



Natural Resources Assessment Report

Westside Boulevard Parcel
Parcel ID: 07-25-27-0000-001B-0000
4.79± Acres in Section 7, Township 25 South, Range 27 East
Osceola County, Florida

GAI Project Number: R221277.00
December 2022

Prepared by: GAI Consultants, Inc.
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Prepared for: Haut Development, LLC
20801 Biscayne Blvd., Suite 403
Aventura, FL 33180

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1.0 Introduction

Haut Development, LLC. is investigating the potential acquisition of an approximately 4.79-acre parcel along West Side Boulevard in unincorporated Osceola County, Florida. GAI Consultants, Inc. (GAI) has been retained by Haut Development, LLC to assess the Westside Boulevard Parcel (Project) site for the presence and landward extent of wetlands and other jurisdictional surface waters and the presence or likely of threatened or endangered species. The Project site was investigated during a field inspection as well as through a review of published data containing information about the Project site's topography, soils, vegetation, and wildlife. The purpose of our research was to document the presence and extent of wetlands on the Project site, the Project site's potential to support listed plants and animals, and the potential constraints on planned future development of the Project site resulting from their presence. No subsurface soil, water quality, archaeological, or hazardous materials investigations were conducted by GAI. Wetlands and surface waters occurring on the site were flagged and will be field located by a Professional Land Surveyor. This report documents the findings of this investigation and the potential ecological permitting requirements and management obligations related to wetlands or listed species documented to occur within or adjacent to the Project site. These findings reflect conditions at the time of the investigation and do not preclude the possibility that site conditions may change. The opinions expressed are those of the writer and should not be viewed as binding on any governmental agency.

2.0 Methodology

The Project site was investigated through review of published information (Appendix A). Further, GAI staff conducted a review of the state's database of species occurrence records and the bald eagle nest location database (Appendix B). A site inspection was conducted on 16 December 2022 by ecologists familiar with the natural communities of Florida to determine the vegetative communities present within the Project site, and to determine the presence of, or potential for use by, listed plant or animal species. The field inspection also allowed the ecologists to confirm or amend the information collected from database searches and the review of published information. Vegetative community types and general observations were recorded via field data sheets and photographs taken of the Project site. A list of plant species encountered was recorded for the Project site. This list reflects representative species observed within the Project site and is not necessarily a complete floristic inventory. The Project site was reviewed for the presence of listed animals through actual observation, signs of scat, prints, or other indications of their presence or utilization of the site.

Statements regarding listed species are based on limited field observations and existing data records, and do not preclude the possibility that listed species may occasionally forage on-site or may move into the Project site in the future, or that protected plants may be discovered on-site when blooming structures are apparent.

3.0 Existing Site Conditions

3.1 Location

The Project site covers approximately 4.79 acres in Section 7, Township 25 South, Range 27 East in Osceola County, Florida (Figure 1). The Project site is bordered by Westside Blvd to the west and by undeveloped lands to the north, east, and south.

3.2 Topography and Drainage

The Project site slopes gradually down from northwest to southeast. The United States Geological Survey (USGS) topographic map (Lake Louisa SW, Florida Quadrangle) depicts the elevation of the Project site to range from 120± feet National Geodetic Vertical Datum (NGVD) along Westside Blvd to below 110± feet along the eastern boundary (Figure 2). The site lies within the Reedy Creek drainage

basin within the South Florida Water Management District (SFWMD). Drainage appears to percolate into the sandy soils, or sheet flows to the eastern side of the Project site.

3.3 Soils

Soil mapping often provides an indication of the historic and current conditions of a site, the potential for presence of sensitive plant communities (e.g., wetlands, scrub, etc.), and the potential for presence of listed plants and animal species that are typically limited to specific plant communities. The United States (U.S.) Department of Agriculture, Natural Resources Conservation Service (NRCS), in the *Soils Survey of Osceola County, Florida* (1979), identified two soil types in the Project site. The soil types are listed below in Table 1 and are depicted on Figure 3.

The western portion of the Project site is mapped as being subtended by Candler sand, 0 to 5 percent slopes. The eastern portion of the Project site is mapped as being underlain by Hontoon muck. The current status of these soils may differ from the NRCS description due to the effects of alteration or off-site drainage modifications.

Table 1
Classification of On-Site Soils

Soil Map Unit ¹	Drainage Class	Significant Hydric Inclusions ²
Candler sand, 0 - 5% slopes (7)	Excessively drained	No
Hontoon muck (15)	Very poorly drained	No

¹ Soil Survey of Osceola County, NRCS (1979)

² Hydric Soils of Florida Handbook, Florida Association of Environmental Soil Scientists

3.4 Land Cover and Vegetation

The land use and vegetative communities occurring on the Parcel site were identified based on published Geologic Information System (GIS) data and the site inspection and classified using the Florida Land Use, Cover and Forms Classification System (FLUCCS), 1999 (Figure 4).

Upland portions of the Project site may be classified as Mixed Coniferous/Hardwood Upland Forest (FLUCCS 434), although there are signs that this area may once have been Longleaf Pine-Xeric Oak (FLUCCS 412). The forest canopy in these areas is dominated by sand live oak (*Quercus geminata*), live oak (*Q. virginiana*), turkey oak (*Q. laevis*), and scattered longleaf pine (*Pinus palustris*) and sand pine (*P. clausa*). Subcanopy vegetation is sparse and scattered within this portion of the Project site, and includes saw palmetto (*Serenoa repens*), winged sumac (*Rhus copallinum*), myrtle oak (*Quercus myrtifolia*), gopher apple (*Geobalanus oblongifolius*), persimmon (*Diospyros virginiana*), and sparkleberry (*Vaccinium myrsinites*). The herbaceous cover is extremely sparse and scattered throughout this community. Dominant species include narrow leaf silk grass (*Pityopsis graminifolia*), cottonweed (*Froelichia floridana*), bracken fern (*Pteridium aquilinum*), goldenaster (*Chrysopsis* sp.), caesarweed (*Urena lobata*), blazing star (*Liatris* sp.), greenbrier (*Smilax laurifolia*), dogfennel (*Eupatorium capillifolium*), blackberry (*Rubus* sp.), prickly pear (*Opuntia* sp.), sky-blue lupine (*Lupinus diffusus*), and muscadine grapevine (*Vitis rotundifolia*).

Forested wetlands occupy the eastern edge of the property and are categorized as Mixed Wetland Hardwoods (FLUCCS 617). Dominant canopy species include laurel oak (*Quercus laurifolia*), pond pine (*Pinus serotina*), loblolly bay (*Gordonia lasianthus*), sweetbay magnolia (*Magnolia virginiana*) and swamp bay (*Persea palustris*). The understory and shrub layer consist of dahoon holly (*Ilex cassine*), wax myrtle (*Morella cerifera*), water oak (*Quercus nigra*), and rusty lyonia (*Lyonia ferruginea*). The herbaceous component of the wetland is composed almost entirely by cinnamon fern (*Osmundastrum cinnamomeum*), with muscadine grapevine and greenbrier.

4.0 Threatened and Endangered Species

The U.S. Fish and Wildlife Service (USFWS) and the Florida Fish and Wildlife Conservation Commission (FWC) list wildlife species that are considered “endangered” or “threatened.” The FWC uses an additional category - “species of special concern” (SSC) - for several animals that may ultimately be listed as endangered or threatened. This classification provides the SSC-listed animal with a level of protection that varies from species to species. The USFWS and the Florida Department of Agriculture and Consumer Services (FDACS) also compile lists of protected plant species. The USFWS classifies protected plants as either endangered or threatened, while the FDACS’ plant list is categorized into endangered, threatened, and “commercially exploited” species.

Prior to the field inspection, various online data sources were accessed in order to collect information concerning the possible presence of state- and/or federally-listed threatened or endangered species within the Project site. These sites included:

- ▶ the USFWS’ website for federally-listed species found within Osceola County;
- ▶ the USFWS’ Information for Planning and Consultation (IPaC) system;
- ▶ the FWC’s website to identify state-listed species known to occur within Osceola County;
- ▶ the Audubon Society’s Audubon Florida Eaglewatch Nest Application; and
- ▶ the Florida Natural Areas Inventory (FNAI) database and Biodiversity Matrix for known occurrences of listed species or critical habitat.

In addition, GIS data layers providing species occurrence records were obtained from the FWC and the FNAI and used in our determination of whether protected species may occur within the vicinity of the Project site. Our field inspection consisted of a series of meandering pedestrian transects throughout the Project site to evaluate existing land use and ascertain the likelihood that it may support protected species through the observation of individuals, tracks, burrows, scat, or other indications of listed plants and/or animals.

Numerous protected animal and plants are known to occur in Osceola County. Based on review of published data sources, it was determined that there is concern for the potential presence of the following animal species: Florida panther (*Puma concolor coryi*), bald eagle (*Haliaeetus leucocephalus*), Audubon’s crested caracara (*Polyborus plancus audubonii*), eastern black rail (*Laterallus jamaicensis jamaicensis*), everglades snail kite (*Rostrhamus sociabilis plumbeus*), Florida grasshopper sparrow (*Ammodramus savannarum floridanus*), Florida scrub-jay (*Aphelocoma coerulescens*), red cockaded woodpecker (*Picoides borealis*), gopher tortoise (*Gopherus polyphemus*), eastern indigo snake (*Drymarchon corais couperi*), and sand skink (*Neoseps reynoldsi*). Potential plant species include Britton’s beargrass (*Nolina brittoniana*), Lewton’s polygala (*Polygala lewtonii*), papery whitlow-wort (*Paronychia chartacea*), pigeon wings (*Clitoria fragrans*), pygmy fringe tree (*Chionanthus pygmaeus*), sandlace (*Polygonella myriophylla*), scrub buckwheat (*Eriogonum longifolium* var. *gnaphalifolium*), and wide-leaf warea (*Warea amplexifolia*). Although suitable habitat is not present on the Project site for some of the species listed in the IPaC data, each threatened or endangered animal species listed in the IPaC data is discussed in this report. These findings do not preclude the possibility that these or other protected animals may occasionally forage in the area or may migrate into the area in the future. Habitat requirements and the probability of occurrence for these species are provided below.

Bald Eagle

GAI conducted a bald eagle nest search following the procedures of the FWC’s *Historic Eagle Nest Locator Database* (2018) and the Audubon Society’s *Audubon Florida Eaglewatch Nest Application* (2022). The bald eagle has been removed from the FWC’s list of threatened and endangered species and is no longer listed under the federal Endangered Species Act. However, it should be noted that protection of the bald eagle continues under the federal Bald and Golden Eagle Protection Act, the

Migratory Bird Treaty Act, and by the revised management plans issued by the FWC and the USFWS. The FWC database search revealed that the Project site does not occur within or near the designated protection zone of any eagle nests. The closest nest (designated OS104) is located approximately 0.39-mile to the northwest of the Project site. Unless a new nest is identified within 660 feet of the site, no coordination with the FWC is necessary.

Florida Panther

The main threats to Florida panther populations include habitat loss and degradation and human conflict, including road kills. Preservation of large natural landscapes and increased public awareness are included in the Florida Panther Recovery Plan (2008) to help maintain and increase the survival of the Florida panther. This species is a large feline with a long tail. Fur is dark buff to tawny above and light buff to white below. This species requires large tracts of forested habitats with dense understory vegetation and large wetlands to be used for diurnal refuge. Panthers select habitat based on prey availability. In Florida, the panther is found year-round, predominately in Collier, Glades, Lee, Monroe, and Miami-Dade counties. However, dispersing individuals can be found well north in the peninsula of Florida searching for new territories.

The Project site falls just inside of the northern boundary of the USFWS consultation area for this species. There have been no known records of Florida panthers occurring within the vicinity of the Project site. Additionally, the Project is not within a Panther Focus Area (Primary, Secondary, or Dispersal Zones, or Primary Dispersal/Expansion Area). Based on the USFWS Panther Key (February 19, 2007), a project is considered to have an effect on panthers if there has been documented physical evidence of panthers within a two-mile radius of a project within the past two years. Documented evidence includes telemetry locations, photographs, tracks, prey kills, or other verifiable evidence. Currently, the Project site does not meet these criteria; thus, the Project would be considered to have no effect on the Florida panther.

Audubon's Crested Caracara

Audubon's crested caracara is listed as federally threatened. It is a raptor which inhabits a variety of open herbaceous habitats. The Project site lies at the northern edge of the species' historic range, and the species has rarely been seen in the Orlando metropolitan area in recent years. There is no open herbaceous habitat available for this species on the Project site, thus the species is highly unlikely to occur.

Eastern Black Rail

The eastern black rail is listed as federally threatened. It is a small secretive bird that inhabits marshes and wetlands in eastern North America. No suitable habitat is available for this species on the Project site. The species is unlikely to occur, and the species is unlikely to pose any constraints to development of uplands on the Project site.

Everglades Snail Kite

The Everglades snail kite is listed as federally endangered. It is a medium-sized hawk that preys almost exclusively on apple snails. No foraging habitat for this species is available within the Project site. The species is unlikely to pose any constraints to development of uplands on the Project site.

Florida Grasshopper Sparrow

The Florida grasshopper sparrow is listed as federally endangered. Florida grasshopper sparrows inhabit dry open prairies that contain bunch grasses, low shrubs, and saw palmetto. They can be found in south-central Florida in the counties of Polk, Osceola, Highlands, and Okeechobee. Adults are sedentary, using the same territory during successive years. Nests are made of grass and are dome-shaped and usually located in a slight depression in the ground, well-concealed by clumps of dwarf live oak, wire grass, or saw palmetto. Dry prairie vegetative communities do not occur on the Project site. The Project would be anticipated to have no effect on this species.

Florida Scrub-Jay

The Florida scrub-jay (scrub-jay) prefers low growing oak scrub habitats, including sand pine and scrubby flatwoods. Optimal habitat includes scrub oak with most of the oaks and other shrubs limited to 1-4 meters (m) in height, interspersed with numerous small patches of bare sand. Fire is a frequent natural event in scrub habitats and serves to maintain the habitat. Fire suppression and development of the habitat has made this species vulnerable to extinction.

Scrub-jays are similar in size and shape to their relative, the blue jay, but they differ strikingly in color pattern and exhibit subtle markings as opposed to the blue jay. They have a pale blue head, nape, wings, and tail and are pale gray on the back and belly. A white eyebrow blends with a frosted white forehead. The throat and upper breast are faintly striped and bordered by pale blue, forming a distinct bib. The scrub-jay is relatively sedentary and rarely sustains a flight of more than a kilometer. The scrub-jay is a non-migratory species.

Although the Project is within the USFWS consultation area for the scrub-jay, there is no suitable habitat for this species within the Project site. Additionally, no scrub-jays were observed within the Project site. Therefore, the Project should have no effect on the Florida scrub-jay.

Red-Cockaded Woodpecker

Red-cockaded woodpeckers inhabit open, mature pine woodlands that have a diversity of grass and shrub species. Preferred habitat includes old growth longleaf pine flatwoods in north and central Florida and mixed longleaf pine and slash pine in south-central Florida. The red-cockaded woodpecker creates cavities within the longleaf pine tree and relies on the tree's production of resin to protect them from predators. Development of longleaf pine habitat, as well as fire exclusion in this fire-dependent ecosystem, has led to a large decrease in populations of red-cockaded woodpeckers.

The Project site is located within the USFWS consultation area for the red-cockaded woodpecker; however, habitat for the red-cockaded woodpecker does not occur within the Project site. Additionally, no red-cockaded woodpeckers, or evidence of red-cockaded woodpeckers, have been observed within the Project site. Thus, the Project will have no effect on the red-cockaded woodpecker.

Gopher Tortoise

The gopher tortoise is listed as threatened by the FWC. The gopher tortoise requires well-drained and loose sandy soils for burrowing, and low-growing herbs and grasses for food. These habitat conditions are best provided in the sandhill (longleaf pine-xeric oak) community, although tortoises are known to use many other habitats, including sand pine scrub, xeric oak hammocks, dry prairies, pine flatwoods, and ruderal sites, including pastures. Two potentially occupied gopher tortoise burrows were observed during the field investigation. Based on this number of potentially occupied burrows and the typical percentage of burrows actually occupied by tortoises, we estimate that a population of up to 10 tortoises inhabit the Project site. Tortoise burrows were located in the central portion of the Project site.

For future Project site development, a management plan would need to be produced in coordination with the FWC. As a part of that process, a 100% survey of the suitable habitat areas would be conducted, and any tortoises that are within 25 feet of any proposed construction areas relocated prior to the initiation of any site development activities. The most likely permit to be required for this site is a "10 or Fewer Borrows" permit which allows tortoise burrows to be excavated and the tortoises to be relocated to an off-site long-term FWC-approved recipient site. In recent years, FWC approved relocation sites have become scarce as the existing sites have been filled to near their capacity. The quantitative survey necessary to begin the application process is typically conducted 90 to 120 days (weather-permitting) prior to the anticipated commencement of construction to allow adequate time for application preparation, review of the application by the FWC, and the capture and relocation of the tortoises.

Eastern Indigo Snake

Gopher tortoise burrows harbor and protect several commensal species, including the eastern indigo snake, which is listed by both the USFWS and the FWC as threatened. This species was not observed during the field investigation. The FWC recognizes the limitations of current survey methodologies to locate this species and generally manages for this species under the regulatory umbrella of the gopher tortoise. If eastern indigo snakes are observed within or adjacent to the project site, a management plan can be prepared consisting of educational pamphlets for the construction crew instructing them not to kill the snakes, and to allow them to pass through the work area unmolested.

Sand Skink

The sand skink is listed as a threatened species by both the USFWS and the FWC. The sand skink exists in areas dominated by xeric vegetation such as oak dominated scrub, turkey oak barrens, high pine, and xeric hammocks. Skinks typically occur in open sandy patches within these habitat types. The species usually remains underground and burrows 5 to 10 centimeters (2 to 4 inches) beneath the soil to find its food.

The Project site falls within the limits of the "Consultation Area" established by the Service in their sand skink survey protocol (April 4, 2011). The USFWS' sand skink survey protocol makes presumptions regarding site location (within the "Consultation Area"), site elevations (at or above 82 feet NGVD), and the mapped presence of several soil types considered to be "suitable." Meeting these conditions, a project proposing to disturb soils must either presume the presence of sand skinks and the "appropriate avoidance, minimization, mitigation, or conservation measures should be implemented," or conduct a sand skink survey to confirm or refute the presence of the species on-site. In addition to occurring within the "Consultation Area," soils considered to be suitable for sand skink habitation are mapped as underlying the upland portion of the Project site. Finally, the USGS topographic map (Figure 2) indicates the entire Project site is above the critical elevation of 82 feet NGVD.

GAI recommends the preparation of an informal consultation document for review and consideration by the USFWS, requesting guidance as to how to address potential concerns for the presence of this species on the Project site.

Britton's Beargrass

This clump-forming perennial grows from a short, thick, fleshy, bulblike rootstock. The leaves are 1 to 2 meters long and 6 to 13 millimeters wide, forming a rosette. When in bloom, these branches are covered with small white six-parted flowers. This species occurs in scrub, high pine, and even occasionally in hammocks and sandhills. Habitat does exist within the Project site, but no individuals were observed during field reconnaissance. Therefore, a determination of no effect has been made for this species.

Lewton's Polygala

Lewton's polygala is listed as federally endangered. Lewton's polygala is a perennial with a taproot that produces one to several annual stems, which are spreading, upward curving, or erect, and are often branched. The leaves are small, sessile, rather succulent, broader toward the tip, and are borne upright, tending to overlap along the stem, like shingles. The normally opening flowers are in erect, loosely flowered racemes up to 0.6-inch (in) [1.5 centimeters (cm)] long. The racemes are about 0.2-in (0.5-cm) long and are bright pink or purplish-red. Each flower is about 0.4-in (0.36-cm) long. Two of the five sepals are enlarged and wing-like, between which the largest of the three petals forms a keel that ends in a tuft of finger-like projections.

Lewton's polygala occurs in dry upland communities in central Florida including scrub, high pine, or intermediate "turkey oak barrens" and in the coastal scrub community in the northwestern part of the state. Lewton's polygala is most often found in the habitats intermediate between high pine and scrub (turkey oak barrens) but does occur in both habitats.

While suitable habitat occurs on the Project site, no individuals were observed during field reconnaissance. Therefore, a determination of no effect has been made for this species.

Papery Whitlow-Wort

Papery whitlow-wort is an annual herb, growing up to 4 in tall, that forms bright green mats of many stems radiating from a taproot. Stems fork repeatedly, bearing leaves that are scalelike and rarely longer than 0.12-in. Numerous white flowers appear alone or in clusters of three. The flowers, which bloom in summer, have five tiny sepals and lack petals.

Papery whitlow-wort occurs in bare, sandy clearings within sand pine scrub vegetation, and is nearly always found with inopina oak and rosemary. The papery whitlow-wort is often found in association with railroad and highway rights-of-way, along fence lines, and bordering cattle pastures. The populations that are in association with pastures grow in the transition zone from pasture to undisturbed scrublands.

It does not appear the Project site provides suitable habitat for this species, and no individuals were observed during field reconnaissance. Therefore, a determination of no effect has been made for this species.

Pigeon Wings

Pigeon wings is listed as federally threatened. Pigeon wings is a long-lived perennial herb, 6-20 in (15-50 cm) tall, with an erect habit. The thick horizontal root, which may grow to more than 6.5 feet (ft) (2 m) long, bears one to several purplish, glaucous, wiry, crooked stems. The somewhat leathery leaves consist of three leaflets. Leaflets of the upper leaves are obtuse at the tip and narrower than those of lower leaves.

Pigeon wings has two kinds of flowers—colorful insect-pollinated flowers and self-pollinating flowers. Cross-fertilization of the self-pollinating flowers is prevented since the flowers do not open. The colorful flowers usually occur in pairs, each corolla consisting of one standard petal, 1.4-1.8 in long or 1.8-2 in long, and a small white keel. The common name of this species refers to the petals of the chasmogamous flowers, which resemble wings. Pigeon wings plants are easily recognizable due to the inverted position of these pale purple flowers.

Some research indicates the species is found primarily within habitats intermediate with high pine and scrub; other surveys located the species from scrub, turkey oak barrens, and the edges of high pines. Still other surveys report pigeon wings from scrubby high pine, more typical of hickory-dominated scrub (the hickory phase of high pineland).

Though the species may exist in a continuum of scrub to high pine habitat, it appears that it is most prevalent in an intermediate vegetative complex commonly referred to as the turkey oak barrens. In this habitat, wiregrass may be locally patchy or scattered, longleaf pine scattered, while bluejack and turkey oak are usually prominent.

Pigeon wings is distributed in Florida along the Lake Wales Ridge primarily in the Highlands, Orange, and Polk Counties. It was also found at one site in central Osceola County in 1964 and near Leesburg, Lake County, in 1910. It has not recently been reported from either historic locality.

The Project site provides suitable habitat for this species, but the species is not known to occur in this area, and none were observed during site reconnaissance.

Pigmy Fringe-tree

Pygmy fringe-tree is listed as federally endangered. It is a large shrub that occurs primarily in scrub and other xeric habitats, primarily on the Lake Wales ridge. It is a fire-dependent species and has twice been vouchered in Osceola County (1996 and 1997). Because the Project site has been fire suppressed for many decades, and the site is far from the pygmy fringe-tree's core habitat on the Lake Wales ridge, it is very unlikely to occur, and this species was not observed during inspection of the Project site.

Sandlace

Sandlace is listed as federally endangered. Sandlace is a sprawling shrub with reddish-brown bark that looks somewhat like the ornamental creeping juniper. Its many branches zigzag along the ground and root at the nodes, forming low mats. The lower parts of the creeping branches have bark that crack and partly separates in long, flat, interlacing strips. The short lateral branches end in flowering racemes. Sandlace has the sheathing leaf stipules typical of the jointweed family. The leaves are needlelike and are 0.01-0.4-in in length. The small, white or cream-colored flowers have white petal-like sepals up to 0.13 in long.

This low, spreading shrub thrives in areas of bare white or yellow sand created by moderate disturbance. It is not known whether regular fires are needed to maintain bare sand habitat for this species or whether the allelopathic nature of the species creates and maintains sufficient bare sand for the species to persist. Where found, sandlace is a dominant part of the groundcover vegetation in young scrubs. In many localities, however, the herbaceous layer is poorly developed because of the xeric conditions. The shrub layer of this habitat is dominated by oaks and ericaceous plants. Any overstory trees are usually widely spaced, forming an open canopy.

Sandlace persists in scrub habitats with substantial bare ground. These patchy habitats are commonly found after intense fires in sand pine scrub. This habitat condition is also common within rosemary scrub due to extreme xeric conditions and allelopathic features of several species that limit vegetative growth. Persistent, patchy, open sands are not prevalent in oak dominated scrubs since fires are more frequent and less devastating.

The Project site does not provide the typical habitat for this species, and none were observed during site reconnaissance.

Scrub Buckwheat

Scrub buckwheat is federally listed as threatened. Scrub buckwheat is a perennial herb with a single stem that grows from a stout, woody root. Most of the leaves are at the base of the stem. The leaves are 6-8 in long, narrowly oblanceolate, entire, and green or bronze-green above, densely white-woolly beneath. The leaves on the stem are smaller and arranged alternately. The stem is erect, up to 3 ft tall, and terminates in an open panicle. Each branch of the panicle ends in a cup-shaped involucre, with 5-8 teeth about 0.2-in long. Within each involucre, 15-20 flowers form a cluster, with the stalk of each flower starting out erect, then reflexing so the flower hangs down below the involucre. Each flower is 0.2-0.3-in long, with six linear sepals. The involucre and flowers are silvery, silky-pubescent.

Scrub buckwheat occurs in dry upland communities in central Florida including scrub, high pine, or intermediate "turkey oak barrens" and in the coastal scrub community in the northwestern part of the state. Scrub buckwheat occurs in habitats intermediate between scrub and sandhills (high pine), and in turkey oak barrens.

Scrub buckwheat is found from Marion County to Highlands County. The northern range limit for this subspecies is in Ocala National Forest and areas of mixed scrub and high pine south of Ocala in Marion County. The plant may occur as far south as Sumter County. Other scattered localities include sites in Lake, southwest Orange, and northwest Osceola Counties as well as along the Lake Wales Ridge in Polk and Highlands County.

The Project site does not provide the typical habitat for this species, and none were observed during site reconnaissance.

Wide-Leaf Warea

Wide-leaf warea is listed as federally endangered. It is an erect herb formed of slender branching stems, up to 3 ft (1 m) tall, arising from an elongated tap root. Stalkless leaves are alternate and heart-shaped, up to 1.5 in (4 cm) long. Showy flowers, made up of four purple petals and protruding stamens, are borne in rounded clusters at the ends of the stems.

This species is adapted to the specialized habitat created by the Lake Wales Ridge of central Florida, an upland area of dry, sandy soil that reaches an elevation of 300 ft (100 m). The ridge extends northward from central Highlands County through Polk and Lake counties and gradually disappears in southern Marion County.

Wide-leaf warea is native to central Florida and particularly to the region comprising Lake County, western Orange County, northwestern Osceola County, and northern Polk County. The habitat is lightly forested with long-leaf and sand pines and associated scrub communities of oaks and rosemary.

When federally listed in 1987, the plant survived at four sites in Lake and Polk counties. The largest population of about 700 plants was found near Clermont (Lake). A population of about 250 plants near Leesburg (Lake) was surrounded by houses and citrus groves. Near Haines City (Polk) about 200 plants survived in a privately owned lot of about 2 acres.

The Project site does not provide the typical habitat for this species, and none were observed during site reconnaissance.

Other Listed Plants

Most listed plants documented to occur in Osceola County are either associated with wetlands or scrub habitat. One plant listed by the FDACS was observed during the field investigation. Cinnamon fern, listed as commercially exploited, was observed within the wetland portions of the Project site. Please note that the incidental destruction of state-listed rare or commercially exploited plants, as may be caused by clearing associated with construction or agriculture, are neither regulated nor prohibited by the FDACS. No further coordination with the FDACS is currently required as it relates to listed plants. Further consultation with the USFWS may be necessary if any other plants noted above are observed when blooming structures are apparent and more easily observed.

5.0 Wetland Jurisdiction and Permitting

The Project site lies within the Reedy Creek Hydrologic Basin and appears to include a forested wetland associated with the Davenport Creek Swamp. The landward limits of the wetlands occurring within the Project site were delineated and the flags will be field-located by the project surveyor. The approximate extent of the wetlands is depicted on the Existing Land Cover Map (Figure 4). This line is based on mapping prepared by the SFWMD. This may not represent the limit that will be prepared by the project surveyor, but may be used for preliminary planning purposes. The surveyed wetland limits should also be considered to be preliminary until the line has been reviewed and approved by SFWMD staff. Consultation and permitting with the SFWMD will be required for Project development and any required stormwater management plans.

The U.S. Environmental Protection Agency delegated most of the responsibility for federal wetland permitting under Section 404 of the Clean Water Act to the Florida Department of Environmental Protection (FDEP). Any site development that will involve impacts to wetlands will require review and approval by the FDEP. Should wetland impacts be proposed, mitigation is available through the purchase of mitigation bank credits from the Reedy Creek Mitigation Bank. These credits are priced at \$135,000 per credit.

6.0 Summary

This Natural Resources Assessment was conducted to document the presence of wetlands on the Project site and the potential use of the Project site by, or potential presence within the Project site of, protected species and the potential constraints and management obligations posed by their presence.

The Project site is bordered by Westside Boulevard and undeveloped lands.

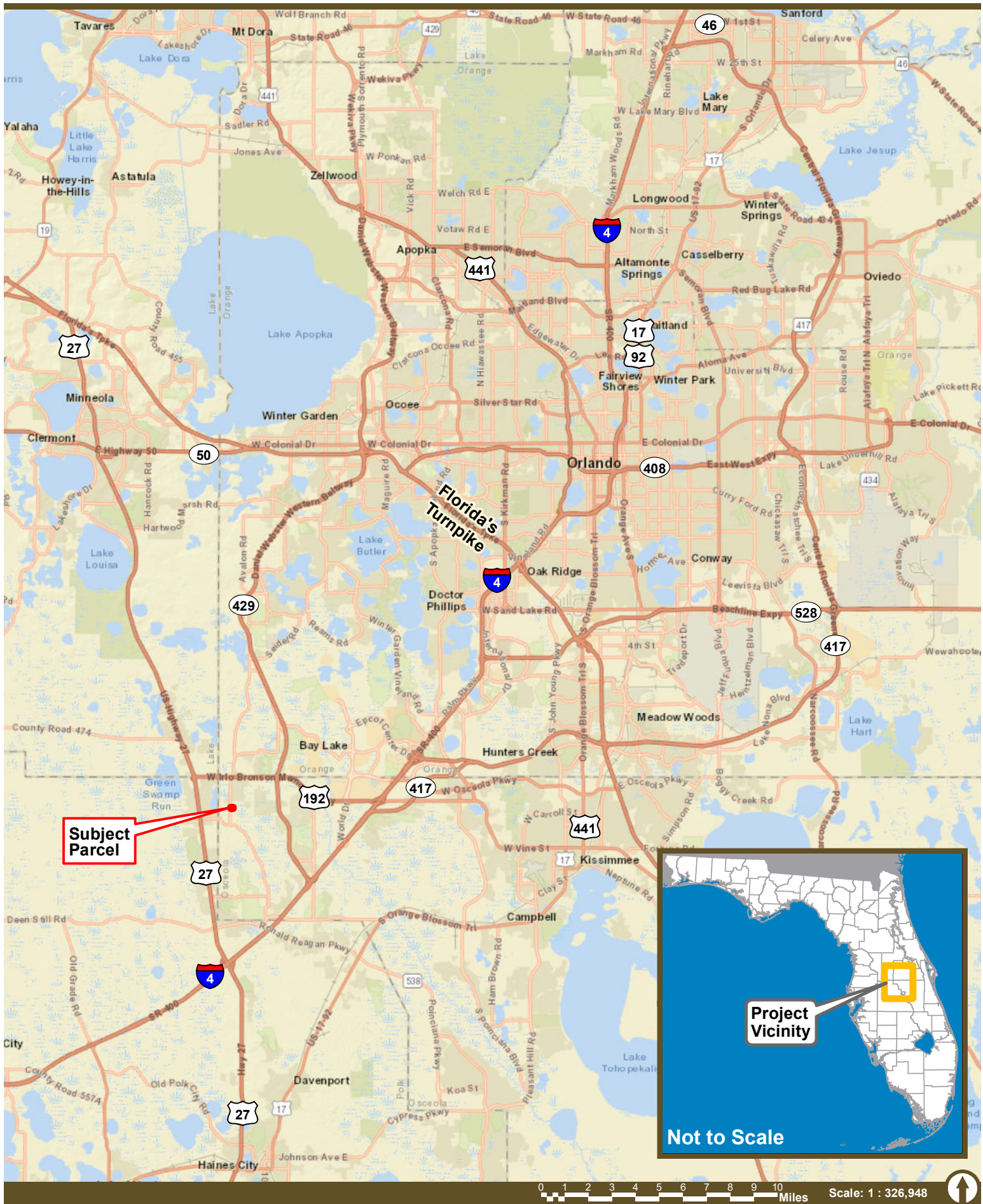
The Project site was observed to contain a forested wetland plant community and the landward extent of the wetland within the Project site was field-delineated. The wetland limit is pending location by a Professional Land Surveyor.

The Project site was found to have potentially occupied gopher tortoise burrows, which will require management of the affected tortoises under state regulations. The Project site also has a potential for the presence of eastern indigo snake. This species is typically addressed under the umbrella of gopher tortoise management plans, although a site-specific educational program and work plan for eastern indigo snake may be required during site construction and operational activities.

The Project site was also observed to be suitable habitat for sand skink. Based on USFWS guidelines, consultation with the USFWS and a formal survey may be necessary to refute the presumed presence of this species on the Project site.

No plants listed by the USFWS were observed within the Project site. One plant listed by the FDACS was found to occur within the wetland on the Project site. The state of Florida does not prohibit the loss of these species caused by clearing activities associated with agriculture or site development. No coordination with the USFWS or the FDACS is required regarding listed plant species. This assessment should be updated if greater than one year passes prior to Project site development activities.

FIGURES



Subject Parcel

Project Vicinity

Not to Scale

0 1 2 3 4 5 6 7 8 9 10 Miles Scale: 1 : 326,948



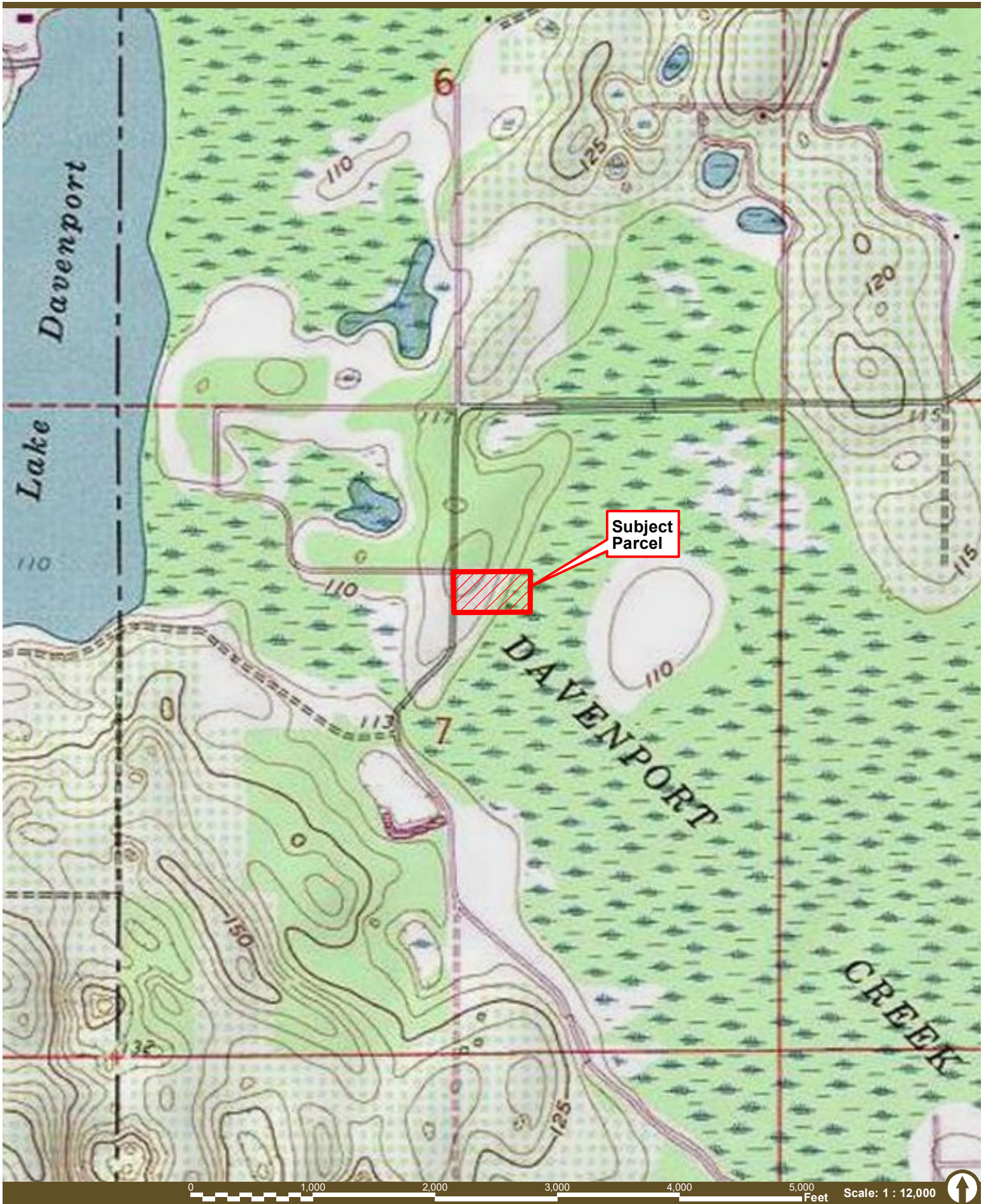
Westside Boulevard Parcel
Parcel ID: 07-25-27-0000-001B-0000

4.79 acres in
Sec 7, Tns 25 S, Rng 27 E
Osceola County, Florida

Project Vicinity

Drawn by: JGS
Date: 2022.12.16
R221277.00-F1.MXD

1



Map Legend

Subject Parcel



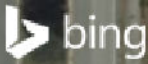
Soils



Soils delineation & classification from NRCS
Soil Survey of Osceola County, Florida.

Soil Classification Legend

- 7 Candler sand, 0-5% slopes
- 15 Hontoon muck
- 16 Immokalee fine sand



0 100 200 300 400 500 Feet Scale: 1 : 1,200



Westside Boulevard Parcel
Parcel ID: 07-25-27-0000-001B-0000

4.79 acres in
Sec 7, Tns 25 S, Rng 27 E
Osceola County, Florida

NRCS Soils Map
From NRCS Soil Survey
of Orange County, Florida

Drawn by: JGS
Date: 2022.12.16
R2221277.00-F3.MXD

Map Legend

Subject Parcel



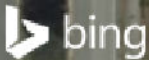
Existing Land Cover



Existing land cover delineation and classification (2019) provided in GIS format by South Florida Water Management District (SFWMD).

Existing Land Cover

- 121 Medium density residential
- 434 Mixed Coniferous/Hardwood Upland Forest
- 617 Mixed Wetland Hardwoods
- 621 Cypress
- 630 Mixed Wetland Forest



0 100 200 300 400 500 Feet Scale: 1 : 1,200



gai consultants

Westside Boulevard Parcel
Parcel ID: 07-25-27-0000-001B-0000

4.79 acres in
Sec 7, Tns 25 S, Rng 27 E
Osceola County, Florida

Existing Land Cover

Drawn by: JGS
Date: 2022.12.16
R2221277.00-F4.MXD

APPENDIX A

Information Sources

Information sources used for the Westside Boulevard Parcel Project included:

- ▶ Aerial photography provided in GIS format by ESRI and Microsoft Bing Maps.
- ▶ Audubon Florida Eaglewatch Public Nest App. ArcGIS Web Application 2022.
- ▶ Florida Association of Professional Soil Classifiers. Hydric Soils of Florida Handbook, 1 ed. 1990.
- ▶ Florida Department of Agriculture and Consumer Services, Division of Plant Industry. 2010. "Notes of Florida's Endangered and Threatened Plants."
- ▶ Florida Department of Transportation, January 1999, Florida Land Use, Cover and Forms Classification System.
- ▶ Florida Fish and Wildlife Conservation Commission. Florida's Endangered and Threatened Species. Updated June 2021.
- ▶ Florida Fish and Wildlife Conservation Commission, Gopher Tortoise Permitting Guidelines, July 2012, revised July 2020.
- ▶ Florida Natural Areas Inventory, Species and Communities database.
- ▶ Soil Survey of Osceola County. 1979. Natural Resources Conservation Service.
- ▶ United States Fish and Wildlife Service, Osceola County Federally-Listed Species. February 2018.
- ▶ United States Fish and Wildlife Service - Information for Planning and Consultation (IPaC) system. 2022.
- ▶ United States Geological Survey Topographic Survey Map: Lake Louisa SW, Florida; provided in GIS format by ESRI.

APPENDIX B

Wildlife Agency Correspondence

Measurement

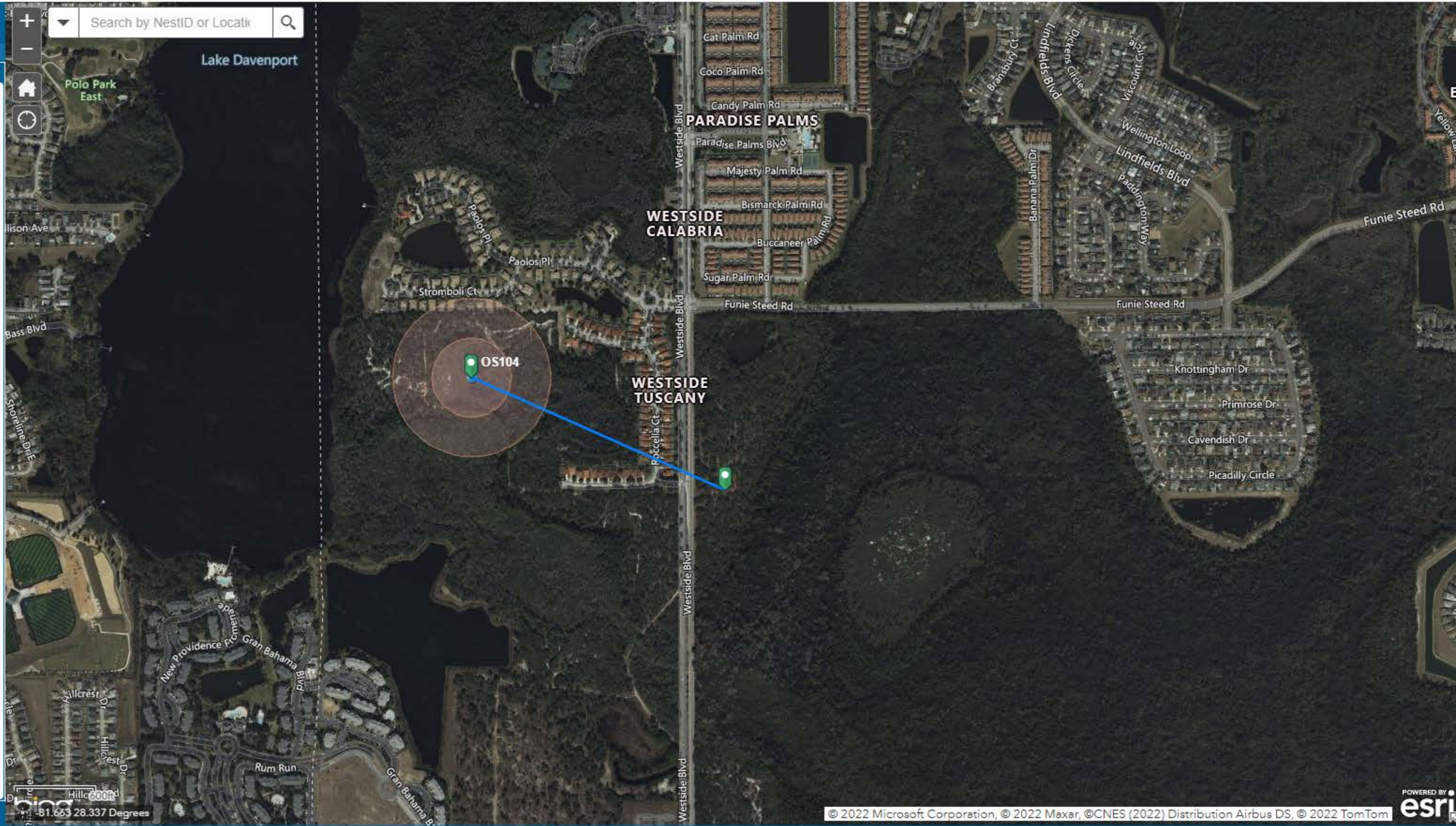
Miles

Measurement Result

0.39 Miles

Clear

Press CTRL to enable snapping



1 Find location

2 Define area

3 Confirm

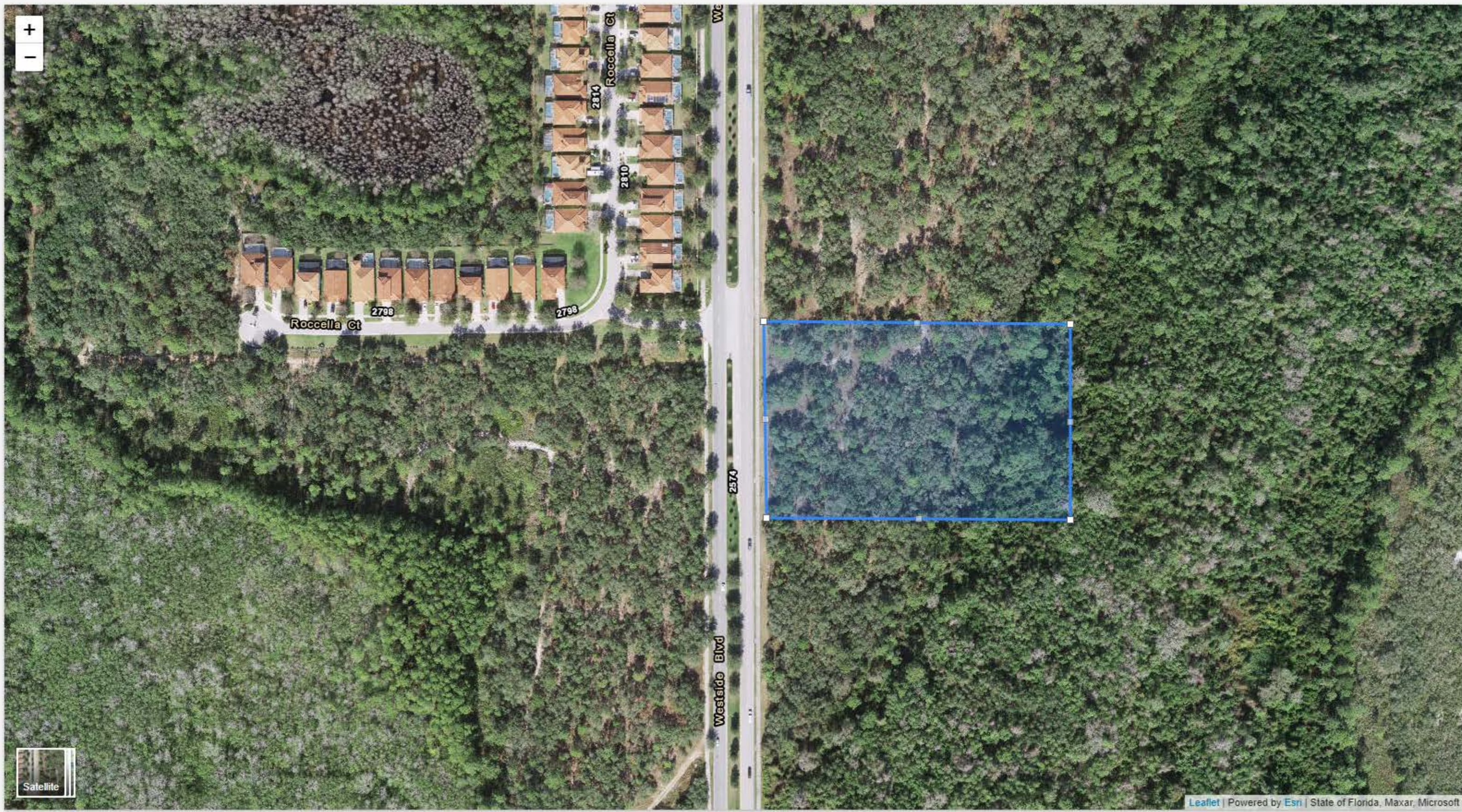
Verify the area where project activities will occur

Modify the shape by clicking and dragging the vertices or clicking on a solid vertex to remove it

AREA: 4.79 acres

CONTINUE

START OVER



New! Layers ADD



IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Osceola County, Florida



Local office

Florida Ecological Services Field Office

☎ (772) 562-3909

📠 (772) 562-4288

✉ fw4flesregs@fws.gov

1339 20th Street
Vero Beach, FL 32960-3559

<https://www.fws.gov/office/florida-ecological-services>

NOT FOR CONSULTATION

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

-
1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information. IPaC only shows species that are regulated by USFWS (see FAQ).

2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
<p>Florida Panther <i>Puma (=Felis) concolor coryi</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/1763</p>	Endangered
<p>Puma (=mountain Lion) <i>Puma (=Felis) concolor</i> (all subsp. except <i>coryi</i>) No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/6049</p>	SAT

Birds

NAME	STATUS
<p>Audubon's Crested Caracara <i>Polyborus plancus audubonii</i> No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/8250</p>	Threatened
<p>Eastern Black Rail <i>Laterallus jamaicensis ssp. jamaicensis</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/10477</p>	Threatened
<p>Everglade Snail Kite <i>Rostrhamus sociabilis plumbeus</i> Wherever found There is final critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/7713</p>	Endangered
<p>Florida Grasshopper Sparrow <i>Ammodramus savannarum floridanus</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/32</p>	Endangered

Florida Scrub-jay *Aphelocoma coerulescens* **Threatened**
Wherever found
No critical habitat has been designated for this species.
<https://ecos.fws.gov/ecp/species/6174>

Red-cockaded Woodpecker *Picoides borealis* **Endangered**
Wherever found
No critical habitat has been designated for this species.
<https://ecos.fws.gov/ecp/species/7614>

Reptiles

NAME	STATUS
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American Alligator <i>Alligator mississippiensis</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/776	SAT
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Blue-tailed Mole Skink <i>Eumeces egregius lividus</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/2203	Threatened
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Eastern Indigo Snake <i>Drymarchon couperi</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/646	Threatened
---	-------------------

Sand Skink <i>Neoseps reynoldsi</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4094	Threatened
--	-------------------

Insects

NAME	STATUS
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Monarch Butterfly <i>Danaus plexippus</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate
--	------------------

Flowering Plants

NAME	STATUS
<p>Britton's Beargrass <i>Nolina brittoniana</i> No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4460</p>	Endangered
<p>Lewton's Polygala <i>Polygala lewtonii</i> No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/6688</p>	Endangered
<p>Papery Whitlow-wort <i>Paronychia chartacea</i> No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/1465</p>	Threatened
<p>Pigeon Wings <i>Clitoria fragrans</i> No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/991</p>	Threatened
<p>Pygmy Fringe-tree <i>Chionanthus pygmaeus</i> No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/1084</p>	Endangered
<p>Sandlace <i>Polygonella myriophylla</i> No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/5745</p>	Endangered
<p>Scrub Buckwheat <i>Eriogonum longifolium</i> var. <i>gnaphalifolium</i> No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/5940</p>	Threatened
<p>Wide-leaf Warea <i>Warea amplexifolia</i> No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/412</p>	Endangered

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <https://www.fws.gov/program/migratory-birds/species>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern \(BCC\)](#) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
<p>American Kestrel <i>Falco sparverius paulus</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9587</p>	Breeds Apr 1 to Aug 31
<p>Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.</p>	Breeds Sep 1 to Jul 31
<p>Chimney Swift <i>Chaetura pelagica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds Mar 15 to Aug 25
<p>Great Blue Heron <i>Ardea herodias occidentalis</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA</p>	Breeds Jan 1 to Dec 31
<p>King Rail <i>Rallus elegans</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8936</p>	Breeds May 1 to Sep 5
<p>Prairie Warbler <i>Dendroica discolor</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds May 1 to Jul 31
<p>Red-headed Woodpecker <i>Melanerpes erythrocephalus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds May 10 to Sep 10
<p>Swallow-tailed Kite <i>Elanoides forficatus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8938</p>	Breeds Mar 10 to Jun 30

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

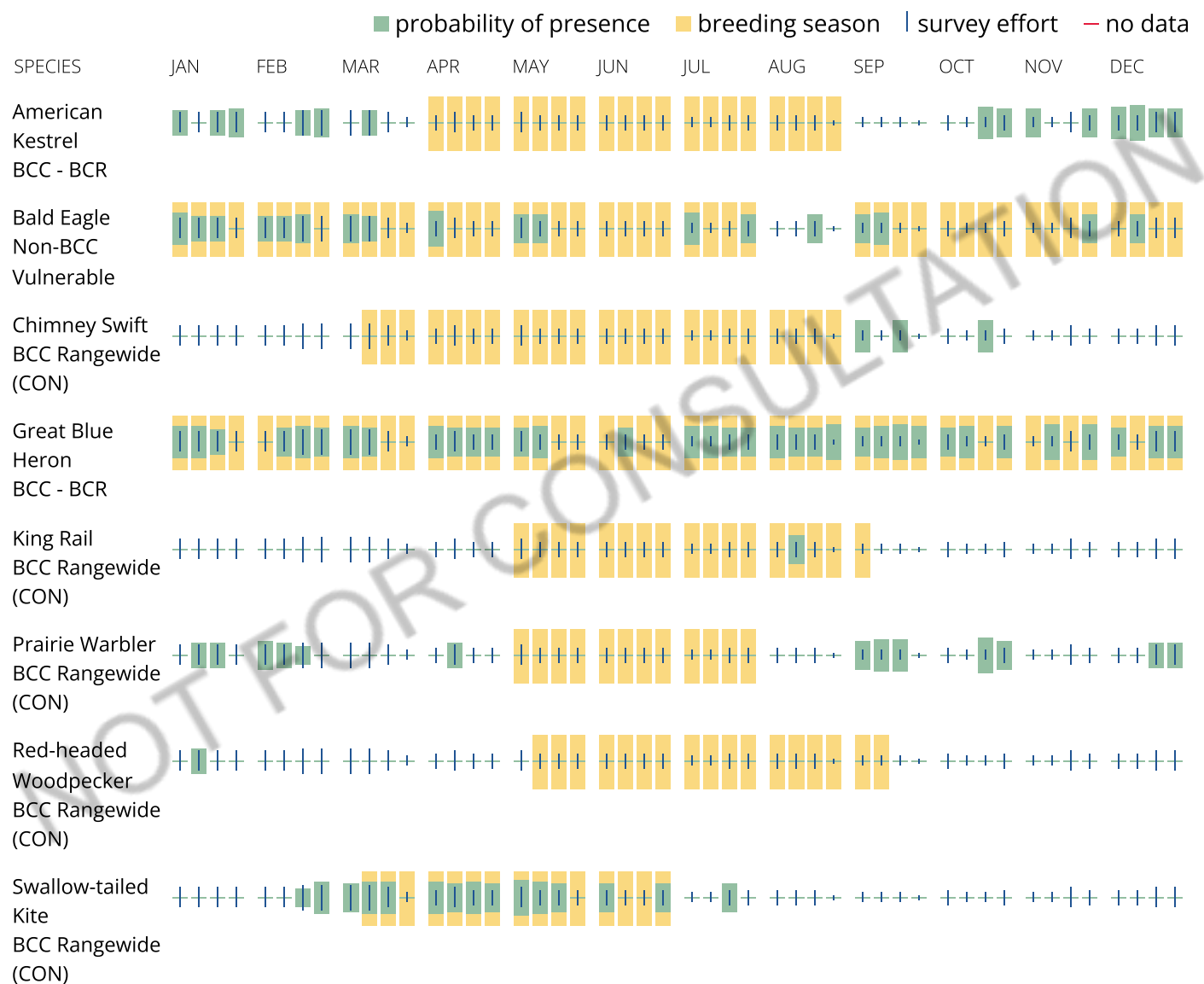
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (-)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure.

To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the [RAIL Tool](#) and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in

offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

This location did not intersect any wetlands mapped by NWI.

NOTE: This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.