



Orlando [Headquarters]
3025 East South Street
Orlando, FL 32803

Jacksonville
11235 St. Johns Industrial Pkwy N
Suite 2
Jacksonville, FL 32246

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

Lantana
445 West Lantana Road
Suite 5
Lantana, FL 33462

Tallahassee
2560-1 Barrington Circle
Tallahassee, FL 32308

Tampa
6011 Benjamin Road
Suite 101-B
Tampa, FL 33634

Denver
651 Garrison Street
#110
Lakewood, CO 80215

Raleigh-Durham
1408 Christian Avenue
Suite 11
Durham, NC 27705

Bismarck
4501 Coleman Street
Suite 103
Bismarck, ND 58503

Austin
3801 N Capital of TX Highway
Suite E-240
Austin, TX 78746

Midland
5114 West County Road 12
Midland, TX 79706

San Antonio
7700 Broadway Street
Suite 104
San Antonio, TX 78209

Orlando [Aquatic & Land
Management Operations]
3825 Rouse Road
Orlando, FL 32817

407.894.5969
877.894.5969
407.894.5970 fax

May 31, 2024

Dean Barberree
Reader & Partners
5850 T.G. Lee Boulevard, Suite 200
Orlando, Florida 32822

**Proj: Lake Hills Property – Howey in the Hills, Lake County, Florida
Section 22 and 23, Township 20 South, Range 25 East
(BTC File #1482-01)
Re: Environmental Assessment Report**

Dear Dean:

In May of 2024, Bio-Tech Consulting (BTC) conducted an environmental assessment of the approximately ±222-acre Lake Hills Property. This site is located in the City of Howey in the Hills, northwest of the intersection of State Road 19 and County Road 48 and south of Lake Harris, within Section 22 and 23, Township 20 South, Range 25 East, Lake County, Florida (**Figures 1 and 2**). This environmental assessment included the following elements:

- **general review of site topography;**
- **review of soil types mapped within the site boundaries;**
- **evaluation of land use types/vegetative communities present;**
- **delineation of any on-site wetland/surface water communities;**
- **field review for occurrence of protected flora and fauna; and,**
- **an overview of potential development constraints.**

TOPOGRAPHY

Based upon a review of the USGS Topographic Map present in **Figure 3** (Howey in the Hills, Florida Quadrangle), elevations on the subject property range between +65 and +150 feet above the National Geodetic Vertical Datum of 1929 (NGVD). In general, it would appear that the subject property slopes from the southeast to the north and west, in the direction of on- and off-site wetlands and surface waters associated with Lake Harris.

SOILS

According to the Soil Survey of Lake County, Florida, prepared by the U.S. Department of Agriculture (USDA) and the Natural Resources Conservation Service (NRCS), eleven (11) soil types occur within the subject property boundaries (**Figure 4**). These soil types include the following:

- **Sparr sand, 0 to 5 percent slopes (#1)**
- **Anclote and Myakka soils (#4)**
- **Candler sand, 0 to 5 percent slopes (#8)**
- **Candler sand, 5 to 12 percent slopes (#9)**
- **Candler sand, 12 to 40 percent slopes (#10)**
- **Arents (#17)**
- **Immokalee sand (#20)**
- **Lake sand, 0 to 5 percent slopes (#21)**
- **Myakka-Myakka, wet, sands, 0 to 2 percent slopes (#28)**
- **Swamp (#44)**
- **Tavares sand, 0 to 5 percent slopes (#45)**

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

Sparr sand, 0 to 5 percent slopes (#1) consists of very deep, somewhat poorly drained, moderately slowly to slowly permeable soils on uplands of the coastal plain. They formed in thick beds of sandy and loamy marine sediments. Somewhat poorly drained; slow to moderately slow permeability in the subsoil. The water table is at depths of 20 to 40 inches for periods of 1 to 4 months. The water table is usually perched on the surface of the loamy layers but the loamy layers can also be saturated.

Anclote and Myakka soils (#4) consists of nearly level, very poorly drained and poorly drained sandy soils. These soils are in low, large depressions and poorly defined drainageways. The surface layer of Anclote soil generally consists of black and very dark gray fine sand about 12 inches thick. The surface layer of Myakka sand generally consists of black sand about 4 inches thick. The water table for these soils is at the surface, and the soils are covered with water for most of the year. Permeability of this soil unit is rapid in the surface and subsurface layers.

Candler sand, 0 to 5 percent slopes (#8) is a nearly level to gently sloping, excessively drained soil found on the rolling uplands of Florida's central ridge. The surface layer of this soil type generally consists of dark gray sand about 7 inches thick. The water table for this soil type is at a depth of more than 120 inches. Permeability is very rapid throughout the profile of this soil type.

Candler sand, 5 to 12 percent slopes (#9) is a sloping to strongly sloping, excessively drained soil found on the rolling uplands of Florida's central ridge. Typically, the surface layer of this soil type consists of dark gray sand about 5 to 6 inches thick. The water table for this soil type is at a depth of more than 120 inches. Permeability is very rapid throughout the profile of this soil type.

Candler sand, 12 to 40 percent slopes (#10) is a very steep, excessively drained sandy soil found on the rolling uplands of Florida's central ridge. Typically, the surface layer of this soil type consists of dark gray sand about 3 inches thick. The water table for this soil type is at a depth of more than 120 inches. Permeability is very rapid throughout the profile of this soil type.

Arents (#17) are deeply disturbed soils consisting of loamy soil material that has been mixed, reworked and leveled or shaped by earth-moving equipment. These units are mostly 12 to 60 inches thick. The water table for this soil type is at a depth of 30 to 60 inches except in low-lying areas, where it is at a depth of 10 to 30 inches, and in a few dry areas, where it is at a depth of more than 60 inches.

Immokalee sand (#20) is a nearly level, poorly drained soil that has a layer at a depth of 30 inches or more that is stained by organic matter. These soils usually occur in broad areas in the flatwoods and in low areas between sand ridges and lakes, ponds and sloughs. The surface layer of this soil type generally consists of black sand about 4 inches thick. The water table for this soil type is normally at a depth of 10 to 40 inches. It is within a depth of 10 inches for 1 to 2 months during rainy seasons and falls below 40 inches during prolonged drought. Permeability of this soil type is moderate in the weakly cemented layer and rapid in the other layers.

Lake sand, 0 to 5 percent slopes (#21) is a nearly level to gently sloping, well drained to excessively drained soil. Typically, the surface layer of this soil type consists of dark brown sand about 7 inches thick. The water table for this soil type is at a depth of more than 120 inches. Permeability is very rapid throughout the profile of this soil type.

Myakka-Myakka, wet sands, 0 to 2 percent slopes (#28) is a nearly level, poorly drained hydric soil that has a layer stained by organic material at a depth of less than 30 inches. The water table is normally at a depth of 10-40 inches during extended dry seasons. The surface and subsurface layers and the layer at a depth of 56 to 85 inches have rapid permeability, low water available water capacity, and very low natural fertility.

Swamp (#44) consists of level, very poorly drained mineral and organic soils that have not been classified because excess water and dense vegetation make a detailed investigation impractical. The Swamp mapping unit coincides with broad drainageways, broad, poorly defined streams, large depressions having no outlets, and large bay heads. The associated soils are flooded with water year-round except during prolonged periods of drought. The associated land cover consists of

dense wetland forests comprised of wetland hardwoods, cypress, black pines, cabbage palms, shrubs, vines, and grasses. This land cover provides shelter and some browse for cattle and wildlife. Establishing adequate water control and removing the dense vegetation to prepare these soils for cultivated crops or pasture are not feasible.

Tavares sand, 0 to 5 percent slopes (#45) is a nearly level to gently sloping soil, moderately well drained soil. It has a very dark grayish-brown sandy surface layer approximately 7 inches thick. Below this layer are 4 levels of sand beginning at 7 inches, 25 inches, 34 inches, and 61 inches. The water table for this soil type is at a depth of 40 to 60 inches for more than 6 months out of the year and below 60 inches during dry periods. This soil type is rapidly permeable throughout.

The Florida Association of Environmental Soil Scientists (FAESS) considers the main components in the Anclote and Myakka soils (#4), Immokalee sand (#20), Myakka-Myakka, wet sands, 0 to 2 percent slopes (#28) and Swamp (#44) soil types associated with the site to be hydric. The FAESS also considers inclusions present in Anclote and Myakka soils (#4), Immokalee sand (#20) and Myakka-Myakka, wet sands, 0 to 2 percent slopes (#28) soil types associated with the site to be hydric. This information can be found in the Hydric Soils of Florida Handbook, Fourth Edition (March 2007).

LAND USE TYPES/VEGETATIVE COMMUNITIES

The subject site currently supports eight (8) land use types/vegetative communities within its boundaries. These areas were identified utilizing the Florida Land Use, Cover and Forms Classification System, Level III (FLUCFCS, FDOT, January 1999) (**Figure 5**). The upland land use types/vegetative communities on the site are classified as Abandoned Groves (224), Temperate Hardwood (425) and Coniferous Plantations (441). The wetland/surface water land use types/vegetative communities on the site are classified as Streams and Waterways (510), Reservoirs less than 10 acres (534), Stream and Lake Swamps (615), Willow and Elderberry (618), and Wetland Forested Mixed (630). The following provides a brief description of the land use types/vegetative communities identified on the site.

Uplands:

224 Abandoned Groves

The vast majority of the subject site is consistent with the Abandoned Groves (221) FLUCFCS classification. Vegetation observed within this portion of the site includes *Citrus* spp., cabbage palm (*Sabal palmetto*), bahiagrass (*Paspalum notatum*), crabgrass (*Digitaria serotina*), Mexican clover (*Richardia scabra*), dogfennel (*Eupatorium capillifolium*), lantana (*Lantana strigocamara*), Virginia pepperweed (*Lepidium virginicum*), beggarticks (*Bidens alba*), ragweed (*Ambrosia*

artemisiifolia), cogongrass (*Imperata cylindrica*), rose natalgrass (*Melinis repens*), guineagrass (*Urochloa maxima*), bitterweed (*Helenium amarum*), rattlebox (*Sesbania punicea*), camphorweed (*Pluchea* spp.) and muscadine (*Vitis rotundifolia*).

425 Temperate Hardwood

The two (2) forested upland areas within the northwestern portion of the site are consistent with the Temperate Hardwood (425) FLUCFCS classification. Vegetation observed within these areas includes live oak (*Quercus virginiana*), laurel oak (*Quercus laurifolia*), southern magnolia (*Magnolia virginiana*), southern red cedar (*Juniperus virginiana*), sweetgum (*Liquidambar styraciflua*), cabbage palm (*Sabal palmetto*), black cherry (*Prunus serotina*), camphor tree (*Cinnamomum camphora*), saw palmetto (*Serenoa repens*), caesarweed (*Urena lobata*), cogongrass (*Imperata cylindrica*), sword fern (*Nephrolepis* spp.), guineagrass (*Urochloa maxima*), greenbrier (*Smilax* spp.) and muscadine (*Vitis rotundifolia*).

441 Coniferous Plantations

The two (2) small planted pine areas within the western portion of the site are consistent with the Coniferous Plantations (441) FLUCFCS classification. Vegetation observed within these areas includes slash pine (*Pinus elliottii*), cabbage palm (*Sabal palmetto*), bahiagrass (*Paspalum notatum*), bermudagrass (*Cynodon dactylon*), dogfennel (*Eupatorium capillifolium*), caesarweed (*Urena lobata*), lantana (*Lantana strigocamara*), Virginia pepperweed (*Lepidium virginicum*), beggarticks (*Bidens alba*), ragweed (*Ambrosia artemisiifolia*), blackberry (*Rubus* spp.), American beautyberry (*Callicarpa americana*), rattlebox (*Sesbania punicea*), camphorweed (*Pluchea* spp.), rose natalgrass (*Melinis repens*), cogongrass (*Imperata cylindrica*), muscadine vine (*Vitis rotundifolia*) and guineagrass (*Urochloa maxima*).

Wetland/Surface Water:

510 Streams and Waterways

The excavated ditches within the site are consistent with the Streams and Waterways (510) FLUCFCS classification. Vegetation observed within these areas includes Carolina willow (*Salix caroliniana*), primrose willow (*Ludwigia peruviana*), danglepod (*Sesbania herbacea*), elderberry (*Sambucus canadensis*), cattail (*Typha* spp.), torpedograss (*Panicum repens*), Cuban bulrush (*Cyperus blepharoleptos*) and marsh pennywort (*Hydrocotyle umbellata*).

534 Reservoirs less than 10 acres

The excavated ponds within the site are consistent with the Reservoirs less than 10 acres (534) FLUCFCS classification. Vegetation observed within these areas includes Carolina willow (*Salix caroliniana*), Peruvian primrosewillow (*Ludwigia peruviana*), danglepod (*Sesbania herbacea*), elderberry (*Sambucus canadensis*), cattail (*Typha* spp.), torpedograss (*Panicum repens*), duckweed (*Lemna minor*) and Cuban bulrush (*Cyperus blepharoleptos*).

615 Stream and Lake Swamps

The on-site wetlands associated with Lake Harris are consistent with the Stream and Lake Swamps (615) FLUCFCS classification. Vegetation observed within these wetlands includes water oak (*Quercus nigra*), laurel oak (*Quercus laurifolia*), bald cypress (*Taxodium distichum*), sweetgum (*Liquidambar styraciflua*), red maple (*Acer rubrum*), sweetbay (*Magnolia virginiana*), swamp tupelo (*Nyssa sylvatica*), water hickory (*Carya aquatica*), camphor tree (*Cinnamomum camphora*), Carolina willow (*Salix caroliniana*), fetterbush (*Lyonia lucida*), wild taro (*Colocasia esculenta*), Virginia chain fern (*Pteridium aquilinum*), cinnamon fern (*Osmundastrum cinnamomeum*), royal fern (*Osmunda regalis* var. *spectabilis*), maidencane (*Panicum hemitomon*), knotgrass (*Paspalum distichum*), lizard's tail (*Saururus cernuus*), common buttonbush (*Cephalanthus occidentalis*), wax myrtle (*Morella cerifera*), soft rush (*Juncus effusus*), smartweed (*Persicaria punctata*), paragrass (*Urochloa mutica*), old world climbing fern (*Lygodium microphyllum*), Peruvian primrosewillow (*Ludwigia peruviana*), poison ivy (*Toxicodendron radicans*), coral ardisia (*Ardisia crenata*) and marsh pennywort (*Hydrocotyle umbellata*).

618 Willow and Elderberry

The isolated wetland area within the central portion of the site is consistent with the Willow and Elderberry (618) FLUCFCS classification. Vegetation observed within the wetland includes Carolina willow (*Salix caroliniana*), Peruvian primrosewillow (*Ludwigia peruviana*), cabbage palm (*Sabal palmetto*), red maple (*Acer rubrum*), danglepod (*Sesbania herbacea*), elderberry (*Sambucus canadensis*), cattail (*Typha* spp.), duckweed (*Lemna minor*), saltbush (*Baccharis halimifolia*), buttonbush (*Cephalanthus occidentalis*), Virginia pepperweed (*Lepidium virginicum*), muscadine (*Vitis rotundifolia*), pickerelweed (*Pontederia cordata*), caesarweed (*Urena lobata*), Virginia chain fern (*Woodwardia virginica*), cinnamon fern (*Osmundastrum cinnamomeum*), Brazilian pepper (*Schinus terebinthifolius*) and blackberry (*Rubus pensilvanicus*).

630 Wetland Forested Mixed

There are two isolated forested wetlands within the southern portion of the site that are consistent with the Wetland Forested Mixed (630) FLUCFCS classification. Vegetation observed within these wetland areas includes water oak (*Quercus nigra*), laurel oak (*Quercus laurifolia*), cabbage palm (*Sabal palmetto*), sweetgum (*Liquidambar styraciflua*), red maple (*Acer rubrum*), Carolina willow (*Salix caroliniana*), sweetbay (*Magnolia virginiana*), swamp tupelo (*Nyssa sylvatica*), pennywort (*Hydrocotyle umbellata*), Virginia chain fern (*Pteridium aquilinum*), netted chain fern (*Woodwardia areolata*), cinnamon fern (*Osmundastrum cinnamomeum*), royal fern (*Osmunda regalis* var. *spectabilis*), maidencane (*Panicum hemitomon*), lizard's tail (*Saururus cernuus*), buttonbush (*Cephalanthus occidentalis*), wax myrtle (*Morella cerifera*), soft rush (*Juncus effusus*), smartweed (*Persicaria punctata*), paragrass (*Urochloa mutica*), Peruvian primrosewillow (*Ludwigia peruviana*), muscadine (*Vitis rotundifolia*), greenbrier (*Smilax* spp.), caesarweed (*Urena lobata*), blackberry (*Rubus* spp.) and cogongrass (*Imperata cylindrica*).

PROTECTED SPECIES

Using methodologies outlined in the Florida's Fragile Wildlife (Wood, 2001); Measuring and Monitoring Biological Diversity Standard Methods for Mammals (Wilson, et al., 1996); and Florida Fish and Wildlife Conservation Commission's (FWC's) Gopher Tortoise Permitting Guidelines (April 2023); an assessment for listed floral and faunal species was conducted at the site on May 6 and 7, 2024 (**Figure 6A**). This assessment included both direct observations and indirect evidence, such as tracks, burrows, tree markings and vocalizations which indicated the presence of species observed. The assessment focused on species that are listed by the FWC's Official Lists - Florida's Endangered and Threatened Species (December 2022) and listed species that have the potential to occur in Lake County (**see attached Table 1**).

No plant species listed as "Threatened" or "Endangered" by either The Florida Department of Agriculture and Consumer Services (FDACS) or U.S. Fish and Wildlife Service (USFWS) were identified during the assessments conducted. Three (3) species identified on the site are listed as commercially exploited by the FDACS. The harvesting of these species, cinnamon fern (*Osmundastrum cinnamomeum*), royal fern (*Osmunda regalis* var. *spectabilis*) and saw palmetto (*Serenoa repens*) for commercial gain is prohibited. The FDACS protection of listed plant species centers on preventing the illegal collection, transport and sale of the listed plants. The FDACS will issue permits for collection purposes. There are no regulations that prohibits the destruction of state-listed flora species as a result of proposed development activities.

The following is a list of those wildlife species identified on the site during the evaluation of the property:

Reptiles and Amphibians

American alligator (*Alligator mississippiensis*)

American bullfrog (*Lithobates catesbeianus*)

black racer (*Coluber constrictor*)

brown anole (*Anolis sagrei*)

common cooter (*Pseudemys floridana*)

Florida softshell turtle (*Apalone ferox*)

gopher tortoise (*Gopherus polyphemus*)

six-lined racerunner (*Cnemidophorus sexlineatus sexlineatus*)

southern cricket frog (*Acris gryllus*)

southern leopard frog (*Lithobates sphenoccephalus*)

Birds

American Crow (*Corvus brachyrhynchos*)

Black Vulture (*Coragyps atratus*)

Blue Jay (*Cyanocitta cristata*)

Carolina Wren (*Thryothorus ludovicianus*)

Common Grackle (*Quiscalus quiscula*)

Common Ground Dove (*Columbina passerine*)

Eastern Meadowlark (*Sturnella magna*)

Great Egret (*Ardea alba*)

Mourning Dove (*Zenaida macroura*)

Northern Cardinal (*Cardinalis cardinalis*)

Northern Mockingbird (*Mimus polyglottos*)

Killdeer (*Charadrius vociferus*)

Pileated Woodpecker (*Dryocopus pileatus*)

Red-shouldered Hawk (*Buteo lineatus*)

Swallow-tailed Kite (*Elanoides forficatus*)

White Ibis (*Eudocimus albus*)

Mammals

eastern cottontail (*Sylvilagus floridanus*)

marsh rabbit (*Sylvilagus palustris*)

nine-banded armadillo (*Dasyopus novemcinctus*)

North American raccoon (*Procyon lotor*)

opossum (*Didelphis virginiana*)

Two (2) of the above wildlife species, the American alligator (*Alligator mississippiensis*) and gopher tortoise (*Gopherus polyphemus*) are identified in the FWC's Official Lists - Florida's Endangered and Threatened Species (December 2022).

Observed Wildlife

American Alligator (*Alligator mississippiensis*)

Federally Threatened “Due to Similarity of Appearance” by USFWS

Due to strict conservation measures and extensive research, the American alligator is no longer endangered except in scattered areas of its range. However, the American alligator is listed as threatened on the U.S. Endangered Species List because it is very similar in appearance to the American crocodile (*Crocodylus acutus*), which is endangered. No further action is anticipated for the presence of the American alligator.

Gopher Tortoise (*Gopherus polyphemus*)

State Listed as “Threatened” by FWC

Currently the gopher tortoise (*Gopherus polyphemus*) is classified as a “Category 2 Candidate Species” by the USFWS, and as of September 2007 is now classified as “Threatened” by FWC, and as “Threatened” by Florida Committee on Rare and Endangered Plants and Animals (FCREPA). The basis of the “Threatened” classification by the FWC for the gopher tortoise is due to habitat loss and destruction of burrows. Gopher tortoises are commonly found in areas with well-drained soils associated with the pine flatwoods, pastures and abandoned orange groves. Several other protected species known to occur in Lake County have a possibility of occurring in this area, as they are gopher tortoise commensal species. These species include the eastern indigo snake (*Drymarchon corais couperi*), Florida mouse (*Podomys floridanus*) and the gopher frog (*Rana capito*). However, none of these species were observed during the survey conducted.

The subject site was surveyed for the existence of gopher tortoises through the use of vehicular transects. The survey covered approximately 85% of the suitable habitat present within the subject site boundaries. Based on the survey results, eleven (11) Potentially Occupied gopher tortoise burrows (PO-active/inactive) were observed and recorded using a handheld GPS (see **Figure 6A**). Extrapolated to a 100% survey, an estimated thirteen (13) burrows may be present. Utilizing the factored occupation rate of 0.614 (*Auffenburg-Franz*), there is an estimated population of eight (8) gopher tortoises on the site.

For budgetary purposes, an estimated cost of off-site relocation is approximately \$60,000.00 for the subject site; depending on the available recipient site at the time of permitting and the actual number of tortoises relocated. This cost includes permitting, excavation with a qualified biologist/FWC “authorized agent” and the recipient site fees.

The FWC provides three (3) options for developers that have gopher tortoises on their site. These options include: 1) avoidance (i.e., maintain at least a 25-foot distance from construction activities), 2) preservation of habitat and 3) off-site relocation. Based on the expected site development plan, the likely option to addressing the on-site gopher tortoise population is off-site relocation and would require that any gopher tortoise within 25 feet of proposed construction activities be relocated off-site to an approved recipient site. Relocation will need to be permitted through FWC prior to any on-site construction activities. A formal 100% gopher tortoise survey will be required by FWC in order to secure an off-site relocation permit.

If relocation efforts cannot be completed within 90 days of a formal gopher tortoise survey, FWC requires an additional survey to be conducted.

Potential Wildlife

The wildlife surveys conducted within the subject site boundaries do not preclude the potential for any listed species, currently or in the future. The following listed species were not observed on-site, but have the potential to occur: Eastern Indigo Snake (*Drymarchon couperi*), Bald Eagle (*Haliaeetus leucocephalus*) and Wood Stork (*Mycteria americana*).

Eastern Indigo Snake (*Drymarchon couperi*)

Federally Listed as “Threatened” by USFWS

The Eastern indigo snake (*Drymarchon couperi*) is a federally threatened species. The basis for this listing was a result of dramatic population declines caused by over-collecting for the domestic and international pet trade as well as mortalities caused by rattlesnake collectors who gassed gopher tortoise burrows to collect snakes. Since its listing, habitat loss and fragmentation by residential and commercial expansion have become much more significant threats to the eastern indigo snake. This species is widely distributed throughout central and south Florida and primarily occurs in sandhill habitat in northern Florida and southern Georgia.

No evidence of Eastern indigo snakes were observed within the site during the wildlife survey conducted by BTC. Based on the field assessment, the project will impact less than 25 acres of suitable xeric habitat (scrub, sandhill or scrubby pine flatwoods) and less than 25 active and inactive gopher tortoise burrows. Using the USFWS’s August 2013 Consultation Key for the Eastern indigo snake, a key determination would result in a finding of “not likely to adversely affect” (NLAA).

During the ERP or USACE Dredge and Fill permit review process, the USFWS may determine that an Eastern indigo snake survey is required during the review of the project. The survey can be accomplished from October 1st thru April 30 for a minimum of five (5) surveys with 2 days of optimal weather (overnight low temperature above 60° F). It should also be noted that eastern indigo snake mitigation may be purchased in lieu of conducting the Eastern indigo snake survey. A USACE Permit will likely require the following of the Service's Standard Protection Measures for the Eastern indigo snake which will include, but not limited to, posting Eastern indigo snake identification signage and educational material at the site, inspecting on-site holes and other refugia, as well as stopping construction to allow any Eastern indigo snake to safely vacate the project site. In addition, a FWC Conservation Permit to relocate gopher tortoises will also contain permit conditions relating to the safety of indigo snakes and require that any encountered snakes be allowed to leave the property unharmed during the gopher tortoise relocation and during the development construction.

Bald Eagle (*Haliaeetus leucocephalus*)

State protected by F.A.C. 68A-16.002 and federally protected by both the Migratory Bird Treaty Act (1918) and the Bald and Golden Eagle Protection Act (1940)

In August of 2007, the US Fish and Wildlife Service (USFWS) removed the Bald Eagle from the list of federally endangered and threatened species. Additionally, the Bald Eagle was removed from FWC's imperiled species list in April of 2008. Although the Bald Eagle is no longer protected under the Endangered Species Act, it is still protected under the Bald and Golden Eagle Protection Act, the Migratory Bird Treaty Act, and FWC's Bald Eagle rule (Florida Administrative Code 68A-16.002 Bald Eagle (*Haliaeetus leucocephalus*)).

In May of 2007, the USFWS issued the National Bald Eagle Management Guidelines. In April of 2008, the FWC adopted a new Bald Eagle Management Plan that was written to closely follow the federal guidelines. In November of 2017, the FWC issued "A Species Action Plan for the Bald Eagle" in response to the sunset of the 2008 Bald Eagle Management Plan. Under the USFWS's management plans, buffer zones are recommended based on the nature and magnitude of the project or activity. The recommended protective buffer zone is 660 feet or less from the nest tree, depending on what activities or structures are already near the nest. As provided within the above referenced Species Action Plan, the USFWS is the regulating body responsible for issuing permits for Bald Eagles. In 2017, the need to obtain a State permit (FWC) for the take of Bald Eagles or their nests in Florida was eliminated following revisions to F.A.C. 68A-16.002. A USFWS Bald Eagle "Non-Purposeful Take Permit" is not needed for any activity occurring outside of the 660-foot buffer zone. No activities are permitted within 330 feet of a nest without a USFWS permit.

In addition to the on-site evaluation for listed species, BTC conducted a review of FWC’s database (2015-2016 Nesting Season) and Audubon’s Eagle Watch program database (2022 Nesting Season) for recorded Bald Eagle nests within the surrounding 660 feet of the subject site (**Figure 6B**). This review revealed that there are no Bald Eagle nests within 660 feet of the project site boundaries. Thus, no developmental constraints are expected with respect to Bald Eagle nests unless a new nest is found.

Wood Stork (*Mycteria americana*)

State & Federally listed as “Threatened” by FWC & USFWS

Wood Storks typically nest colonially in medium to tall trees that occur in stands located either in swamps or on islands surrounded by relatively broad expanses of open water (Ogden 1991; Rodgers et al. 1996). The Wood Stork (*Mycteria americana*) is listed as “Threatened” by the USFWS. Wood storks are large, long-legged wading birds, about 45 inches tall, with a wingspan of 60 to 65 inches. Their plumage is white except for black primaries and secondaries and a short black tail. The head and neck are largely un-feathered and dark gray in color. The bill is black, thick at the base, and slightly decurved. Wood Storks are birds of freshwater and estuarine wetlands, primarily nesting in cypress or mangrove swamps.

Successful breeding sites are those that have limited human disturbance and low exposure to land-based predators. Because of their specialized feeding behavior, Wood Storks forage most effectively in shallow-water areas with highly concentrated prey. Typical foraging sites for the Wood Stork include freshwater marshes, depressions in cypress heads, swamp sloughs, managed impoundments, stock ponds, shallow-seasonally flooded roadside or agricultural ditches and narrow tidal creeks or shallow tidal pools. Good foraging conditions are characterized by water that is relatively calm, open, and having water depths between 5 and 15 inches (5 and 38 cm).

No Wood Storks were observed on the site during the wildlife survey conducted by BTC. The USFWS and the USACE require that any impacts to on-site ditches and/or wetlands, which would eliminate a portion of the Wood Stork foraging habitat, be either mitigated through the purchase of mitigation credits or recreated elsewhere on-site so that there would be no net loss of Wood Stork foraging habitat. The purchase of the wetland mitigation credits for any proposed wetland impacts will also serve as mitigation for impacts to potential Wood Stork foraging habitat. The USFWS and/or another agency will make the final determination if any loss of foraging habitat will require mitigation.

USFWS CONSULTATION AREAS

The U.S. Fish and Wildlife Service (USFWS) has established “Consultation Areas” for certain listed species (**Figure 7**). Generally, these consultation areas only become an issue if USFWS consultation is required, which is usually associated with permitting through the U.S. Army Corps of Engineers. The user of this report should be aware that species presence and need for additional review are often determined to be unnecessary early in the permit review process due to lack of appropriate habitat or other conditions. However, the USFWS makes the final determination.

Consultation areas are typically regional in size, often spanning multiple counties where the species in question is known to exist. Consultation areas by themselves do not indicate the presence of a listed species. They only indicate an area where there is a potential for a listed species to occur and that additional review might be necessary to confirm or rule-out the presence of the species. The additional review typically includes the application of species-specific criteria to rule-out or confirm the presence of the species in question. Such criteria might consist of a simple review for critical habitat types. In other cases, the review might include the need for species-specific surveys using established methodologies that have been approved by the USFWS. The following presents further information pertaining to species in which their USFWS consultation areas covers the subject property.

Sand Skink (*Neoseps reynoldsi*)

Federally Listed as “Threatened” by USFWS

The subject site falls within the Sand Skink Consultation Area for the United States Fish and Wildlife Service (USFWS). The sand skink is listed as “Threatened” by the USFWS. The sand skink exists in areas vegetated with sand pine (*Pinus clausa*) - rosemary (*Ceratiola ericoides*) scrub or a long leaf pine (*Pinus palustris*) - turkey oak (*Quercus laevis*) association. Habitat destruction is the primary threat to this species’ survival. Citrus groves, residential, commercial and recreational facilities have depleted the xeric upland habitat of the sand skink. All properties within the limits of this consultation area that are located at elevations greater than 80’ and contain suitable (moderate-to-well drained) soils are believed by USFWS to be areas of potential sand skink habitat.

A formal sand skink survey was conducted on the subject site by BTC during March and April of 2022 pursuant to the USFWS’s Sand and Bluetail Mole Skink Conservation Guidelines (February 2012). No evidence of the sand skink was observed during the formal survey conducted by BTC. Coordination with the USFWS may be required to obtain their concurrence to BTC’s position that the sand skink does not occupy the subject property.

Florida Scrub-Jay (*Aphelocoma coerulescens*)

Federally Listed as “Threatened” by USFWS

Currently the Florida Scrub-Jay is listed as “Threatened” by the USFWS. Florida Scrub-Jays are largely restricted to scattered, often small and isolated patches of sand pine scrub, xeric oak, scrubby flatwoods, and scrubby coastal stands in peninsular Florida (Woolfenden 1978a, Fitzpatrick et al. 1991). They avoid wetlands and forests, including canopied sand pine stands. Optimal Scrub-Jay habitat is dominated by shrubby scrub, live oaks, myrtle oaks, or scrub oaks from 1 to 3 m (3 to 10 ft.) tall, covering 50% to 90 % of the area; bare ground or sparse vegetation less than 15 cm (6 in) tall covering 10% to 50% of the area; and scattered trees with no more than 20% canopy cover (Fitzpatrick et al. 1991).

Florida Scrub-Jays are most abundant in open, oak-dominated scrub communities of the interior and Atlantic coast sand ridges of the Peninsula. Florida Scrub-Jay habitat is broken down into three (3) types. These habitat types are the following:

- TYPE I HABITAT. Any upland plant community in which the percent cover of the substrate by scrub oak species is 15% or more.
- TYPE II HABITAT. Any plant community not meeting the definition of Type I habitat, in which one or more scrub oak species is represented.
- TYPE III HABITAT. Any upland or seasonally dry wetland within ¼ mile of any designated as Type I or Type II habitat.

In most cases, the Type I habitat is recognized as xeric oak scrub, scrubby pine flatwoods, scrubby coastal strand, or sand pine scrub. Usual classification schemes are not as useful in identifying or predicting habitat type; the presence of scrub oaks is the key indicator. The third habitat type includes many different plant communities where scrub oak species are not represented, but that are nearby or adjacent to Type I or Type II habitat. The subject site does not have any Types I-III Habitats.

No Florida Scrub-Jays were observed on the subject site during the wildlife survey conducted by BTC. As there is no suitable habitat for this species within the limits of the site, it is not anticipated that a formal survey would be required by the USFWS or another agency.

Everglade Snail Kite (*Rostrhamus sociabilis*)

Federally Listed as “Endangered” by USFWS

The subject site falls within the USFWS Consultation Area for the Everglade Snail Kite. Currently the Everglade Snail Kite is listed as “Endangered” by the USFWS. Everglade Snail Kites are similar in size to Red-shouldered Hawks. All Everglade Snail Kites have deep red eyes and a white rump patch. Males are slate gray, and females and juveniles vary in amounts of white, light brown,

and dark brown, but the females always have white on their chin. Everglade Snail Kites vocalize mainly during courtship and nesting. They may occur in nearly all of the wetlands of central and southern Florida. They regularly occur in lake shallows along the shores and islands of many major lakes, including Lakes Okeechobee, Kissimmee, Tohopekaliga (Toho) and East Toho. They also regularly occur in the expansive marshes of southern Florida such as Water Conservation Areas 1, 2, and 3, Everglades National Park, the upper St. John’s River marshes and Grassy Waters Preserve.

No Everglade Snail Kites were observed within the subject site during the May 2024 wildlife survey conducted by BTC. The subject site is adjacent to Lake Harris which could provide potential nesting and foraging habitat for this species. On May 13, 2022, BTC conducted a formal Everglade Snail Kite survey using methodologies outlined in the Everglade Snail Kite Survey Protocol – South Florida Ecological Services Office (May 2004). No Everglade Snail Kites or their nests were observed during the formal survey. An updated survey may be required by the USFWS or another agency to determine if any Everglade Snail Kites are utilizing any portions of the site.

DEVELOPMENT CONSTRAINTS AND PERMITTING

All wetlands and surface waters on the site have been delineated by BTC in accordance with local, state and federal guidelines utilizing pink “Bio-Tech Consulting” flagging tape (**Figure 8**). All wetland/surface water flag locations will need to be approved by the appropriate regulatory agencies during the permitting process. The on-site wetlands/surface waters are located within the Southern Ocklawaha River basin (**Figure 9**).

St. Johns River Water Management District (SJRWMD)

An Environmental Resource Permit (ERP) will be required through the SJRWMD to authorize construction and operation of a stormwater management system for the site in association with a proposed project. This includes new activities in uplands that generate stormwater runoff from upland construction, as well as dredging and filling in wetlands and other surface waters. Impacts to the site’s wetland and other surface water communities would be permissible by SJRWMD as long as the issues of elimination and reduction of wetland impacts have been addressed and as long as the mitigation offered is sufficient to offset the functional losses incurred via the proposed impacts. Coordination with the Division of Historical Resources (DHR) and the FFWCC will be necessary as part of the ERP process.

U.S. Army Corps of Engineers (USACE)

On February 15, 2024, the U.S. District Court in Washington DC issued a “Memorandum Opinion” regarding the case of Center for Biological Diversity v. United States Environmental Protection Agency (EPA), State of Florida, et al. This ruling immediately returned the Federal Review of Section 404 of the Clean Water Act back to the USACE completely within the State of Florida and vacating the Florida State 404 program.

Section 404 of the Clean Water Act (CWA) requires that federal authorization be obtained for all activities that propose the placement of dredged or fill material in “Waters of the United States” (WOTUS). The regulatory program established by CWA Section 404 is jointly implemented by the US Environmental Protection Agency (USEPA) and the USACE. Criteria for permit review and issuance are described in CWA Section 404(b)(1) Guidelines. Included in those guidelines, but not limited to, is the requirement to (a) justify jurisdictional wetland impacts with an alternative sites analysis that demonstrates the subject site is the most viable site in the vicinity for the project and will result in the least damaging environmental impacts compared to alternative site locations, and (b) demonstrate on-site avoidance and minimization of impacts have been limited to the maximum practicable extent while allowing for the project purpose. The USACE rarely accepts on-site preservation as mitigation for wetland impacts. All USACE impacts will be required to be off-set by purchase of credits from an approved mitigation bank. The USACE will coordinate with the Division of Historical Resources (DHR) regarding potential impacts to archaeological and cultural resources, as well as the USFWS regarding impacts to species listed under the Endangered Species Act. The permitting process with the USACE is a much longer process than the State ERP program with potential permitting timeframes of 12-18 months depending on the complexity of the wetland impacts and mitigation.

The subject property contains both USACE jurisdictional and non-jurisdictional wetland and surface water systems. It is expected that W-4, W-5, W-6, SW-6 and SW-7 would be considered isolated and non-jurisdictional to the Corps due to the absence of a hydrologic connection to “Waters of the United States” (WOTUS). However, it is anticipated that W-1, W-2, W-3, SW-1, SW-2, SW-3, SW-4 and SW-5 would be federally jurisdictional to the Corps based upon hydrologic connections to Lake Harris (WOTUS) and that federal permitting with the Corps would be required for impacts to the jurisdictional systems. A Jurisdictional Determination (JD) may be required to confirm the presence or absence of WOTUS or connections to “navigable waters of the United States.” Impacts to USACE jurisdictional wetlands and other surface waters would be permissible by the Corps as long as the issues of elimination and reduction of wetland impacts have been addressed and as long as the mitigation offered is sufficient to offset the functional losses incurred via the proposed impacts. However, if there are no proposed impacts to the on-site USACE jurisdictional systems, then a federal permit from the Corps should not be required.

Sovereign Submerged Lands (SSL)

Sovereign Submerged Lands are those lands waterward of the ordinary or mean high water line which the State of Florida acquired title to on March 3, 1845, by virtue of statehood, and which have not been conveyed to property owners. Coordination with the Florida Department of Environmental Protection (FDEP) will be required to determine if any portion of the subject site, specifically the wetlands/surface waters associated with Lake Harris are Sovereign Submerged Lands (SSL). SSL are typically delineated by the ordinary or Mean High Water Line elevation or a Safe Upland Line elevation determined by the FDEP. The Water Management Districts have the regulatory authority to limit certain activities within SSL to protect the natural resources of the state. Any proposed activity on SSL may be required to meet both regulatory and proprietary requirements as found in the Florida Statutes and Florida Administrative Code.

The environmental limitations described in this document are based on observations and technical information available on the date of the on-site evaluation. 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 wildlife surveys conducted within the subject property boundaries do not preclude the potential for 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,

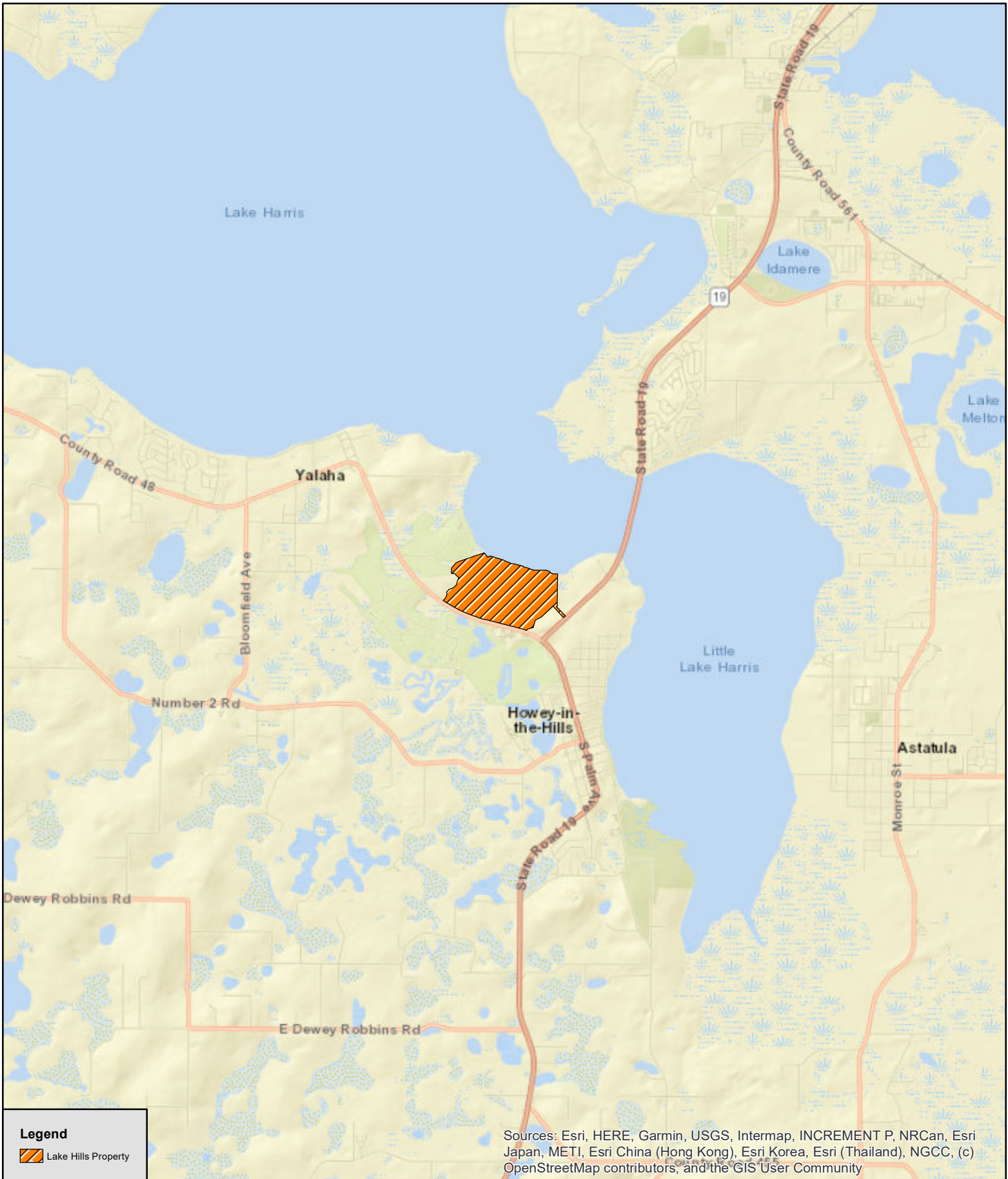



Nathan Johnson
Field Biologist



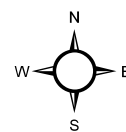
Jay Baker
Director

Attachments




Legend
 Lake Hills Property

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



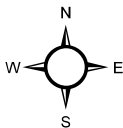


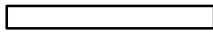
Legend
 Lake Hills Property

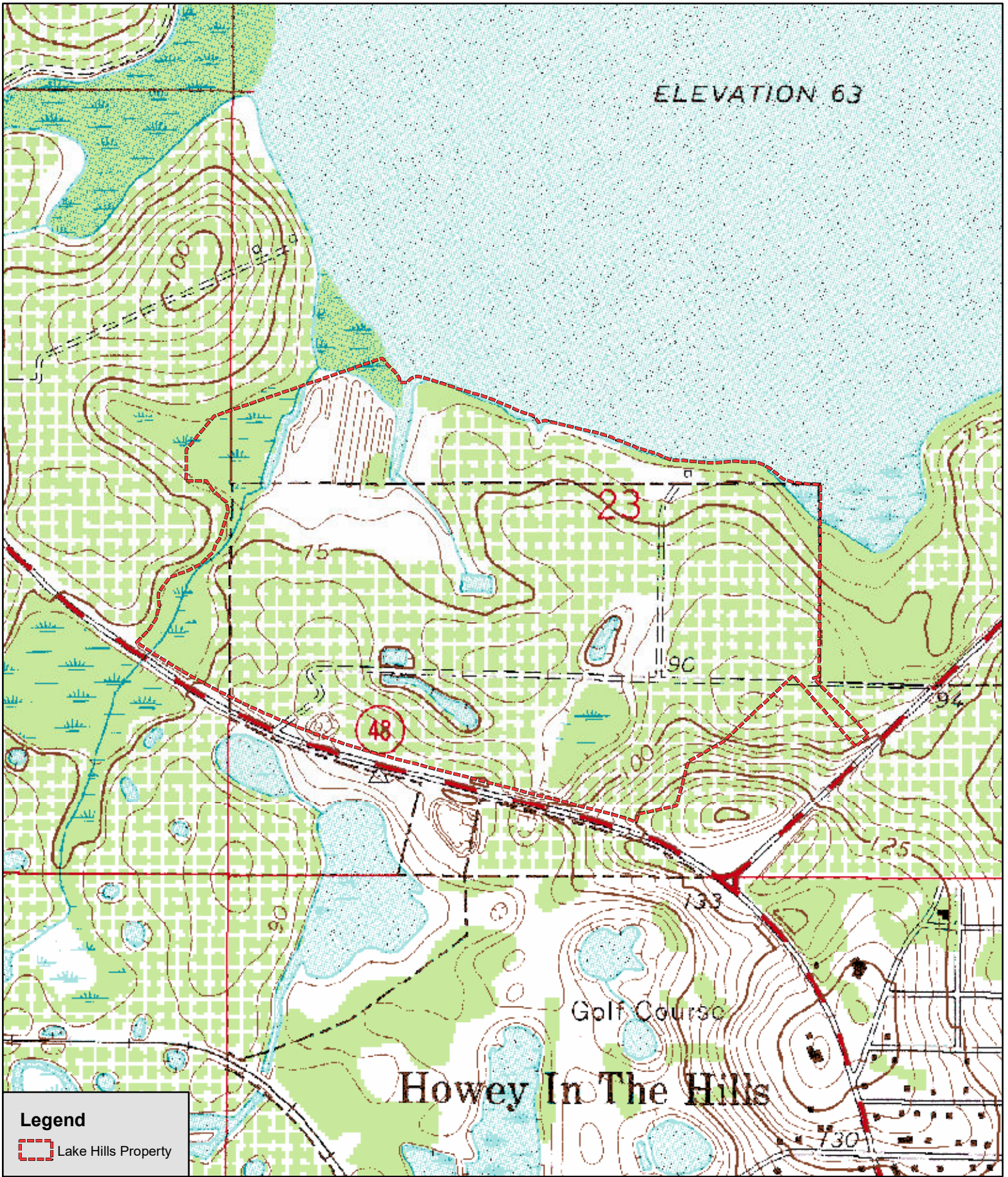
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Bio-Tech Consulting
 Environmental and Permitting
 3025 East South Street Orlando, FL 32803
 Phone (407) 894-5969 Fax (407) 894-5970
 www.bio-techconsulting.com

Lake Hills Property
 Lake County, Florida
 Figure 2
 2023 Aerial Map



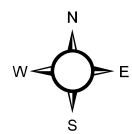
900
 Feet
 Project #: 1482-01
 Produced By: NTJ
 Date: 5/20/2024



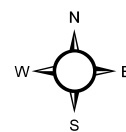
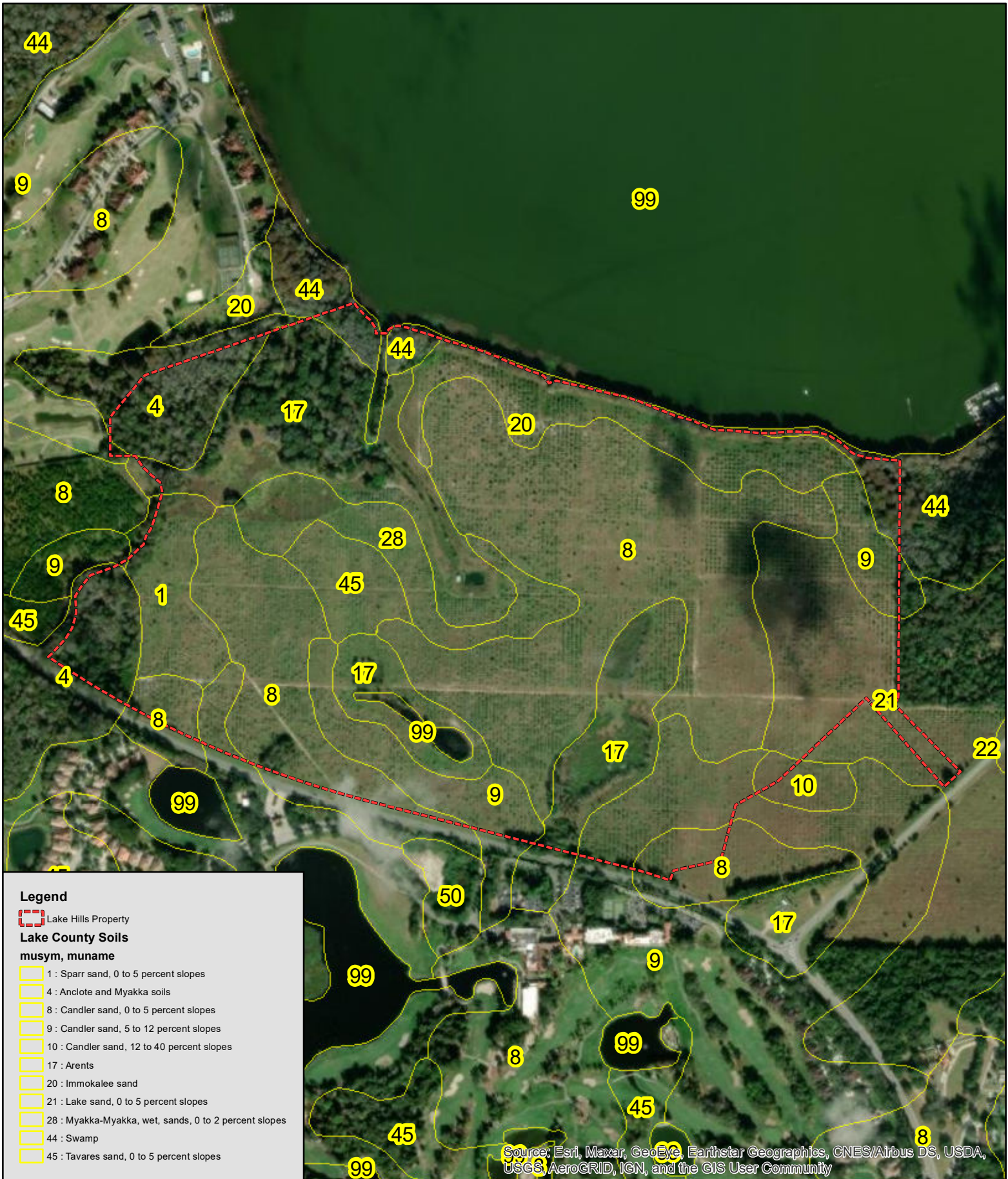
Legend
 [Red dashed line] Lake Hills Property

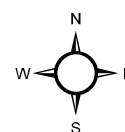
Bio-Tech Consulting Inc.
 Environmental and Permitting Services
 3025 E. South Street Orlando, FL 32803
 Ph: 407-894-5969 Fax: 407-894-5970
 www.bio-techconsulting.com

Lake Hills Property
 Lake County, Florida
 Figure 3
 USGS Topographic Map



920
 [Scale bar] Feet
 Project #: 1482-01
 Produced By: NTJ
 Date: 5/17/2024



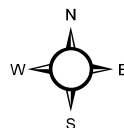


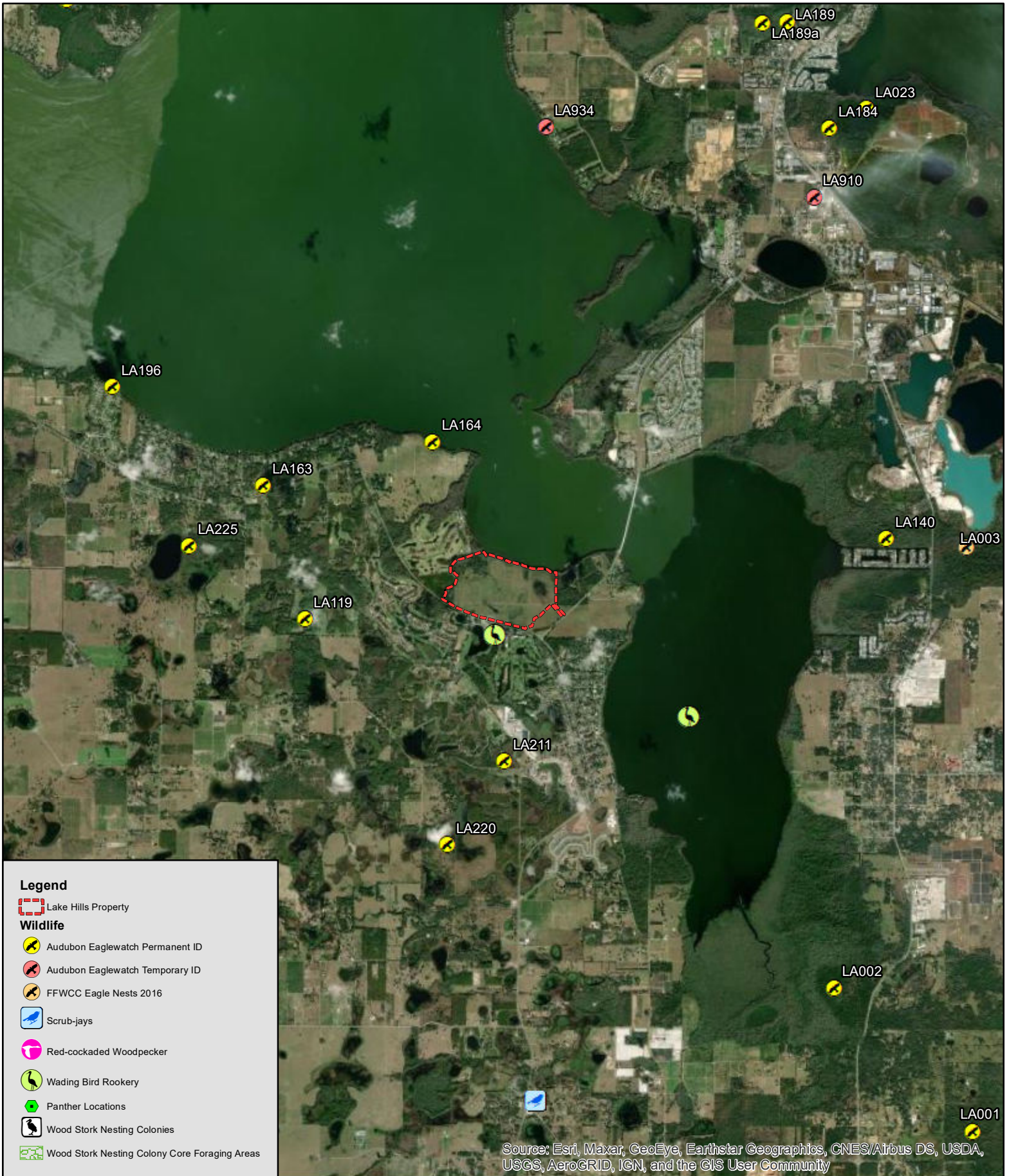


Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

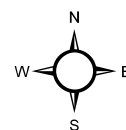
Legend

- Lake Hills Property
- GT Burrows - Activity**
- PO (11)
- Abandoned (1)



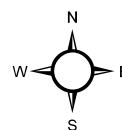


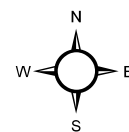
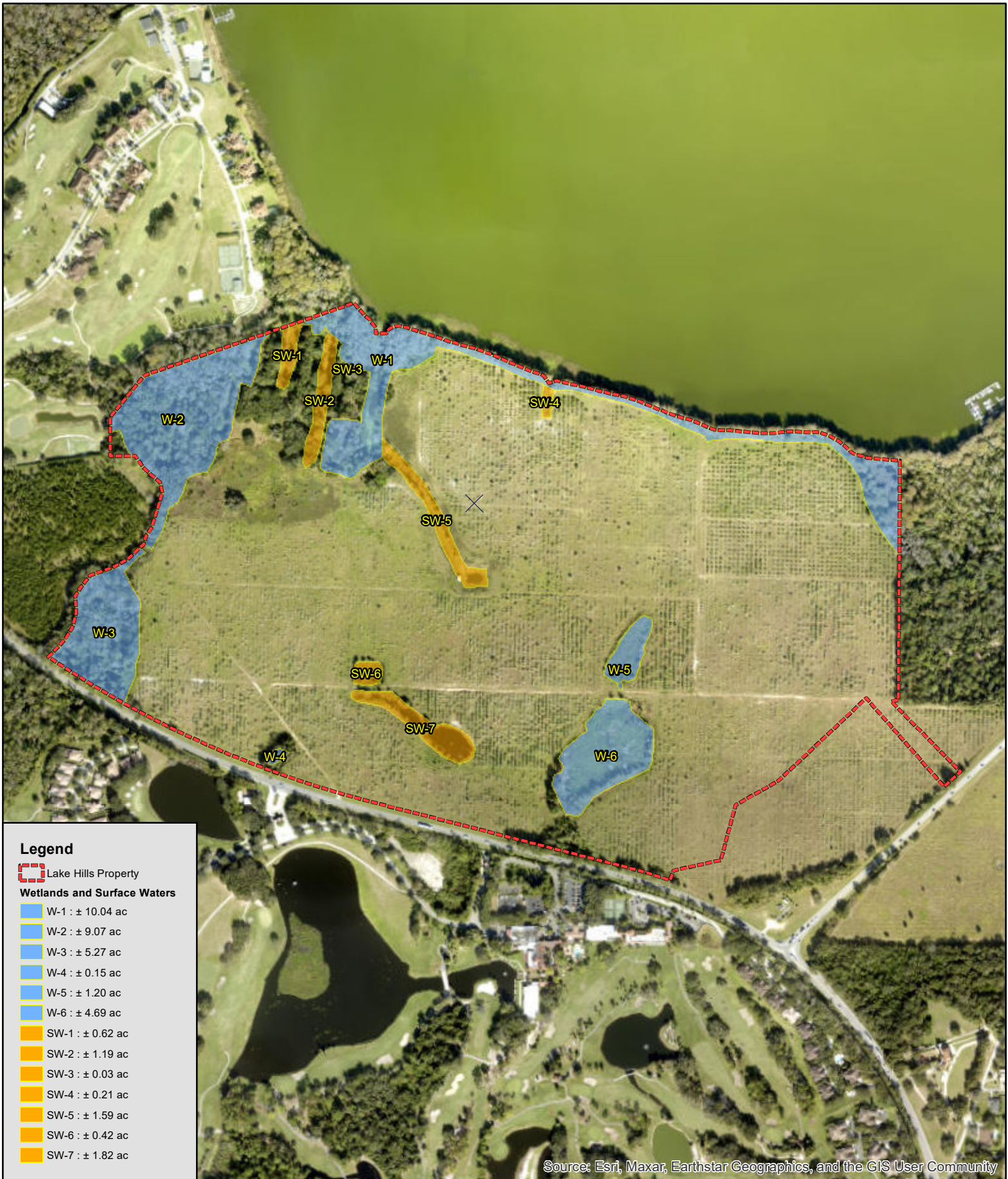
Lake Hills Property
 Lake County, Florida
 Figure 6B
 Wildlife Proximity

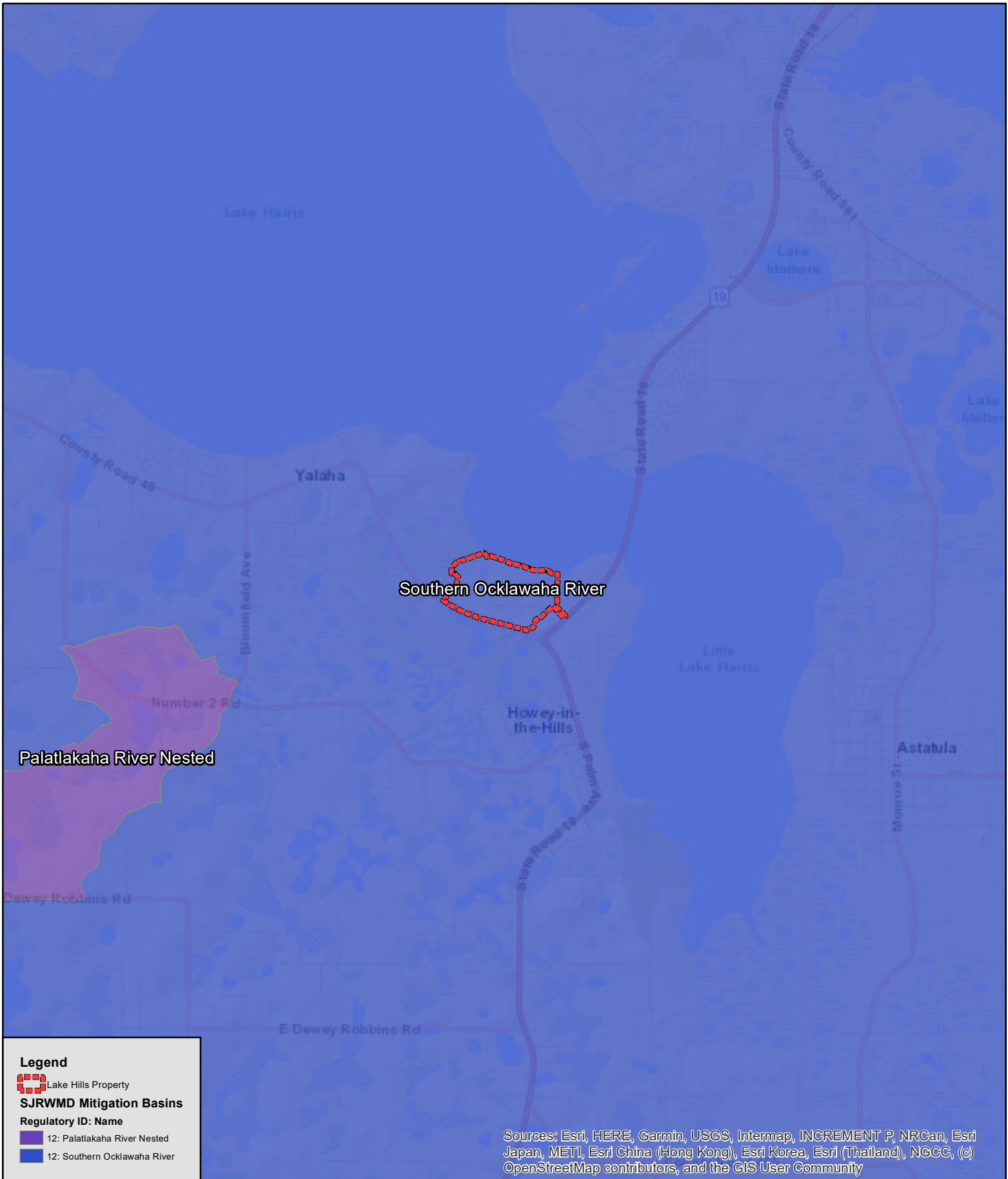


1 Miles

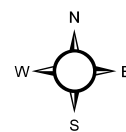
Project #: 1482-01
 Produced By: NTJ
 Date: 5/17/2024







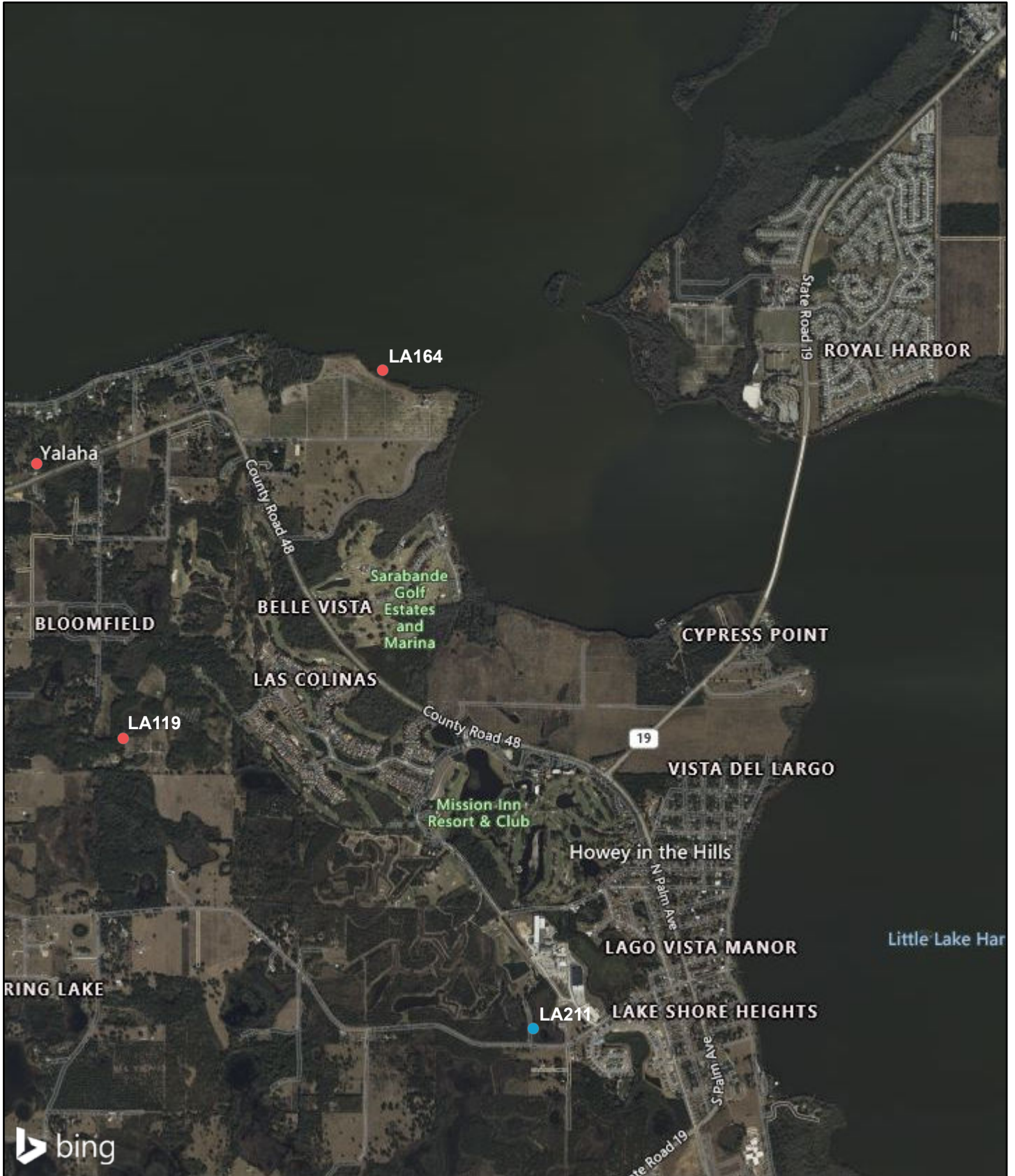
Lake Hills Property
 Lake County, Florida
 Figure 9
 SJRWMD Mitigation Basins



1 Miles

Project #: 1482-01
 Produced By: NTJ
 Date: 5/17/2024

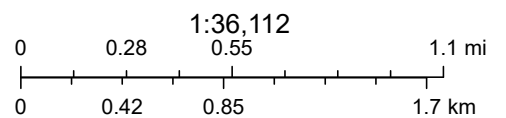
Audubon EagleWatch Map



4/23/2024, 4:26:08 PM

Bald Eagle Nest Locations

- unmonitored
- Audubon



© 2024 Microsoft Corporation © 2024 Maxar ©CNES (2024) Distribution Airbus DS © 2024 TomTom

Table 1 :		Potentially Occuring Listed Wildlife and Plant Species in Lake County, Florida	
Scientific Name	Common Name	Federal Status	State Status
FISH			
<i>Pteronotropis welaka</i>	Bluenose Shiner	N	ST
REPTILES			
<i>Alligator mississippiensis</i>	American Alligator	SAT	FT(S/A)
<i>Drymarchon corais couperi</i>	Eastern Indigo Snake	LT	FT
<i>Gopherus polyphemus</i>	Gopher Tortoise	C	ST
<i>Lampropeltis extenuata</i>	Short-Tailed Snake	N	ST
<i>Pituophis melanoleucus mugitus</i>	Florida Pine Snake	N	ST
<i>Plestiodon reynoldsi</i>	Sand Skink	LT	FT
BIRDS			
<i>Antigone canadensis pratensis</i>	Florida Sandhill Crane	N	ST
<i>Aphelocoma coerulescens</i>	Florida Scrub-Jay	LT	FT
<i>Athene cunicularia floridana</i>	Florida Burrowing Owl	N	ST
<i>Egretta caerulea</i>	Little Blue Heron	N	ST
<i>Egretta tricolor</i>	Tricolored Heron	N	ST
<i>Falco sparverius paulus</i>	Southeastern American kestrel	N	ST
<i>Grus americana</i>	Whooping Crane	XN	FXN
<i>Mycteria americana</i>	Wood Stork	LT	FT
<i>Picoides borealis</i>	Red-Cockaded Woodpecker	LE	FE
MAMMALS			
<i>Trichechus manatus</i>	West Indian Manatee	LT	FT
VASCULAR PLANTS			
<i>Bonamia grandiflora</i>	Florida bonamia	LT	E
<i>Carex chapmanii</i>	Chapman's Sedge	N	T
<i>Centrosema arenicola</i>	Sand Butterfly Pea	N	E
<i>Chionanthus pygmaeus</i>	pygmy fringe tree	LE	E
<i>Clitoria fragrans</i>	scrub pigeon-wing	LT	E
<i>Coelorachis tuberculosa</i>	Piedmont Jointgrass	N	T
<i>Coeleataenia abscissa</i>	Cutthroat Grass	N	E
<i>Cucurbita okeechobeensis</i>	Okeechobee Gourd	LE	E
<i>Eriogonum longifolium</i> var <i>gnaphalifolium</i>	Scrub Buckwheat	LT	E
<i>Hartwrightia floridana</i>	Hartwrightia	N	T
<i>Hasteola robertorum</i>	Florida Hasteola	N	E
<i>Illicium parviflorum</i>	Star Anise	N	E
<i>Justicia cooleyi</i>	Cooley's Water-Willow	LE	E
<i>Lechea cernua</i>	Nodding Pinweed	N	T
<i>Matelea floridana</i>	Florida Spiny-Pod	N	E
<i>Monotropa hypopithys</i>	Pinesap	N	E
<i>Najas filifolia</i>	Narrowleaf Naiad	N	T
<i>Nemastylis floridana</i>	Celestial Lily	N	E
<i>Nolina brittoniana</i>	Britton's Beargrass	LE	E
<i>Paronychia chartacea</i> ssp <i>chartacea</i>	Paper-Like Nailwort	LT	E
<i>Pecluma plumula</i>	Plume Polypody	N	E
<i>Pecluma ptilota</i> var. <i>bourgeauana</i>	Comb Polypody	N	E
<i>Polygala lewtonii</i>	Lewton's Polygala	LE	E
<i>Polygonella myriophylla</i>	Small's Jointweed	LE	E
<i>Prunus geniculata</i>	Scrub Plum	LE	E
<i>Pteroglossaspis ecristata</i>	Giant Orchid	N	T
<i>Salix floridana</i>	Florida Willow	N	E
<i>Sideroxylon alachuense</i>	Silver Buckthorn	N	E
<i>Stylisma abdita</i>	Scrub Stylisma	N	E
<i>Vicia ocalensis</i>	Ocala Vetch	N	E
<i>Warea amplexifolia</i>	Clasping Warea	LE	E
<i>Warea carteri</i>	Carter's Warea	LE	E

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.

SAT-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.

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.

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

STATE LEGAL STATUS - ANIMALS

FE- Listed as Endangered Species at the Federal level by the U. S. Fish and Wildlife Service

FT- Listed as Threatened Species at the Federal level by the U. S. Fish and Wildlife Service

FXN- Federal listed as an experimental population in Florida

FT(S/A)- Federal Threatened due to similarity of appearance

ST- State population listed as Threatened by the FFWCC. Defined as a species, subspecies, or isolated population which is acutely vulnerable to environmental alteration, declining in number at a rapid rate, or whose range or habitat is decreasing in area at a rapid rate and as a consequence is destined or very likely to become an endangered species within the foreseeable future.

SSC-Listed as Species of Special Concern by the FFWCC. Defined as a population which warrants special protection, recognition, or consideration because it has an inherent significant vulnerability to habitat modification, environmental alteration, human disturbance, or substantial human exploitation which, in the foreseeable future, may result in its becoming a threatened species. (SSC* for Pandion haliaetus (Osprey) indicates that this status applies in Monroe county only.)

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

**** State protected by F.A.C. 68A-16.002 and federally protected by both the Migratory Bird Treaty Act (1918) and the Bald and Golden Eagle Protection Act (1940)**

STATE LEGAL STATUS - PLANTS

E-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.

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

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