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August 14, 2023

Dr. Jeffery Esch
jeschdvm@gmail.com

RE: Howey in the Hills
Protected Species Report
Lake County, FL
AES #23-106

Dear Dr. Esch,

Atlantic Ecological Services, LLC (AES) visited the Howey in the Hills Property for the purposes of conducting a review for the presence of protected species based on direct and indirect observations, as well as to determine potential for occurrence of protected species based on suitable habitat. The site assessment was conducted on August 8, 2023. The property is located west of Highway 19, south of Revels Road, and north of Woodland Hills Court. The project area consists of Lake County Parcel ID #02-21-25-0002-000-00500, and is approximately 3.61 acres in total size. The subject property is located in Section 2, Township 21 South, Range 25 East in Lake County, Florida. Please see the attached Location and Aerial Maps.

This general area is known to be occupied by the protected gopher tortoise (*Gopherus polyphemus*) and lies within the Consultation Area for the blue-tailed mole skink (*Eumeces egregius lividus*) and sand skink (*Neoseps reynoldsi*).

Prior to clearing and grading a gopher tortoise survey is required by The Florida Fish & Wildlife Conservation Service (FWC), as well as a blue tailed mole and sand skink survey by the U.S. Fish & Wildlife Service (USFWS). The results are documented within this letter report.

METHODS

Wetland Delineation

Criteria used to determine the presence of the boundaries of wetlands and surface waters were in accordance with Chapter 62-340 F.A.C. There are no wetlands within the subject parcel.

Habitat Mapping

Each community and land use area was categorized according to the Florida Department of Transportation's (FDOT) 1999 *Florida Land Use, Cover and Forms Classification System* (FLUCCS). The boundaries of each FLUCCS code were delineated based on vegetative composition, soil characteristics, topography, and aerial interpretation. See the Results Section

below for a description of the habitats found. Please also see the attached Habitat Map depicting the findings.

Protected Species Review

Prior to visiting the site, a background literature search was conducted to compile a list of state and federally protected animal and plant species that could occur on-site. The three primary sources of literature reviewed include the Florida Fish and Wildlife Conservation Commission's (FWC) *Florida's Endangered Species, Threatened Species, And Species of Special Concern*, the United States Fish and Wildlife Service's (USFWS) Threatened and Endangered Species System (TESS) database, and the Florida Department of Agriculture and Consumer Services (FDACS), Division of Plant Industry's (DPI) *Notes on Florida's Endangered and Threatened Plants*. Additional information was gathered from the Florida Natural Areas Inventory (FNAI) *Field Guides to the Rare Animals/Plants of Florida*, and the Florida Committee on Rare and Endangered Plants and Animals (FCREPA) *Rare and Endangered Biota of Florida: Volumes 1-5*, and the FWC's Eagle Nest Locator web site were also reviewed to obtain location data recorded by others for those species.

A review was also completed utilizing guidelines from the USFWS and FWC to determine potential habitat for blue tailed mole skink and sand skink. Based on the guidelines, properties which maintain elevations 82 feet above sea level and higher with open sand patches and suitable soils are considered potential habitat. The list of suitable soils includes; Apopka, Arredondo, Archbold, Astatula, Candler, Daytona, Duette, Florahome, Gainesville, Hague, Kendrick, Lake, Millhopper, Orsino, Paola, Pomello, Satellite, St. Lucie, Tavares, and Zuber soil series.

Mr. Jason Lynn of AES performed the protected species review on the subject property. Mr. Lynn currently holds certification from the FWC as an Authorized Gopher Tortoise Agent under permit # GTA-23-00007.

RESULTS

Habitats

Uplands

Unimproved Pasture (FLUCCS 212) – The property consists of unimproved pasture; however, no active cattle operations were observed. Vegetation comprised primarily of Bahia grass (*Paspalum notatum*) with prickly pear cactus (*Opuntia humifusa*), dog fennel (*Eupatorium capillifolium*), milk pea (*Galactia elliottii*), grape vine (*Vitis sp.*) and rag weed (*Ambrosia artemisiifolia*). Scattered canopy trees included sabal palmetto (*Sabal palmetto*), elephant-ear tree (*Enterolobium cyclocarpum*), cherry laurel (*Prunus laurocerasus*) and sand live oak (*Quercus geminate*). No open patches of sand were observed.

Wildlife Observations

Wildlife observations, both direct and indirect, were made throughout the course of the site investigation. A list of species observed is provided in the following table:

Table 1: Wildlife species observed on the project site in Lake County, Florida.

Taxon	Common Name	Scientific Name	Protected*
Birds	Carolina wren	<i>Thryothorus ludovicianus</i>	No
	American Crow	<i>Corvus brachyrhynchos</i>	No
Mammals	Marsh rabbit	<i>Sylvilagus palustris</i>	No
Reptile	Brown anole	<i>Anolis sagrei</i>	No
	Gopher Tortoise	<i>Gopherus polyphemus</i>	Yes

Protected Species

A 100% gopher tortoise survey was conducted on August 8, 2023, in accordance with the techniques outlined in the publication, *Ecology and Habitat Protection Needs of Gopher Tortoise (Gopherus polyphemus) Populations Found on Lands Slated for Development in Florida*. Mr. Jason Lynn led the survey and is currently a FWC Authorized Gopher Tortoise Agent (GTA-23-00007). A total of 5 potentially occupied burrows were identified. Surveys are valid for a period of 90 days. Prior to construction an updated survey should be completed. Any burrow located within 25 feet of construction will require FWC permitting and relocation.

The eastern indigo snake (*Drymarchon corais couperi*) has a low likelihood to occur on the subject property since the primary habitat is unimproved pasture. The eastern indigo snake is a gopher tortoise commensal species due to its association with and utilization of gopher tortoise burrows for their life requisites. All tortoise burrows identified on the site will be permitted and excavation of the burrows will occur. If commensal species are identified during the excavation of the burrows, then each will be relocated to an appropriate relocation site. Best Management Practices during construction for the eastern indigo snake will also be incorporated. Eastern indigo snake signage will be installed at the construction office for instruction on procedures if an indigo snake enters the construction area. With the above measures being incorporated, no effect to the eastern indigo snake is anticipated.

The Florida burrowing owl utilizes open dry pasture or disturbed lands such as those within the subject property. Pedestrian transects were completed throughout the entire subject property and no Florida burrowing owls or evidence of their burrows were observed.

The subject property lies within the Consultation Area for the blue-tailed mole skink and sand skink. Soils (Apopka, Tavares and Chandler sands), and elevations (82 feet above sea level and higher) within the property are considered suitable for these species. Unimproved pasture

habitats within the subject property does not provide suitable habitat for the blue-tailed skink or the sand skink. No patches of open sand were observed within the property and a formal skink survey is not recommended.

The FWC's Eagle Nest Locator website was queried for data regarding documented southern bald eagle (*Haliaeetus l. leucocephalus*) nests in the project vicinity. The southern bald eagle is protected under the Bald and Golden Eagle Protection Act. Development guidelines are required for any proposed projects with 330 feet for urban areas and 660 feet for non-urban areas. The nearest known nest is located 2.15 miles east of the subject property. Therefore, development of the subject property is not likely to adversely affect the southern bald eagle.

No other protected flora or fauna species are expected to inhabit the subject property.

CONCLUSION

Atlantic Ecological Services, LLC conducted a site review on the Howey in the Hills property for the purposes of wetland delineation and determining the presence of and/or potential presence of state and federally protected wildlife and plant species.

No wetlands are located within the subject property.

A 100% gopher tortoise survey was completed on the subject property and a total of 5 potentially occupied burrows were located. Prior to construction any burrows within 25 feet of construction will be required to be permitted and relocated.

The subject property lies within the Consultation Area for the blue tailed mole skink and sand skink. Elevations, soils are suitable for these species, however, no suitable habitat was found and a formal survey is not recommended.

Should you have any questions or concerns please feel free to contact me at 386-314-9897 or jonathan@atlanticeco.com.

Sincerely,



Jonathan Oravetz
Project Manager

Enclosures

Technical Literature References

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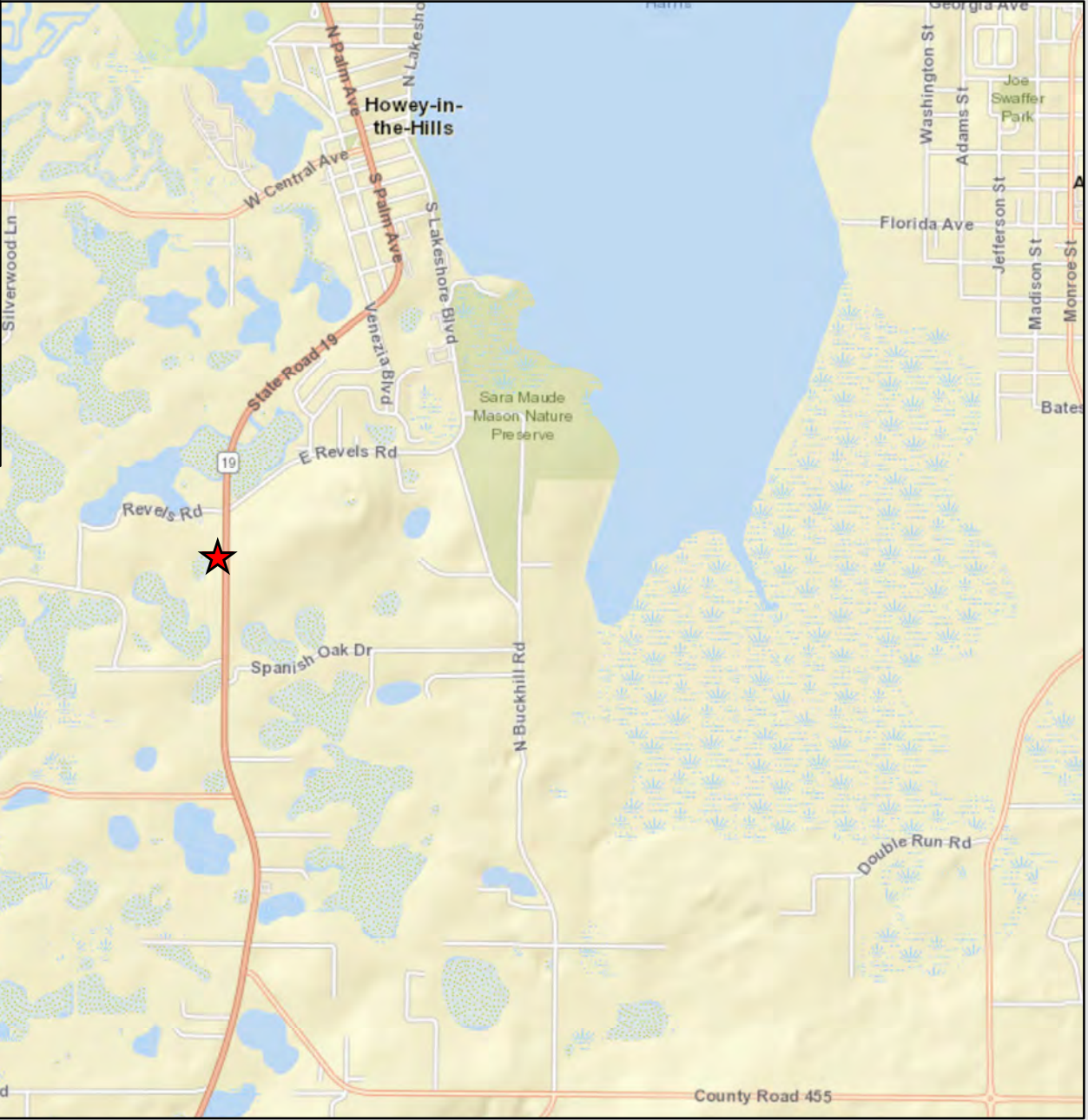
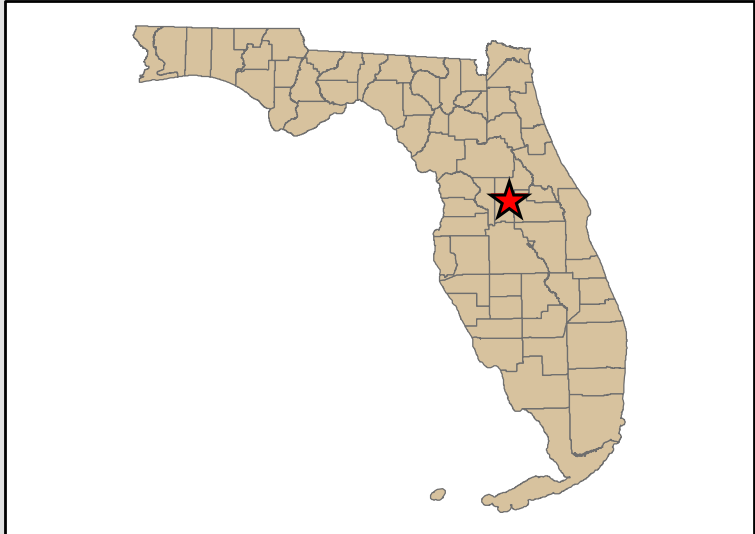
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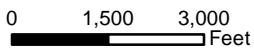
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Latitude: 28° 41' 35.83"N
Longitude: 81° 46' 51.37"W
Section 2
Township 21 South
Range 25 East

Image Source: ESRI 2023
Date: 8-7-23



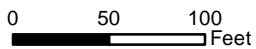
Location Map Highway 19 Howey in the Hills Property Lake County, Florida



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Image: ESRI 2022
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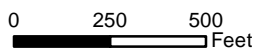
Aerial Map Highway 19 Howey in the Hills Property Lake County, Florida



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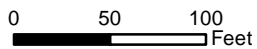
Topographic Map Highway 19 Howey in the Hills Property Lake County, Florida



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Soil Map

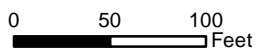
Highway 19 Howey in the Hills Property

Lake County, Florida





Image: ESRI 2022
Date: 8-14-23



Habitat Map

Highway 19 Howey in the Hills Property

Lake County, Florida



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Image: ESRI 2022
Date: 8-9-23

0 50 100 Feet



Gopher Tortoise Burrow Location Map Highway 19 Howey in the Hills Property Lake County, Florida



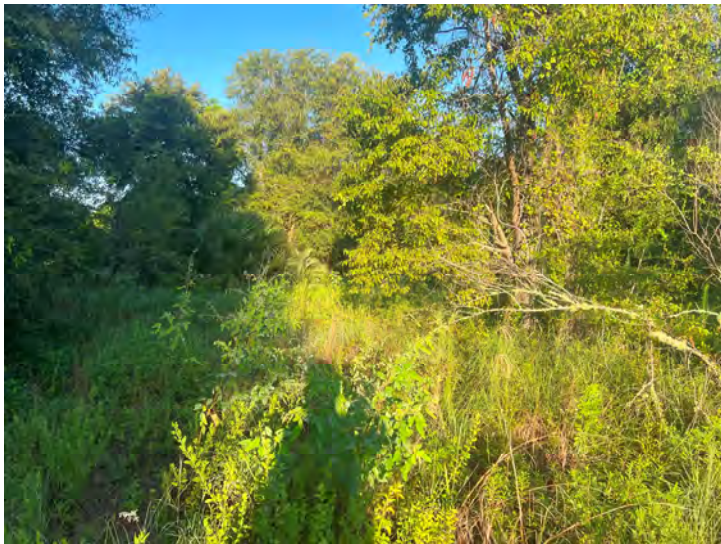
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Photo Documentation
Howie in the Hills Property



Location: Habitat within parcel

Date: August 8, 2023



Location: Habitat within parcel

Date: August 8, 2023

Photo Documentation
Howie in the Hills Property



Location: Habitat within parcel

Date: August 8, 2023



Location: Habitat within parcel

Date: August 8, 2023

Photo Documentation
Howie in the Hills Property



Location: Habitat within parcel

Date: August 8, 2023



Location: Habitat within parcel

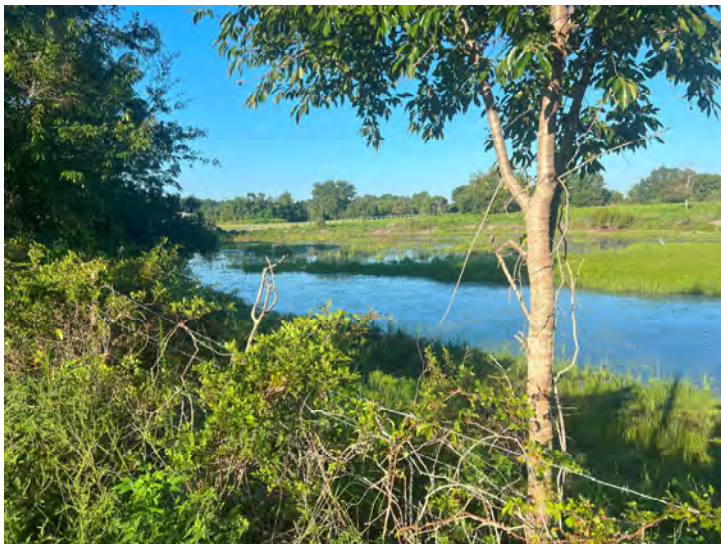
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Photo Documentation
Howie in the Hills Property



Location: Habitat within parcel

Date: August 8, 2023



Location: Offsite wetland

Date: August 8, 2023

Photo Documentation
Howie in the Hills Property



Location: Offsite wetland

Date: August 8, 2023