



# **3001 SB CPUD LISTED SPECIES SURVEY AND ENVIRONMENTAL DATA**

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A handwritten signature in blue ink, which appears to read 'Bruce Layman'.

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BRUCE LAYMAN, CE, PWS



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#### 1. INTRODUCTION

In order to support local and state environmental permitting, Peninsula Engineering (PE) initiated listed species assessment services associated with a 6.38-acre parcel known as 3001 Santa Barbara. The Project Site is located in Section 29; Township 49 South, Range 26 East, Collier County, Florida. Goodwill Industries of Southwest Florida, Inc. facilities are located on the parcel. The Project is bordered on the north by Golden Gate Parkway, on the east by Santa Barbara Boulevard, on the south by Naples Christian Academy, and on the west by residential development. Approximately 70% of the 6.38 acres exists as buildings/parking and mowed landscape.

#### 2. PROJECT METHODOLOGY

Bruce Layman, Ecologist with PE, conducted a listed species survey on the Project site on March 30, 2018. The following narrative describes the methodologies used in habitat mapping and conducting the listed species survey.

##### 2.1. Listed Wildlife Survey

Prior to conducting the listed species survey, color aerial imagery was reviewed to anticipate which habitats may be present. Based on the habitat types identified, a conceptual list of state and federal listed flora and fauna that could occur on the project site was generated. Various publications and databases were also reviewed to identify listed plant and wildlife species that are regionally present and that could occur in those habitat types. Florida Fish and Wildlife Conservation Commission's (FWC) Florida's Endangered and Threatened Species (FWC, 2016) was used to determine the "listed" state and federal status designation of wildlife species.

The FWC Wildlife Occurrence data base (WildObs) was queried to identify documented listed plant and wildlife occurrences within a 5-mile radius of the project site. The FWC data base, updated July 2017, showed the nearest listed species occurrence record to be for the least tern (*Sterna albifrons*) - approximately 1.4 miles from the Project Site. The red-cockaded woodpecker - RCW (*Picoides borealis*) had two observation points: one historic point in proximity to the intersection of David Boulevard and Radio Road (approximately 2 miles southeast of the Project site) and one associated with recent RCW activity near the Collier County Landfill (approximately 3.5 miles east of the Project site). No gopher tortoise (*Gopherus polyphemus*) observation points were shown within the 5-mile project radius; however, it was known from personal experience that tortoises exist in the project vicinity.

The project site contained no U.S. Fish and Wildlife Service (FWS) designated listed species critical habitat.

The field survey consisted of one ecologist performing parallel meandering pedestrian transects spaced approximately 50 to 200 feet on center based on habitat type and visibility limits. The approximate locations of transects performed during the listed species survey are indicated on Figure 1 entitled *FLUCCS, Listed Species, & Transect Exhibit*. Given the nature of the parcel, the ecologist is anticipated to have visually observed approximately 100% of the improved, mowed and landscaped grounds and approximately 80% of the remainder of the parcel.

Transects were conducted between 8:00 a.m. and 12:30 p.m. on March 18, 2018. Weather conditions were as follows: temperature 65° F, wind 0 mph, clear skies and no precipitation. The



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field observer was equipped with a compass, GPS, aerials, wildlife and plant identification books, binoculars, and a field notebook. During pedestrian transects, the ecologist periodically stopped, looked for wildlife, signs of wildlife, and listened for wildlife vocalizations.

Based on the habitats present on the parcel (not to the exclusion of other listed species), the ecologist specifically surveyed for the potential presence of the Eastern indigo snake (*Drymarchon corais couperi*), gopher tortoise, Big Cypress fox squirrel (*Sciurus niger avicennia*), and trees containing cavities that could potentially be used for roosting by the Florida bonneted bat (*Eumops floridanus*).

#### 2.2. Listed Plant Survey

During the course of conducting surveys for listed wildlife species, the PE ecologist searched for plants listed by the Florida Department of Agriculture (FDA) and the U.S. Fish and Wildlife Service (FWS). These agencies have categorized the various plant species based upon their relative abundance in natural communities. Those categorizations include “Endangered”, “Threatened” and “Commercially Exploited”.

The protection afforded plants listed by FDA entails restrictions on harvesting or destroying plants found on private lands of another, or public lands, without permission and/or a permit from FDA. There are no restrictions for landowners, unless the sale of plants is involved. These provisions are found in Section 581.185, FDA under State law.

#### 2.3. Habitat Mapping

The habitat survey included the preparation of a Florida Land Use, Cover and Forms Classification System (FLUCCS) map delineating the major vegetation communities, land forms, and land uses present on the project site. A FLUCCS Map for the project site is provided as Figure 1 entitled *FLUCCS, Listed Species, & Transect Exhibit*. The methods and class descriptions found in the FLUCCS manual (FDOT, 1999) were followed when delineating and assigning areas to an appropriate FLUCCS category (class) or “codes”. Plant communities were mapped using direct field observations and aerial photo interpretation. Color aerial photos were plotted at 1” = 60’ scale and were used in the field to map the vegetative communities on the site.

A factor in mapping vegetative associations and local habitats is the invasion by the exotic plant species, such as melaleuca (*Melaleuca quinquenervia*), Brazilian pepper (*Schinus terebinthifolius*), and earleaf acacia (*Acacia auriculiformis*). Four levels of exotic density are typically recognized. Code modifiers may be appended to the base FLUCCS code to indicate the approximate density of exotic vegetation in the canopy or understory, as follows:

- E1 = Exotics 10-24%
- E2 = Exotics 25-49%
- E3 = Exotics 50-75%
- E4 = Exotics 75<%



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### 3. SURVEY RESULTS

#### 3.1. Listed Wildlife Species Observed/Identified on Site

No listed wildlife species were observed on site during the listed species survey.

Non-listed wildlife species were noted during the surveys and they are listed in Table 1.

#### 3.2. Listed Wildlife Species Not Observed but With Potential to Occur on Site

The following is a discussion of listed wildlife species that were not confirmed during the survey as occurring on the project site but were considered to have the potential to occur due to the presence of suitable habitat, or recent confirmed sightings in the region. These species are included in Table 2.

**The Big Cypress fox squirrel (BCFS):** The BCFS distribution is believed to be limited to an area south of the Caloosahatchee River and west to the Everglades. The BCFS is usually associated with FLUCCS codes 411, 621, and 624. The BCFS could potentially inhabit the landscaped areas and forest edge associated with the Goodwill Industries facility grounds; however, no evidence of the BCFS (e.g., direct sightings, nests, or day beds) was observed on site during the surveys.

**The Florida bonneted bat:** The Project Site falls within the FWS consultation area for this species. There is relatively little known about the life-history needs of the species. However, it has been suggested in the literature that roosts may be a limiting resource for this bat. No trees with cavities that could serve as potential roost sites for the bonneted bat were identified during the listed species survey. The survey method was not designed to determine regional species presence or absence. Therefore, given that this species ranges widely to forage, there remains the potential for the species to commute or forage over the parcel.

**Eastern indigo snake:** Eastern indigo snakes inhabit pine forests, hardwood hammocks, scrub and other uplands. They also rely heavily on a variety of wetland habitats for feeding and temperature regulation needs. It is typically assumed by the FWS that there is potential for the species to be present on nearly any site in Southwest Florida. However, with low on-site upland habitat quality, it is unlikely that the indigo snake would occur on site.

#### 3.3. Listed Plant Species Observed on Site

No listed plants were observed on site during the listed species survey.

#### 3.4. Habitat Mapping

Natural areas of the project site are comprised primarily of pine flatwoods (lacking saw palmetto) with various degrees of exotic vegetation and exotic vegetation monoculture. High winds associated with Hurricane Irma approximately 1 year prior snapped trees off, pushed them over, and significantly tangled the existing vegetation. The remainder of the site is mowed landscape and facility hardscape.



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This assessment anticipates that there are no state or federal jurisdictional wetlands or surface waters on site. This will be verified by the appropriate regulatory agencies during permit review.

A detailed description of each FLUCCS code is provided in Appendix A. Figure 1 provides a map showing the vegetative associations found on the parcel.

#### 4. SUMMARY

Results of the survey reflect that there were no listed flora or fauna observed on site. Though not observed on site, there is potential for the site to be opportunistically used by the Eastern indigo snake, the Big Cypress fox squirrel, and the bonneted bat - though the potential is low given the site's lack of potential roost locations for the bonneted bat, relatively intense surrounding development, the site's dense and tangled midstory and groundcover, and the site's being bounded by two arterial roadways.

This assessment anticipates that there are no state or federal jurisdictional wetlands or surface waters on site.

#### 5. REFERENCES CITED

Florida Department of Transportation. 1999. *Florida Land Use, Cover and Forms Classification System*. Procedure No. 550-010-001-a. Third Edition. Tallahassee, Florida.

Florida Fish and Wildlife Conservation Commission. 2016. *Florida's Endangered and Threatened Species*. Tallahassee, Florida.



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**TABLES**

**Table 1: Non-listed Wildlife Species Observed**

Common Name	Scientific Name
<b>Birds</b>	
Blue jay	<i>Cyanocitta cristata</i>
Red-bellied woodpecker	<i>Melanerpes carolinus</i>
<b>Amphibians &amp; Reptiles</b>	
Green anole	<i>Anolis carolinensis</i>
<b>Mammals</b>	
Rabbit	<i>Sylvagus spp.</i>
Gray squirrel	<i>Sciurus carolinensis</i>

**Table 2 : Estimated Probability of Occurrence of Non-Observed Listed Faunal Species**

Common Name	Scientific Name	Status (FWC/FWS)	Estimated Occurrence*			Habitat by FLUCCS
			Probable	Possible	Unlikely	
Mammals						
Big Cypress fox squirrel	<i>Sciurus niger avicennia</i>	T/NL			X	All
Florida bonneted bat	<i>Eumops floridanus</i>	E/E			X	All
Reptiles						
Eastern indigo snake	<i>Drymarchon corais couperi</i>	T/T			X	All

FWC = Florida Fish and Wildlife Conservation Commission

FWS = United States Fish and Wildlife Service

T = Threatened

E = Endangered

NL = Not listed

\* Probable Occurrence = >50% estimated chance of occurrence on site. Possible Occurrence = <50% estimated chance of occurrence on site. Unlikely Occurrence = <5% estimated chance of occurrence on site.





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**APPENDIX A**  
**Existing Vegetative Association & Land Use Descriptions**

Existing Vegetative Association & Land Use Detailed Descriptions

**Commercial and Services (FLUCCS 140)** - This use represents the existing Goodwill Industries of Southwest Florida facility including buildings, parking, outdoor children's recreation, and landscaped areas.

**Pine Flatwoods – Gramminoid Understory (FLUCCS 416)** – This community is dominated in the canopy by slash pine (*Pinus elliottii*), cabbage palm (*Sabal palmetto*), earleaf acacia (*acacia auriculiformis*), and java plum (*Syzygium cumini*). The midstory may be absent in the maintained landscaped areas or may include Brazilian pepper (*Schinus terebinthifolius*) and the previously-noted canopy species. Groundcover includes bracken fern (*Pteridium aquilinum*), beautyberry (*Callicarpa americana*), and various ruderal species. Vines are abundant and include muscadine grape (*Vitis rotundifolia*), catbriar (*Smilax* spp.), and poison ivy (*Toxicodendron radicans*).

**Pine Flatwoods – Gramminoid Understory, Disturbed (FLUCCS 416D)** – This community is composed of a sparse canopy of slash pine over mowed lawn.

**Brazilian Pepper (FLUCCS 422)** – This community is dominated in the canopy and/or midstory by Brazilian pepper. Groundcover is largely absent.

**Exotics 10-24% (Major FLUCCS Code + E1)** This FLUCCS code modifier refers to a vegetative community that has been invaded by the exotic species such that they comprise between 10% and 24% of the vegetative cover.

**Exotics 25-49% (Major FLUCCS Code + E2)** This FLUCCS code modifier refers to a vegetative community that has been invaded by exotic species such that they comprise between 25% and 49% of the vegetative cover.

**Exotics 50-75% (Major FLUCCS Code + E3)** This FLUCCS code modifier refers to a vegetative community that has been invaded by exotic species such that they comprise between 50 and 75% of the vegetative cover.

**Exotics >75% (Major FLUCCS Code + E4)** This FLUCCS code modifier refers to a vegetative community that has been invaded by exotic species such that they comprise greater than 75 percent of the vegetative cover, and still retains at least 10% native tree canopy coverage.



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**FIGURE 1**  
**FLUCCS, Listed Species, & Transect Exhibit**

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