



# THREATENED AND ENDANGERED SPECIES SURVEY

## WARM MINERAL SPRINGS

12200 San Servando Ave, North Port, FL 34287

Prepared For:



Prepared By:



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## EXECUTIVE SUMMARY

The City of North Port selected Pritchett Steinbeck Group, Inc. (PSG) to perform a threatened and endangered species survey of approximately 83 acres of City-owned property, part of which is known as Warm Mineral Springs Park. The property is unique because of its geologic, archeologic, and historic importance. The property is currently being evaluated by the City of North Port for revitalization.

Before arriving on site, PSG conducted a desktop review of available environmental data relating to threatened and endangered animals and plants. A species list was created and compared to available habitat within the Survey Area. The current land uses are highly disturbed, so soil types were consulted to determine which community types could have been historically present. Soil types within the Survey Area are known to support Sand Pine Scrub, Oak Hammock, and South Florida Flatwoods. Based on potential species lists and available habitat, several threatened and endangered species have the potential to be present within the Survey Area.

Following the desktop review, a field survey was conducted. Qualified professionals walked transects throughout the entire property over three days. During that time, several threatened or endangered animals were observed. The most prevalent protected species observed was the Gopher Tortoise (*Gopherus polyphemus*), which is a State Threatened species. One Gopher Tortoise and 109 burrows were flagged, classified, and mapped. If any development impacts these burrows, a permit from the Florida Fish and Wildlife Conservation Commission will be required. One Federally Threatened Woodstork (*Mycteria americana*) was observed flying over the Survey Area. Although this specimen was not observed foraging on-site, it is possible that this species and other protected wading birds could forage in the shallow waterbodies within the Survey Area. No other federally or state-protected animal species were observed during the field visits. Incidental observations of other non-listed species were documented whenever found.

Observations of rare and protected plants were also documented during the field survey. Based on the species needs, many protected plants have the potential to be present within the Survey Area, especially in the undeveloped and unmaintained areas. Two protected species were found: Leafless beaked ladiestresses (*Stenorrhynchus lanceolatus*) (ST) and Giant Airplant (*Tillandsia utriculata*) (SE). The beaked ladiestresses were found in several locations on the southern and eastern portion of the property. The Giant Airplants were found in several places in the central portion of the property. Several species of airplants are protected. To perform a complete protected plant species survey on the property, additional surveys are recommended. Each species has a recommended survey season, where the plant is most conspicuous. Since several endemic, but non-listed species were observed, it is very possible that additional protected plants are present. A list of invasive plants was also compiled.

Other conditions of note include the presence of a small depression just outside the Survey Area, illegal dumping of trash, and human encampments. A depression was noted on the northwest portion of the property. A qualified geologist should be consulted if development is proposed in that area. A copious amount of litter was found in the eastern part of the Survey Area. Some of the refuse appears to be from illegal dumping and some of it appears to be associated with multiple human encampments. It is likely that multiple, extensive cleanups will need to take place to clear out the debris.

## 1.0 INTRODUCTION

### 1.1 PURPOSE

The City of North Port Neighborhood Development Services Planning & Zoning Division selected Pritchett Steinbeck Group, Inc. (PSG) to perform a threatened and endangered species survey of approximately 83 acres of City-owned property located at 12200 San Servando Avenue in North Port, Florida. The City is currently evaluating options for a public-private partnership to revitalize the property to promote the property as a tourist destination and contribute economically to the City. This report documents the results of the site inspection and threatened and endangered species surveys.

The property is exceptionally unique. It is an important geological and archeological site and is listed on the U.S. National Register of Historic Places. Approximately 23 acres are associated with the Warm Mineral Springs Park including the spring itself, buildings, and parking areas (paved and unpaved). The park contains Florida's only natural warm spring, with an average temperature of 85 degrees throughout the year. Over 150,000 visitors come annually to immerse themselves in the spring water.

### 1.2 SITE ACQUISITION AND RECENT HISTORY

In 2010, the City of North Port and Sarasota County acquired the property from a private owner for \$5.5 million. The property was acquired by these public entities to safeguard the spring and to utilize the land as a tourist attraction. According to the Sarasota County Property Appraiser Records, the property changed hands five times in the 10 years before public acquisition. The last private owner had intended to develop a mix of residential units, restaurants, commercial establishments, a conference center, and a health center. However, due to the economic downturn in the mid-to-late 2000's, the project was abandoned. By 2014, the City and County had not reached an agreement on the management of the property. This led to the City purchasing the County's entire interest in the property for \$2.75 million. Since then, several studies have been conducted since the acquisition of the property including:

- Discharge, Water Temperature, and Water Quality of Warm Mineral Springs, Sarasota County, Florida: A Retrospective Analysis completed by the U.S. Geological Survey in cooperation with the City of North Port and Sarasota County in 2016.
- Phase I, Historic and Architectural Evaluation Report prepared by DMK Associates Inc. in 2016.
- Warm Mineral Springs Park Master Plan prepared by Kimley Horn & Associates in April 2016.

The Warm Mineral Springs Park Master Plan, approved by the City Commission in April 2019, encompassed a thorough examination of the entire 81.6-acre property and offered preliminary proposals for upcoming services and amenities in various stages. The initial phase of the Master Plan centered on restoring the historic buildings, enhancing utility infrastructure, and improving accessibility to the parking lot. Other concepts outlined in the Master Plan involve improvements to the natural portions of the site, including a trail system, lookout tower, and events pavilion. The Plan reflects an interest in the preservation of the natural diversity and significant habitat features present at the Warm Mineral Springs. The community voiced their opinions and ideas through stakeholder meetings, community engagement sessions, and public surveys.

Over the years, the buildings on the property have deteriorated. On September 28, 2022, Hurricane Ian made landfall in southwest Florida as a Category 4 hurricane. The storm inflicted severe damage on the buildings within the park and toppled trees throughout the property.



## 2.0 STUDY AREA OVERVIEW

### 2.1 EXISTING LAND USES AND CLASSIFICATIONS

The Florida Land Use Classification Codes System (FLUCCS) was used to classify and map existing land uses and cover types. Representative images are included in **Appendix A**. The following classifications exist onsite: Open Land (approx. 24%), Shrub and Brushland (approx. 22%), Hardwood – Conifer Mixed (approx. 44%), Recreational (5%), Streams and Waterways (3%), and Major Springs (approx. 2%). and The Descriptions below are from the FLUCCS:

**190 Open Land:** This category includes undeveloped land within urban areas and inactive land with street patterns but without structures. Open Land normally does not exhibit any structures or any indication of intended use.

**320 Shrub and Brushland:** This category includes saw palmettos, gallberry, wax myrtle, coastal scrub and other shrubs and brush. Generally, saw palmetto is the most prevalent plant cover intermixed with a wide variety of other woody scrub plant species as well as various types of short herbs and grasses. Coastal scrub vegetation would include pioneer herbs and shrubs composed of such typical plants as sea purslane, sea grapes, and sea oats without any one of these types being dominant.

**434 Hardwood – Conifer Mixed:** This class is reserved for those forested areas in which neither upland conifers nor hardwoods achieve a 66 percent crown canopy dominance.

**180 Recreational:** Recreational areas are those areas whose physical structure indicates that active user-oriented recreation is or could be occurring within the given physical area. This category would include golf courses, parks, swimming beaches and shores, marinas, fairgrounds, etc. (Note: Swimming beaches are identifiable by such features as bath houses, picnic areas, service stands and large parking lots adjacent to the beach areas.) In order to make this recreational determination, supplemental information may often be required.

**510 Streams and Waterways:** This category includes rivers, creeks, canals and other linear water bodies.

**550 Major Springs:** The natural phenomena known as springs can easily be identified as points of origin of a water source welling from the ground. In many instances, major springs, such as Silver Springs and Homosassa Springs, can readily be identified by the associated recreational-commercial enterprises in the adjacent areas.

### 2.2 SUITABLE HABITAT

Classification of available natural land uses is an important step in identifying whether suitable habitat for threatened and endangered species. The likelihood of occurrence is directly linked to the available habitat onsite. The property is a mix of developed or maintained land uses (Recreational & Open Land) and undeveloped land uses (Shrub and Brushland, Hardwood-Conifer Mixed, Streams and Waterways, Major Springs). Since the Survey Area is highly disturbed, the soil types were reviewed to determine the types of habitat historically supported within the Survey Area. The two soil types were Pomello fine sand - Urban land complex and EauGallie-Myakka fine sands- Urban land complex. The Pomello series typically support Sand Pine Scrub communities. The EauGalie-Myakka fine sands typically support South Florida Flatwoods and Oak Hammocks. This information provides clues to the types of species that might be present within the Survey Area, even if the property is highly disturbed and/or is unmaintained with fire.

## 3.0 METHODOLOGY

### 3.1 DESKTOP REVIEW

Desktop review was conducted to develop a list of protected plants and animals with the potential to occur and determine their likelihood of occurrence within the Survey Area. Several online resources were consulted, including the Florida Department of Transportation's Environmental Screening Tool (EST), US Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC), Florida Department of Agriculture and Consumer Services (FDACS) Endangered, Threatened and Commercially Exploited Species database, Florida's Endangered and Threatened Species List, and Florida Natural Areas Inventory (FNAI) Biodiversity Matrix to generate a list of species that may occur within the area. The results of the FNAI Biodiversity Matrix Query Results are included in **Appendix B**. Then, online resources were consulted to determine the potential habitat types within the Study Area. The list of potential species and their habitat requirements were compared to the habitat types available within the Study Area to determine the likelihood of occurrence.

### 3.2 FIELD SURVEY

Once the potential species list was compiled, the field survey was conducted. The area around the spring was surveyed in the morning before the park was open to visitors. The remainder of the property was surveyed throughout the day. Walking transects were loaded onto a handheld device with a differentially corrected global positioning system (DGPS) to guide the field survey team and track areas surveyed. Based on aerial imagery, transect spacing was created at two different widths: 15-foot spacing for areas of canopy and dense vegetation and 30-foot spacing in open areas where visibility is greater. The PSG team walked parallel transects and documented species or signs of species encountered over three days of survey. The survey protocol identified in the Florida Fish and Wildlife Conservation Commission's Gopher Tortoise Permitting Guidelines were followed for marking and classifying gopher tortoise burrows. Burrows were marked with flagging and labeled as either potentially occupied or abandoned. The location of the burrow was recorded using the handheld DGPS device, ensuring accurate geospatial data.

## 4.0 SURVEY RESULTS

### 4.1 PROTECTED SPECIES SURVEY RESULTS

**Table 1** lists the protected species and their likelihood of occurrence based each species' range, habitat needs, and the available habitat within the Survey Area. Protected species are listed by the State of Florida as Federally designated Endangered (FE), Federally designated Threatened (FT), Federally designated Threatened due to Similarity of Appearance [FT(S/A)], Federal Non-Essential Experimental Population (FXN), State-designated Threatened (ST), or State Species of Special Concern (SSC). Field surveys were conducted by qualified environmental professionals on April 26th, April 27th, and May 8th, 2023. **Table 2** lists all animal species encountered during the survey. These species were either directly observed by sight or call or were documented by sign (scat, track, or other evidence) within the Survey Area.

One Gopher Tortoise (ST) and over 100 burrows were found during the field survey. The Eastern Indigo Snake (FT), Gopher Frog (not listed), and Florida Burrowing Owl (ST) are known to utilize these burrows. The Eastern Indigo Snake and Gopher Frog could potentially be present in some of the numerous burrows documented in the Survey Area. The Florida Burrowing owl can thrive in urban areas. Nesting typically occurs in February to July but can occur year-round. The field survey was conducted in May, but no Florida Burrowing Owls were observed.

One Wood Stork (Federally Threatened) was observed flying over the property. This species, and other wading birds, like the Little Blue Heron need shallow waters to forage in. The best opportunity for this to occur within the Survey Area is on the western side of the property, at the spring and spring run. No isolated forested wetlands are on the property, which would provide nesting habitat. Neither species were observed foraging on the property.

The open fields of the Survey Area provide the best potential foraging habitat for the Florida Sandhill Crane (ST). However, none were observed. This species prefers to nest in marshes. No marshes are present on the property. This species has a high likelihood of occurrence, but none were observed during the field survey.

Florida Black Bear have been documented in the area. However, none were observed during the field surveys. With large expanses of habitat available to the north in Deer Prairie Creek Preserve and Myakka State Park, it is more likely that these species are utilizing those properties.

The Survey Area is within the USFWS-established Consultation Area for the Florida Bonneted Bat (FE). Snags (dead standing trees) provide good roosting habitat for the Florida Bonneted Bat and other arboreal-roosting bat species. Hurricanes appear to have toppled all but the strongest of trees, leaving little opportunity for this species to roost. Buildings also provide potential roosting habitat for bats. The buildings were inspected for evidence of roosting bats (i.e. guano or staining). No evidence of this Federally protected bat or other bat species was observed. All bats are protected by Florida State law.

The Survey Area is within the USFWS-established Consultation Area for the Florida Scrub Jay (FE). Although Florida Scrub Jays have been documented in the area, little, if any true scrub habitat is on-site. No Florida Scrub Jays were observed.

The Southeastern American Kestrel (ST) utilizes a multitude of habitat types for foraging, but this species was not observed during the field survey.



**Table 1. Protected Species with the Potential to Occur.**

Scientific Name	Common Name	Status	Likelihood of Occurrence, Reason
<b>Animals</b>			
<i>Aphelocoma coeulescens</i>	Florida Scrub Jay	FE	Moderate, Within Consultation Area, Nearby Observations Documented in 2000 and 2006, marginal habitat onsite
<i>Egretta caerulea</i>	Little Blue Heron	ST	High, Suitable foraging habitat within Survey Area (Waterbodies)
<i>Eumops floridanus</i>	Florida Bonneted Bat	FE	High, Within Consultation Area, Suitable Foraging and Roosting Habitat in Survey Area (Buildings and trees)
<i>Falco sparverius paulus</i>	Southeastern American Kestrel	ST	High, Suitable Habitat (Pastures and open fields in residential areas)
<i>Gopherus polyphemus</i>	Gopher Tortoise	ST	High, Suitable Habitat within Survey Area (Open canopy and well drained soils)
<i>Grus canadensis</i>	Florida Sandhill Crane	ST	High, Suitable Foraging Habitat within Survey Area (Open grassland)
<i>Mycteria americana</i>	Wood Stork	FT	High, Suitable Foraging Habitat in Survey Area (Open water)
<i>Athene cunicularia</i>	Florida Burrowing Owl	ST	High, Suitable Habitat within Survey Area (Open land)
<i>Drymarchon couperi</i>	Eastern Indigo Snake	FT	High, Suitable Habitat within Survey Area (Gopher tortoise burrows)
<i>Lithobates capito</i>	Gopher Frog	--	High, Suitable Habitat within Survey Area (Gopher tortoise burrows)
<i>Ursus americanus</i>	Florida Black Bear	--	High, Suitable Habitat within Survey Areas and Recent nearby observations (2020)
<b>Plants</b>			
<i>Acostichum aureum</i>	Golden leather fern	ST	Low, Requires coastal hammocks and tidal marshes
<i>Bonamia grandiflora</i>	Florida bonamia	ST	Low, Requires sandy soil, scrub
<i>Calopogon barbatus</i>	Many-flowered grass-pink	ST	Low, Requires dry to moist flatwoods and not vouchered in county
<i>Chionanthus pygmaeus</i>	Pygmy fringe-tree	FE	Low, Requires scrub
<i>Crossopetalum rhacoma</i>	Rhacoma	ST	Low, Requires pine rocklands, rockland hammocks, coastal
<i>Lechea cernua</i>	Scrub pinweed	ST	High, Requires open, unshaded white sands of scrub and scrubby flatwoods, vouchered specimens in county
<i>Nolina atopocarpa</i>	Florida beargrass	FT	Low, Requires grassy areas of mesic and wet flatwoods, not vouchered in county
<i>Pteroglossaspis eristata</i>	Giant orchid	ST	Low, Requires sandhill, scrub, pine flatwoods, pine rocklands, occasionally old fields
<i>Rhynchospora megaplumosa</i>	Hairy spikelet beakrush	SE	Moderate, Requires scrubby flatwoods and scrubby to mesic flatwoods transition areas, vouchered in county
<i>Zephyranthes simpsonii</i>	Redmargin zepherlily	ST	Low, Requires wet flatwoods and meadows, vouchered in county

**Table 2. Animal Species Documented During Survey.**

Scientific Name	Common Name	Observation Type	Status
<b>Birds</b>			
<i>Baeolophus bicolor</i>	Tufted titmouse	Call	Not listed
<i>Bubulcus ibis</i>	Cattle egret	Visual	Not listed
<i>Buteo lineatus</i>	Red-shouldered hawk	Call	Not listed
<i>Butorides virescens</i>	Green backed heron	Visual	Not listed
<i>Cardinalis cardinalis</i>	Northern cardinal	Visual	Not listed
<i>Charadrius vociferus</i>	Killdeer	Call	Not listed
<i>Columbina passerine</i>	Ground dove	Visual	Not listed
<i>Corvus brachyrhynchos</i>	American crow	Observation	Not listed
<i>Cyanocitta cristata</i>	Blue jay	Visual	Not listed
<i>Dryocopus pileatus</i>	Pileated woodpecker	Visual	Not listed
<i>Dumetella carolinensis</i>	Gray catbird	Call	Not listed
<i>Eudocimus albus</i>	White ibis	Visual	Not listed
<i>Melanerpes carolinus</i>	Red-bellied woodpecker	Visual	Not listed
<i>Meleagris gallopavo</i>	Wild turkey	Visual	Not listed
<i>Mimus polyglottos</i>	Northern mockingbird	Visual	Not listed
<i>Mycteria americana</i>	Wood Stork	Visual	Federally threatened
<i>Myiarchus crinitus</i>	Great crested flycatcher	Call	Not listed
<i>Quiscalus quiscula</i>	Common grackle	Call	Not listed
<i>Setophaga americana</i>	Northern parula warbler	Call	Not listed
<i>Thryothorus ludovicianus</i>	Caroling wren	Visual	Not listed
<i>Vireo flavifrons</i>	Yellow-throated vireo	Call	Not listed
<i>Vireo griseus</i>	White-eyed vireo	Call	Not listed
<i>Zenaida macroura</i>	Mourning Dove	Visual	Not listed
<b>Reptiles</b>			
<i>Anolis carolinensis</i>	Green anole	Visual	Not listed
<i>Anolis sagrei</i>	Brown anole	Visual	Not listed
<i>Coluber constrictor</i>	Eastern black racer	Visual	Not listed
<i>Gopherus polyphemus</i>	Gopher Tortoise	Visual & Burrows	State Threatened
<i>Opheodrys aestivus</i>	Rough Green Snake	Visual	Not listed
<i>Osteopilus septentrionalis</i>	Cuban Treefrog	Call	Not listed
<b>Mammals</b>			
<i>Canis latrans</i>	Coyote	Visual (dead)	Not listed
<i>Lepus sylvaticus</i>	Cottontail rabbit	Visual	Not listed
<i>Odocoileus virginianus</i>	White-tailed deer	Visual	Not listed
<i>Procyon lotor</i>	Raccoon	Tracks	Not listed
<i>Sus scrofa</i>	Feral hog	Rooting/Tracks	Not listed

## 4.2 GOPHER TORTOISE BURROW SURVEY RESULTS

In total, 109 gopher tortoise burrows were documented, with 88 burrows appearing potentially occupied and 21 burrows appearing abandoned. Each located burrow was marked with flagging tape, photographed, and the location was recorded with DGPS. **Figure 1** shows a representative potentially occupied burrow. Gopher Tortoise population can be estimated by halving the number of potentially occupied burrows. This means that approximately 44 adult tortoises inhabit the property. A map depicting the locations of burrows and their status is included in **Appendix C**.



*Representative burrow from the Survey Area.*

The Gopher Tortoise requires upland habitat types with open canopy and well-drained soils. No burrows were found within the areas that were improved and maintained (mowed), including the area directly surrounding the springs, the parking area, the community garden, or other maintained areas. As expected, burrows were found in undeveloped portions of the Survey Area with open canopies and classified as: Open Land, Shrubs and Brushland, and Open Land. However, 57 burrows occurred in areas with dense canopy cover, classified as Hardwood – Conifer Mixed. This is unexpected, but likely has to do with the soil suitability and availability of nearby foraging habitat.

The Web Soil Survey from the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) was accessed to determine Gopher Tortoise Burrow Suitability of the Survey Area. The results are shown in **Figure 2**. Soil suitability is rated as Highly Suited, Moderately Suited, Less Suited, or Unsuitable. The results indicated that 42% of the Survey Area is Highly Suited (70, Pomello fine sand, green shading) and the remainder is Less Suited (55, EauGalie-Myakka fine sands, orange shading). Less Suited soils have characteristics that limit establishment, maintenance, or use of the site by gopher tortoise. This may explain why Gopher Tortoise burrows were in more densely canopied areas where they are not typically found.



*Gopher tortoise burrow suitability in the Survey Area.*



### 4.3 PLANT SURVEY RESULTS

Based on the Florida Natural Areas Inventory Biodiversity Matrix and other resources, there are several protected plants with the potential to occur within the Survey Area. Two protected species were found: Leafless beaked ladiestresses (*Stenorrhynchus lanceolatus*) (ST) and Giant Airplant (*Tillandsia utriculata*) (SE). Several *Tillandsia* species are protected and they can be difficult to identify without an inflorescence (flower).

Several endemic plant species were also noted including Florida Scrub Roseling (*Callisia ornata*), Axilflower (*Mecardonia acuminata*), and Yellow Milkwort (*Polygala rugelli*). Endemic plants exist only in one geographic region, which often makes them rare. However, none of these species are protected by state or federal laws.

Vegetation surveys should be performed during specific survey seasons, a time of year when the plant is most conspicuous and readily identifiable. Due to the schedule, the inspection was conducted outside of the ideal survey season for several species. A large portion of the Survey Area was mowed the same day vegetation surveys began. For these reasons, additional vegetation surveys would be beneficial.

Invasive and exotic plant species were also noted during the field inspection. The most commonly found invasive species were Australian Pine (*Casuarina equisetifolia*) and Brazilian Pepper (*Schinus terebinthifolia*). Large stands of Australian pine are present in several areas within the study area. This species shades and smothers native plants that grow nearby. Very little vegetation grows where this species is found. Brazilian pepper is another fast-growing species that crowds out native plants. This species is prevalent throughout central and eastern portion of the Survey Area. **Table 3** lists the invasive plants observed during the field survey and their Florida Invasive Species Council rank. Category I species are invasive exotics that are altering native plant communities by displacing native species, changing community structures or ecological functions or hybridizing with natives. Category II species are invasive species that have increased in abundance or frequency but have not yet altered Florida plant communities to the extent shown by Category I species.



*Leafless beaked ladiestresses found on eastern side of Survey Area.*



*Giant Airplant found in central part of the Survey Area.*

**Table 3. Invasive Plants Found within Survey Area.**

Scientific Name	Common Name	FISC Rank
<i>Abrus precatorius</i>	Rosary Pea	Category I
<i>Asparagus atheopicus</i>	Asparagus fern	Category I
<i>Casuarina equisetifolia</i>	Australian Pine	Category I
<i>Cupaniopsis anacardioides</i>	Carrotwood	Category I
<i>Dioscorea bulbifera</i>	Air Potato	Category I
<i>Epipremnum aureum</i>	Pothos	Category II
<i>Imperata cylindrica</i>	Cogon Grass	Category I
<i>Ruellia simplex</i>	Mexican Petunia	Category I
<i>Schinus terebinthifolia</i>	Brazilian pepper	Category I
<i>Sphagneticola trilobata</i>	Wedelia	Category II
<i>Urena Lobata</i>	Ceaserweed	Category I

#### 4.4 OTHER MISCELLANEOUS FINDINGS

A small, approximately 10-foot-wide depression was observed just outside the northwest portion of the Survey Area. Depressions like this are often found in are sometimes cover-subsidence sinkholes. The image of the area is included in **Appendix A**. If development occurs near that location, a professional geologist may need to be consulted.

Numerous homeless encampments and dumpsites of yard and construction debris were encountered in Survey Area. This was most prevalent on the east side of the property, outside the park. Items within the encampments ranged from small items like clothing, household plastic containers, cans and other food containers, to large items like bicycles, mattresses, and furniture. Potential hazardous materials were discovered, including motor oil and discarded automotive batteries. One site, on the west side of the creek, was occupied at the time of the survey.



*Several areas were covered in trash and some hazardous materials.*

Many downed trees were encountered throughout the property, most likely the result of previous hurricanes. In some areas, this condition made traversing the portions of the property very difficult. This was especially true in areas with fallen Australian pine trees and along the dry creek bed on the eastern portion of the property. Best efforts were made to inspect the entire property.



## 5.0 CONCLUSIONS & RECOMMENDATIONS

Protected plants and animals were found within the Survey Area. The most frequently occurring protected animal is the Gopher Tortoise. This species and its burrows are protected. As plans for the property develop, potential impacts to this species should be considered. The best approach is to avoid and minimize impacts as much as possible. This can be done by incorporating existing trails into the design and locating infrastructure away from areas where burrows are clustered on the property. If any of the burrows are to be impacted, a permit will need to be obtained from the Florida Fish and Wildlife Conservation Commission. If suitable habitat is expected to remain after the property is reimagined, the Gopher Tortoises can likely be captured and relocated on-site. Otherwise, individuals must be captured and relocated off-site. Protected plants were found within the Survey Area. Several Leafless Beaked Ladiestresses and Giant Airplants were found in different areas. Multiple surveys, at various times of year, would yield the most complete vegetation survey. As development of the property progresses, it may be a good idea to involve the local chapter of the Florida Native Plant Society for potential surveys and relocation of plant specimens in any planned impact area.

### **The natural areas of the property should be appropriately managed for the Gopher Tortoise.**

Gopher Tortoises preferentially forage in areas with diverse herbaceous groundcover, and burrow in areas with open canopy. Several areas on the property are suitable but could be improved. Without appropriate land management (prescribed fire or mechanical methods), suitable habitat becomes overgrown and less useful to the species. Therefore, land management practices that improve habitat suitability for gopher tortoises and their commensal species, such as the pine snake, gopher frog, and the protected Eastern indigo snake, should be considered in the future management plan of the property. Although prescribed burning is understood to be the most effective land management tool, other options such as mowing, roller-chopping, or brush-hogging areas are useful alternatives. These options are likely more suitable due to the property's proximity to residential areas and the fuel loads in some areas of the property. The purpose of these mechanistic methods should be to reduce canopy/sub-canopy cover and increase groundcover diversity. Removal of downed trees and other debris may also benefit gopher tortoises by improving habitat access.

### **Invasive plants should be controlled to allow native plants to thrive and increase diversity.**

Removal and treatment of invasive plants is also recommended. Invasive plants, such as the Australian pine. Invasive species crowd out native plant communities and decrease diversity, which is also important to wildlife. Invasive plants also create shady plant canopies, thereby limiting sunlight and diminishing the amount of sunny habitat that the tortoises prefer.

**Debris and potential hazardous material should be removed from the site.** Extensive cleanup of debris will be needed along the east and west banks of the creek and the eastern portion of the property. Multiple homeless encampments and years of illegal dumping on the property has resulted in extensive coverage of trash. Removal of this debris will be necessary for aesthetic, safety, and land management purposes. Clearing and proper disposal of trash and hazardous materials from the observed homeless encampments and dumpsites will benefit the overall



## **APPENDIX A – PHOTO LOG**

**WARM MINERAL SPRINGS**  
THREATENED AND ENDANGERED SPECIES SURVEY  
PHOTO LOG

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Representative Site Photo: Major Springs



Representative Site Photo: Major Springs



**WARM MINERAL SPRINGS**  
THREATENED AND ENDANGERED SPECIES SURVEY  
PHOTO LOG

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Representative Site Photo: Buildings



Representative Site Photo: Buildings

**WARM MINERAL SPRINGS**  
THREATENED AND ENDANGERED SPECIES SURVEY  
PHOTO LOG

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Representative Site Photo: Buildings



Representative Site Photo: Buildings



**WARM MINERAL SPRINGS**  
THREATENED AND ENDANGERED SPECIES SURVEY  
PHOTO LOG

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Representative Site Photo: Bridge over creek crossing



Representative Site Photo: Parking Area



**WARM MINERAL SPRINGS**  
THREATENED AND ENDANGERED SPECIES SURVEY  
PHOTO LOG

---



Representative Site Photo: Open Land



Representative Site Photo: Open Land and Community Garden



**WARM MINERAL SPRINGS**  
THREATENED AND ENDANGERED SPECIES SURVEY  
PHOTO LOG

---



Representative Site Photo: Open Land



Representative Site Photo: Open Land



**WARM MINERAL SPRINGS**  
THREATENED AND ENDANGERED SPECIES SURVEY  
PHOTO LOG

---



Representative Site Photo: Open Land



Representative Site Photo: Open Land



**WARM MINERAL SPRINGS**  
THREATENED AND ENDANGERED SPECIES SURVEY  
PHOTO LOG

---



Representative Site Photo: Shrub and Brushland



Representative Site Photo: Shrub and Brushland

**WARM MINERAL SPRINGS**  
THREATENED AND ENDANGERED SPECIES SURVEY  
PHOTO LOG

---



Representative Site Photo: Shrub and Brushland



Representative Site Photo: Shrub and Brushland



**WARM MINERAL SPRINGS**  
THREATENED AND ENDANGERED SPECIES SURVEY  
PHOTO LOG

---



Representative Site Photo: Shrub and Brushland



Representative Site Photo: Shrub and Brushland



**WARM MINERAL SPRINGS**  
THREATENED AND ENDANGERED SPECIES SURVEY  
PHOTO LOG

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Representative Site Photo: Hardwood Conifer Mixed



Representative Site Photo: Hardwood Conifer Mixed



**WARM MINERAL SPRINGS**  
THREATENED AND ENDANGERED SPECIES SURVEY  
PHOTO LOG

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Representative Site Photo: Hardwood Conifer Mixed



Representative Site Photo: Offsite Depression



**WARM MINERAL SPRINGS**  
THREATENED AND ENDANGERED SPECIES SURVEY  
PHOTO LOG

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Representative Site Photo: Homeless Encampment



Representative Site Photo: Homeless Encampment



**WARM MINERAL SPRINGS**  
THREATENED AND ENDANGERED SPECIES SURVEY  
PHOTO LOG

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Representative Site Photo: Illegal Dumping



Representative Site Photo: Illegal Dumping



**WARM MINERAL SPRINGS**  
THREATENED AND ENDANGERED SPECIES SURVEY  
PHOTO LOG

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Gopher Tortoise Burrow #6 Potentially Occupied



Gopher Tortoise Burrow #29 Potentially Abandoned



**WARM MINERAL SPRINGS**  
THREATENED AND ENDANGERED SPECIES SURVEY  
PHOTO LOG

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Gopher Tortoise Burrow #30 Potentially Occupied



Gopher Tortoise Burrow #32 Potentially Abandoned



**WARM MINERAL SPRINGS**  
THREATENED AND ENDANGERED SPECIES SURVEY  
PHOTO LOG

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Gopher Tortoise Burrow #46 Potentially Occupied



Gopher Tortoise Burrow #48 Potentially Abandoned



**WARM MINERAL SPRINGS**  
THREATENED AND ENDANGERED SPECIES SURVEY  
PHOTO LOG

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Gopher Tortoise Burrow #53 Potentially Occupied



Gopher Tortoise Burrow #57 Potentially Abandoned

## **APPENDIX B – BIODIVERSITY MATRIX QUERY RESULTS**





1018 Thomasville Road  
 Suite 200-C  
 Tallahassee, FL 32303  
 850-224-8207  
 850-681-9364 fax  
 www.fnai.org

# Florida Natural Areas Inventory

## Biodiversity Matrix Query Results

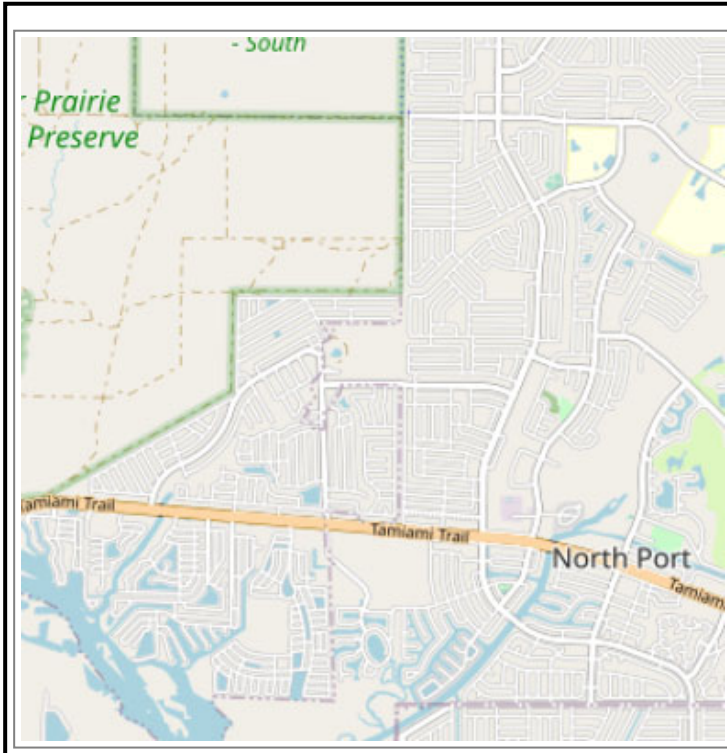
### UNOFFICIAL REPORT

Created 4/18/2023

(Contact the FNAI Data Services Coordinator at 850.224.8207 or  
 kbrinegar@fnai.fsu.edu for information on an official Standard Data Report)

NOTE: The Biodiversity Matrix includes only rare species and natural communities tracked by FNAI.

### Report for 2 Matrix Units: 29092 , 29392



#### Descriptions

**DOCUMENTED** - There is a documented occurrence in the FNAI database of the species or community within this Matrix Unit.

**DOCUMENTED-HISTORIC** - There is a documented occurrence in the FNAI database of the species or community within this Matrix Unit; however the occurrence has not been observed/reported within the last twenty years.

**LIKELY** - The species or community is *known* to occur in this vicinity, and is considered likely within this Matrix Unit because:

1. documented occurrence overlaps this and adjacent Matrix Units, but the documentation isn't precise enough to indicate which of those Units the species or community is actually located in; *or*
2. there is a documented occurrence in the vicinity and there is suitable habitat for that species or community within this Matrix Unit.

**POTENTIAL** - This Matrix Unit lies within the known or predicted range of the species or community based on expert knowledge and environmental variables such as climate, soils, topography, and landcover.

#### Matrix Unit ID: 29092

0 Documented Elements Found

1 Documented-Historic Element Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
<i>Geological feature</i>	GNR	SNR	N	N

4 Likely Elements Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
<a href="#">Aphelocoma coerulescens</a> Florida Scrub-Jay	G2?	S1S2	T	FT
<i>Mesic flatwoods</i>	G4	S4	N	N
<a href="#">Mycteria americana</a> Wood Stork	G4	S2	T	FT

**Matrix Unit ID: 29392**

0 Documented Elements Found

0 Documented-Historic Elements Found

2 Likely Elements Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
<i>Mesic flatwoods</i>	G4	S4	N	N
<a href="#">Mycteria americana</a> Wood Stork	G4	S2	T	FT

**Matrix Unit IDs: 29092 , 29392**

21 Potential Elements Common to Any of the 2 Matrix Units

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
<a href="#">Acipenser oxyrinchus desotoi</a> Gulf Sturgeon	G3T2T3	S2?	T	FT
<i>Antigone canadensis pratensis</i> Florida Sandhill Crane	G5T2	S2	N	ST
<a href="#">Athene cunicularia floridana</a> Florida Burrowing Owl	G4T3	S3	N	ST
<a href="#">Calopogon multiflorus</a> many-flowered grass-pink	G2G3	S2S3	N	T
<a href="#">Centrosema arenicola</a> sand butterfly pea	G2Q	S2	N	E
<a href="#">Drymarchon couperi</a> Eastern Indigo Snake	G3	S2?	T	FT
<a href="#">Eumops floridanus</a> Florida bonneted bat	G1	S1	E	FE
<a href="#">Gopherus polyphemus</a> Gopher Tortoise	G3	S3	C	ST
<a href="#">Lechea cernua</a> nodding pinweed	G3	S3	N	T
<i>Linum carteri</i> var. <i>smallii</i> Small's flax	G2T2	S2	N	E
<i>Lithobates capito</i> Gopher Frog	G2G3	S3	N	N
<a href="#">Matelea floridana</a> Florida spiny-pod	G2	S2	N	E
<i>Mustela frenata peninsulæ</i> Florida Long-tailed Weasel	G5T3?	S3?	N	N
<a href="#">Nemastylis floridana</a> celestial lily	G2	S2	N	E
<a href="#">Nolina atopocarpa</a> Florida beargrass	G3	S3	N	T
<a href="#">Podomys floridanus</a> Florida Mouse	G3	S3	N	N
<a href="#">Pteroglossaspis ecristata</a> giant orchid	G2G3	S2	N	T
<a href="#">Rhynchospora megaplumosa</a> large-plumed beaksedge	G2	S2	N	E
<i>Typocerus fulvocinctus</i> Yellow-banded Typocerus Long-horned Beetle	G2G3	S2S3	N	N
<a href="#">Ursus americanus floridanus</a> Florida Black Bear	G5T4	S4	N	N
<a href="#">Zephyranthes simpsonii</a> redmargin zephyrlily	G2G3	S2S3	N	T



**Disclaimer**

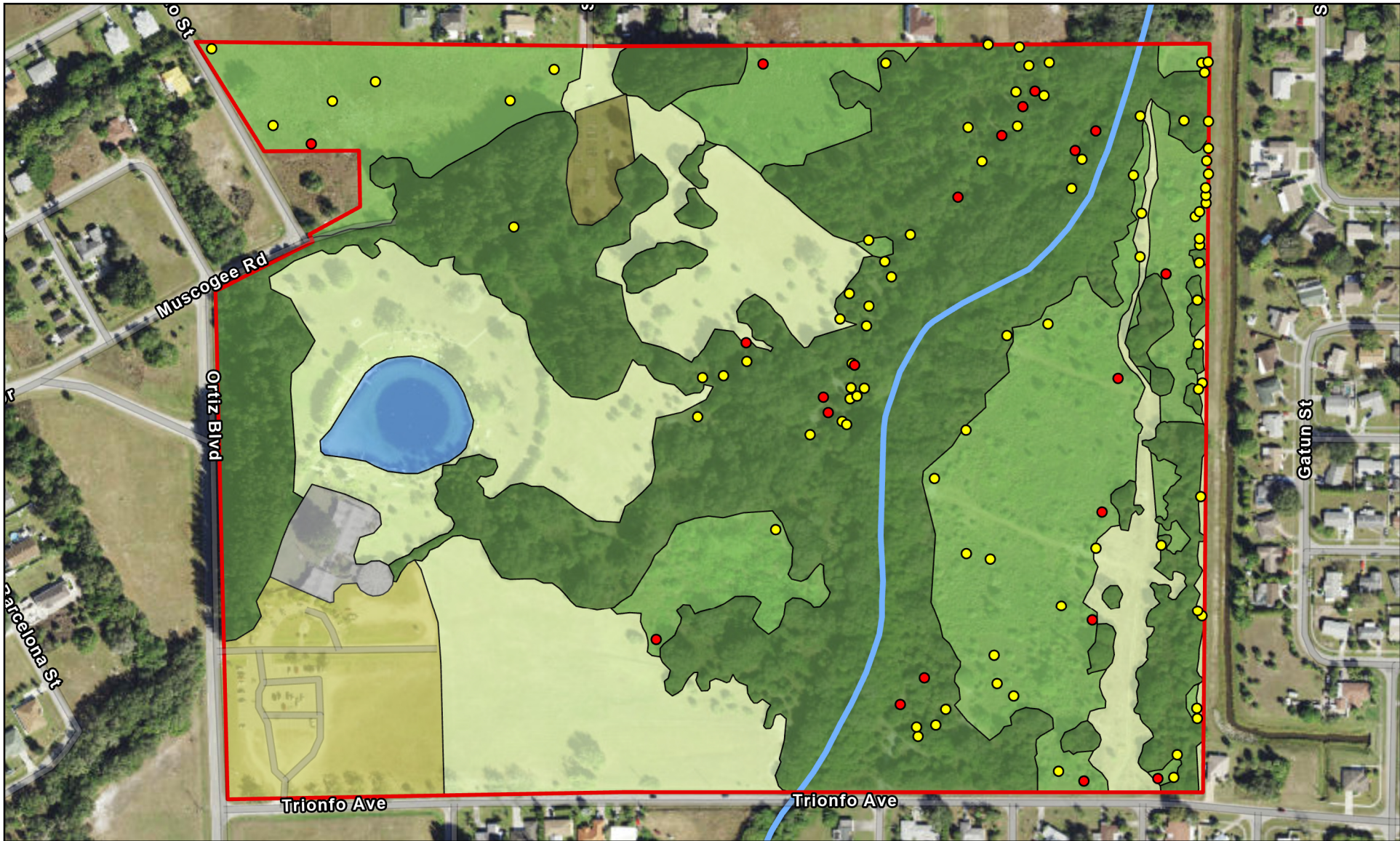
The data maintained by the Florida Natural Areas Inventory represent the single most comprehensive source of information available on the locations of rare species and other significant ecological resources statewide. However, the data are not always based on comprehensive or site-specific field surveys. Therefore, this information should not be regarded as a final statement on the biological resources of the site being considered, nor should it be substituted for on-site surveys. FNAI shall not be held liable for the accuracy and completeness of these data, or opinions or conclusions drawn from these data. FNAI is not inviting reliance on these data. Inventory data are designed for the purposes of conservation planning and scientific research and are not intended for use as the primary criteria for regulatory decisions.

**Unofficial Report**

These results are considered unofficial. FNAI offers a [Standard Data Request](#) option for those needing certifiable data.

## **APPENDIX C - GOPHER TORTOISE BURROW MAP**





## Warm Mineral Springs Threatened and Endangered Species Survey Results

12200 San Servando Ave, North Port, Florida

Survey Area	Major Springs	Creek
Open Land	Parking Area	Gopher Tortoise Burrow
Shrub and Brushland	Buildings	Potentially Occupied
Hardwood - Conifer Mixed	Community Garden	Potentially Abandoned

**PSG**

Survey Dates: April 26, 27, May 8, 2023

