not enough data exist to support listing) are no longer official categories.
- 3 Habitats described by:

Bell, C.R. and B.J. Taylor. 1982. Florida Wild Flowers and Roadside Plants. Laurel Hill Press, Chapel Hill, NC 308pp.
FNAI - Florida Natural Inventory; Matrix of Habitats and Distribution by County of Rare/Endangered Species in Florida, published April 1990.
Godfrey, R.K. 1988. Trees, Shrubs, and Woody Vines of Northern Florida, and Adjacent Georgia and Alabama. University Georgia Press. Athens, GA 734 pp.
Ward, D.B. (publ. date not listed). Volume Five,. Plants, in P.C.H. Pritchard (ed.), Rare and Endangered Biota of Florida. University Presses of Florida, Gainesville. 175 pp.
Wunderlin, R.P. 1982. Guide to Vascular Plants of Florida. University Presses of Florida, Gainesville, FL. 472 pp.
- 4 Likelihood of occurrence: Low, Moderate, or High, based on the best available data and selective field observations.