



CITY OF MOUNT DORA™

City of Mount Dora
W.T. Bland Public Library
1995 N. Donnelly St.
Mount Dora, FL 32757
352-735-7180

E-mail: library@cityofmoundora.com

W.T. BLAND PUBLIC LIBRARY BOARD MEETING

Community Room, W.T. Bland Public Library, 1995 N. Baker Street, Mount Dora, FL 32757
January 9, 2023 at 5:00 PM

AGENDA

- I. Call to Order
- II. Roll Call
- III. Approval of Minutes
 - A. December 12, 2022 Library Advisory Board Minutes
- IV. Public Comment
- V. Presentations
 - A. Forest Preserve Concept Plan
- VI. Library Director's Report
- VII. Action Items
- VIII. Discussion Items
 - A. Library Materials Review
- IX. Liaison Report
- X. Future Meeting Dates
- XI. Adjournment

NOTICE: Please note that, for purposes of Section 286.011, Florida Statutes, two or more members of the City Council may be present at this meeting, and this meeting may be considered a City Council meeting.

NOTICE: If any person decides to appeal any decisions at this meeting with respect to any matter considered, such person may need a record of these proceedings. For such purpose, a person may need to ensure that a verbatim record of the proceedings is made, which record includes the testimony and evidence upon which the appeal is to be based.

NOTICE: In accordance with the Americans With Disabilities Act of 1990, persons needing special accommodations to participate in this proceeding should contact LaJun Garry no later than seven (7) days prior to the proceedings. Telephone (352) 735-7180 ext. 3101. for assistance. If hearing impaired, telephone the Florida Relay Service numbers (800) 955-8771 (TDD) or (800) 955-8770 (Voice) for assistance.

If you have any comments or question regarding the contents of this agenda packet, please call LaJun Garry at (352) 735-7180 ext. 3101.



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Fax: 352-735-0074**

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**W. T. BLAND PUBLIC LIBRARY BOARD MEETING
W.T. Bland Public Library, 1995 N. Donnelly Street, Mount Dora, FL 32757
Monday, December 12, 2022 - 5:00 p.m.**

MINUTES

PRESENT: Cathy Gillespie (Chair), Helen Cutshaw, Ellen August, Carolyn Fountain, Yiris Rivera and William Lowery (Co Chair)

ABSENT: Janet Machon, Robert N. Cooper

CITY STAFF: Cathy Lunday-Library Director and LaJun Garry-Administrative Assistant

OTHERS PRESENT: Visitor (Didn't sign in on attendance sheet)

I. Call to Order

Ms. Gillespie called the meeting to order at 5:03p.m. Informed members during the December 6, 2022 City Council meeting that Mr. Robert Cooper was appointed as an official Library Advisory Board member and that he could not be at the meeting today.

II. Roll Call

III. Approval of Minutes for October 10, 2022

MOTION by Ms. Cutshaw SECONDED by Mr. Lowery to approve minutes from October 10, 2022.

AYE: Gillespie, Cutshaw, August, Fountain, Rivera, Lowery

NAY: None

MOTIONED CARRIED 6-0

IV. Public Comment

Ms. Gillespie said we have a visitor with us today and asked whether he would like to speak. The visitor declined to comment at this time.

V. Presentations

Ms. Lunday shared Mr. Cooper has been in regular attendance at our board meeting for the past several years and he's excited about being a member.

Ms. Lunday presented outgoing chair Ms. Gillespie with an appreciation certificate honoring her participation and acknowledging her strong leadership as chair of Mount Dora's Public Library Advisory Board and serving as voting member of the Lake County Library Advisory Board.

VI. Library Director's Report

Ms. Lunday shared:

- Library Impact fee fund unofficial balance is \$782,643.
- Both Forest Preserve and the Simpson Farmhouse expansion projects are fully funded.
- Friends of the Library agreed to sponsor and fund \$5,000 for our new affinity card program.
- Adult Services Librarian position has been restored and approved. Hoping to hire someone for this position soon.
- Library Advisory Board will view presentation of formal plans for Forest Preserve at next meeting.

Books

The Library Director shared three books: *When Harry Became Sally* by Ryan T. Anderson, *Cannabis* by Danny Danko and *Naked* by Myriam Daguzan Bernier.

VII. Action Items

None

VIII. Discussion Items

Ms. Gillespie informed board that her term has expired; therefore, the board is in need of a chair. Nomination was opened for chair. Mr. Cooper has expressed interest to serve as chair. Discussion ensued. Position for chair was unopposed.

MOTION by Ms. Fountain, SECONDED by Mr. Lowery to approve Mr. Cooper as Chair for the W.T. Bland Public Library Advisory Board for 2023.

AYE: Gillespie, Cutshaw, August, Fountain, Rivera, Lowery

NAY: None

MOTIONED CARRIED 6-0

Nomination was opened for co-chair. Ms. Cuthaw volunteered to serve as co-chair. The position for co-chair was unopposed.

Ms. Cutshaw was unanimously approved as Co-chair for the W.T. Bland Public Library Advisory Board for 2023.

AYE: Gillespie, Cutshaw, August, Fountain, Rivera, Lowery

NAY: None

MOTIONED CARRIED 6-0

IX. Future Meeting Date

1. January 9, 2023

IX. Adjournment

MOTION by Mr. Lowery, SECONDED by Ms. August to adjourn the December 12, 2022 meeting.

AYE: Gillespie, Cutshaw, August, Fountain, Rivera, Lowery

NAY: None

MOTIONED CARRIED 6-0

Meeting adjourned.

Cathy Gillespie, Chair

Cathy Lunday, Director



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E-mail: library@cityofmoundora.com

DATE: January 9, 2023

TO: Library Advisory Board Members

FROM: Cathy Lunday, Library Director

SUBJECT: Forest Preserve Concept Plan

Introduction:

The 12+ acres of greenbelt forest to the west of the W.T. Bland Public Library has been evaluated and a plan for development and protection of it as Mount Dora's first nature preserve is being presented, with Task Authorization approval requested (ATTACHMENT #1) by City Council. After the Library Advisory Board, the Parks and Recreation Advisory Board will review this plan and then it will be presented to City Council.

Discussion:

In conceptual development since 2018, the proposed Forest Preserve is defined as a "nature preserve," which is a permitted use of greenbelt district lands as identified in Mount Dora's Land Development Code 3.4.1. Although acceptable uses for nature preserves are not further delineated in the Code, preserves typically include passive recreation, watershed conservation and restoration work (removal of invasive species). Where parks are developed for recreation purposes, nature preserves are mostly undeveloped land. Nature preserves can't be "made" - they either include a ravine, creek, prairie, pristine habitat or they don't - whereas parks can be designed to include any number of amenities as long as there is space. By definition, a preserve exists to maintain and preserve the existing habitat, watershed and wildlife in perpetuity, never to be developed or sold.

The purpose of Mount Dora's first preserve is to protect and restore undeveloped land so that future generations can enjoy and experience it, as well as provide a small refuge for the once-prevalent native species that are home to this region. This land will be actively managed, with a focus on restoration to its original state, and the programming will be intentionally pro-conservation. No traditional parks or entertainment-focused amenities are being considered, such as playground equipment, facility rentals, picnic tables, bathrooms or sound systems.

Physical Assessment of the Forest

The site is an ideal candidate for nature preserve designation. Approximately one mile of unpaved trails already exists, with a significant change in elevation toward the northwesternmost portion of the land due to a steep ravine. The entire preserve has plenty of shade from the mature tree canopy, rendering it ideal for year-round hiking. The site also includes waterfront access to Lake John, which lends itself to a bird blind or other spot for quiet contemplation of wildlife (not included in this concept plan). This site presents an ideal, centrally located amenity for Mount Dora residents and visitors to enjoy a quiet walk, observe nature and wildlife and take part in environmental programming.

Both the Seminole and Lake County State Foresters conducted an on-site examination of the forest, and presented their findings to staff (ATTACHMENT #2). To summarize, the forest is in the midst of succession from its original longleaf pine sandhill stand to its ongoing evolution to a hardwood hammock. Development of adjacent homesites decades ago and the lack of pre-settlement fires have brought significant invasive species encroachment. Left unmanaged, the forest will ultimately lose its herbaceous understory - and with it all the insects and wildlife upon which it feeds. Although this transition won't affect the trails, it will greatly diminish the variety of species - flora and fauna - available for viewing. The State Foresters are amenable to further consultation, perhaps with the planned-for City Arborist, who could oversee larger restoration initiatives included in the foresters' report.

An environmental site assessment (ATTACHMENT #3) was completed in June 2022, and included a threatened and endangered plant and animal survey, preliminary wetland delineation and a gopher tortoise burrow survey. No endangered animals or their burrows or habitats were observed. One State of Florida endangered plant was observed in the northeast corner: the Pineland Butterfly Pea plant, which is endemic to central Florida. The report concluded that the tract of land was suitable for hiking trails and other minimal impact amenities. A Mount Dora resident completing his Environmental Studies B.S. degree also completed an inventory of all the flora in the tract, with a detailed list of his findings (ATTACHMENT #4).

Trails and Trailheads

The main trailhead (entrance) to the forest is located on the southernmost side off of Jackson Avenue. There are no parking signs or designated parking spaces at this entrance. A second trailhead is located at the end of Suzanne Drive, where public parking is prohibited. This trailhead is used primarily by the residents who live near it and no changes are proposed for it.

A trail study was completed in November 2022 (ATTACHMENT #5), with staff requesting GPS mapping of two new trails:

- A short bypass trail on the northernmost side, connecting the trails that terminate at Suzanne Drive, and designed to divert public foot traffic from that residential area. On the map, this is the red-dotted trail that is 251.6 feet in length.
- A 185 yard loop trail, to be constructed of composite materials that resemble wood and elevated off the forest floor. The proposed width is four to five feet, with two wider circular areas designated to the south of the loop. These two areas are already clear of trees, would include rustic bench seating and would serve as the plan's original "pavilion". On the map, this is the eastern red-dotted trail that is 262.2 feet in length (doesn't include the loop). This trail would include a new trailhead directly across

Jackson Avenue from the library's parking lot. This boardwalk trail would also connect to the existing dirt trail, providing a richer hiking experience.

- On the map, the yellow-dotted trail is not being proposed.

Staff required the trail mapping study to avoid all desirable flora, such as live oaks, longleaf pines and any Pineland Butterfly Pea plant locations. Signage will encourage visitors to remain on the trail throughout the preserve for their own safety and preservation of habitat.

Identical entry kiosks are proposed for both the existing and new public trailheads, for the display of maps, rules and environmental education. No further amenities are proposed for the Suzanne Drive trailhead. These two kiosks will be designed to evoke anticipation and curiosity and will include a professional landscape design.

Signage

Wayfinding, interpretative signs and story walk signage will be important features, with a focus on environmental stewardship education. Wayfinding signs will steer visitors away from residential areas and the lift station. They'll also include information about elevations and tread obstacles to help all trail users assess trail suitability for their own abilities. Interpretative signs will identify important species and processes, to help visitors connect with the forest as a living ecosystem. A traditional story walk is planned for the boardwalk loop trail, with the Friends of the Library already committed to its installation and monthly refreshing with new illustrated children's books. A more unorthodox story walk is planned for the existing mile trails, inspiring adults with art-infused meditations and nature-based prose (also nonprofit-sponsored).

Parking and Connectivity

There are currently no designated parking spaces for this city amenity. Between five and eight permeable surface parking spaces are proposed at the existing trailhead and between four and six spaces are proposed for the library-side trailhead, for a total of up to 14 streetside parking spaces. An additional accessible parking space will be carved out of two existing spaces in the library's new parking lot, since it is already paved. No paving is being proposed for parking spaces or walkways in Forest Preserve. Parking for library-sponsored programs held in the forest will remain in the library's existing 86 parking spaces.

The plan includes connectivity with the library and the Nunan Butterfly Garden, with a sidewalk commencing from the garden's western boundary, through a crosswalk across the parking lot and then across Jackson Avenue. This crosswalk will be raised and likely constructed of pavers, to both improve safety and aesthetics and slow the vehicular traffic to and from Mount Dora Christian Academy. Connecting the library to the forest is key, in that it provides the public with direct access to restrooms and shelter from inclement weather. It is also critical to provide an easy way for staff to conduct programming, with a pathway that is stroller-friendly and easy-to-find.

Parks Department Maintenance Assessment

Parks staff currently maintain about half of the existing trails, providing a wide foliage-free pathway, removing fallen trees (sometimes quite large) and trash removal. Parks staff has reviewed the preserve's development plans and lists the following additional Parks' responsibilities required for optimal maintenance:

- Daily trash removal and cleaning of two entry kiosks.
- Weekly trail clearing and mowing (growing season) of the entire 1+ mile trail network and permeable parking spaces.
- Weekly blowing of boardwalk and connecting paved sidewalks.
- Periodic insect spraying (wasps), maintenance of the boardwalk and cleaning of approximately 40+ signs.

In order to assure proper maintenance of Forest Preserve, an additional 10-15 Parks hours per week will be needed, which will increase one Parks part-time employee to full-time. Development of the preserve without this addition of Parks staffing is not advised.

Volunteer Efforts

A volunteer-led invasive species initiative was launched in January 2022, meeting on the fourth Saturday of each month. To-date these volunteers have removed an estimated 1,000 lbs. of coral ardisia from the preserve. This plant has a particularly pernicious effect in the preserve due to its near-constant production of berries, which have a near-90% germination rate. Numerous other invasive species will be targeted and at some point there will be volunteer efforts to introduce long-absent native plants back to the tract, once safe from invasive species. Over time, volunteers will also help produce programs, provide trail clearing and planning involvement.

Additional Ordinances

Staff recommends that the preserve not be available for trail bikes, motorized bikes or conveyances, pavilion and party rentals or other large events. As the city's first nature preserve, at least two ordinances are being considered in order to maintain the quiet necessary for nature appreciation:

- Prohibition of all bicycles and motorized conveyances, other than those required for accessibility.
- Prohibition of broadcast music, podcasts and other manufactured noise that is not confined to users' headsets.

Library Role

Library staff proposes to actively manage and program this City amenity in the same manner as it operates the Nunan Butterfly Garden, with a strong volunteer network, no facility rentals, an emphasis on the propagation of native species and environmental programming for all ages. Parks staff will continue to maintain the trails, along with other responsibilities. The two departments will work together to coordinate volunteer clean-up days, preserve improvements, etc. As with the Butterfly Garden, library staff will develop a network of volunteers, including neighbors, residents, retirees and interested professionals, who will provide ongoing advocacy for improvements and restoration. In addition, library nonprofits will be solicited for additional support of preserve amenities.

Funding

As an expansion of the library's learning commons, this project qualifies for Mount Dora library impact fee funds. In addition, a \$50,000 grant from the Florida Department of Environmental Protection (FRDP) agency was awarded in 2021 and accepted by the city in September 2021.

Finally, all three of the library's supporting nonprofits are interested in the project, with the Friends of the Library having already committed funds for the children's story walk.

Future Plans

The final piece of this project is to connect the library, the Simpson Farmhouse, the Nunan Butterfly Garden and the Forest Preserve with the remaining four-acre tract of land directly behind the farmhouse, known for years by residents as the Goat Pond. This site could include a path around the stormwater feature, which has since grown into lush vegetation with occasional standing water. A sidewalk could connect it to the farmhouse and the preserve. The public right-of-way and fencing directly adjacent to the homes to the west of the pond could be moved further away, reducing the amenity's impact on the neighborhood. These plans are not included in this proposal.

Budget Impact:

In 2021, staff estimated the total cost of this project to be approximately \$330,000 (costs may have increased). Staff intends to utilize Library Impact Fees for all required assessments and construction (GL #310-5555-580.63-01-LI2207) as well as the awarded \$50,000 FRDP grant. There will be nonprofit sponsorship of certain elements, such as the story walk.

Strategic Impact:

The Forest Preserve project is in line with Goal #2 - Infrastructure, in that it develops a unique recreational space for all ages and abilities and complements the Parks and Recreation Master Plan, as it is included in the short-term project prioritization (p. 132).

Recommendation City Council to approve the Task Authorization for HALFF's civil engineering services for Forest Preserve for \$52,070.

Attachment(s):

1. ATTACHMENT #1 - 22-025 Forest Preserve.BESH Halff.Task Authorization Final
2. ATTACHMENT #2 - FFS Forest Preserve Recommendations 12202022
3. ATTACHMENT #3 - HRWP - (City of Mt Dora Forest Preserve PESA Report) 6-14-22 Final
4. ATTACHMENT #4 - Jared Brown - Forest Preserve Analysis
5. ATTACHMENT #5 - Mt Dora Forest Preserve Revised Trail Map - Final 11-18-22

Prepared by: Cathy Lunday, Library Director

Reviewed by: Cathy Lunday, Library Director

Final Approval - 1/4/2023

ATTACHMENT #1

CITY OF MOUNT DORA TASK AUTHORIZATION FORM

In accordance with the terms and conditions of the Agreement between BESH (Contractor) and the City of Mount Dora, approved under Resolution No. 2018-178, dated October 4, 2018 and the Assignment between BESH and Halff Associates, Inc. d/b/a BESH Halff accepted by City Council on October 6, 2020, the parties hereto agree to the scope of work, pricing, schedule and subcontractors set forth herein.

Project Amount:

Budget Account Number:

City Project Manager:

Contractor:

Contractor Project Manager:

NOTE: THE CONTRACTOR MAY NOT BEGIN WORK UNTIL THIS FULLY SIGNED TASK AUTHORIZATION AND A CITY PURCHASE ORDER ARE DELIVERD TO THE CONTRACTOR.

SUMMARY OF WORK TO BE COMPLETED

Each Task Authorization package shall include:

Exhibit A – Scope of Work
Exhibit B – Sub-Contractors
Exhibit C - Compensation

Recommended By:

Print: _____

Date: _____

Signature: _____

Reviewed By:

Print: _____

Date: _____

Signature: _____

CONTRACTOR ACCEPTANCE

CITY APPROVAL

Print Name:

Print Name:

Signature:

Signature:

Date:

Date:



VIA EMAIL cramerc@ci.mount-dora.fl.us

June 20, 2022, revised July 6, 2022, revised October 26, 2022

Chet Cramer
Construction Project Manager
City of Mount Dora
510 N. Baker Street
Mount Dora, FL 32757

**RE: REVISED PROPOSAL / AGREEMENT FOR PUBLIC LIBRARY FORESTRY
RESERVE PROJECT, MOUNT DORA, FLORIDA, LAKE COUNTY
HALFF AVO 044712.112)
(RFQ #18-PW-009)**

Dear Mr. Cramer:

HALFF is pleased to submit the following Scope of Work.

SCOPE OF SERVICE:

Halff Associates is pleased to submit the following proposal with regards to the City of Mount Dora's (COMD) Public Library Forestry Preserve Project within the city of Mount Dora, FL. HALFF Associates, as a part of COMD Professional Services Agreement for Professional Consultant Services dated October 4, 2018, was requested by COMD to provide a proposal for the design of civil and recreational landscape features for a trail system within the COMD property near the COMD Public Library off of Donnelly St. The scope of work shall consist of performing Project Administration, Permitting & Agency Review, Construction Contract Documents, assisting with Bidding and provide Construction Administration Services. The preliminary design schedule is based on an anticipated notice to proceed date of October 1, 2022. Preliminary design October-December 2022, final design January 2023, and construction documents February 2023.

SCOPE OF WORK:

PHASE 100 PROJECT ADMINISTRATION

The scope of services shall consist of administrative services necessary throughout the phases to coordinate all aspects of the project through the various Tasks listed below. This includes OWNER coordination meetings, project reporting and scheduling, project QA/QC and various project management duties.

FEE: \$2,275.00

PERMITTING AND AGENCY REVIEW PHASES

Permitting services shall include coordinating, preparing, submitting, and obtaining regulatory permits during the design and construction phases of the project. This service includes the applications for the following regulatory permits:

PHASE 200 FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP) ENVIRONMENTAL RESOURCE PROGRAM (ERP) PERMIT THROUGH THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT (SJRWMD)

Prepare stormwater calculations, required exhibits, and submit SJRWMD permit application. This phase also includes attending meeting(s) with the District, as needed, and respond to the agency's Request for Additional Information (RAI) in order to receive the permit.

FEE: \$7,140.00

PHASE 300 CITY OF MOUNT DORA SITE PLAN APPLICATION

Prepare and submit City of Mount Dora Construction Plan permit application, attend Development Review Committee (DRC) meeting(s), and address staff review comments through plan revisions in order to obtain City of Mount Dora approval.

FEE: \$4,840.00

PHASE 400 GEOTECHNICAL INVESTIGATION (ANDREYEV ENGINEERING, INC.)

Geotechnical Investigation to be provided by Andreyev Engineering, Inc., for stormwater design and evaluation of soils for pavement and building foundation design. A more detailed summary of work is as follows:

- Drill two (2) Standard Penetration Test (SPT) borings to a depth of 20 feet below ground surface within the two (2) entry kiosk areas for foundation evaluation.
- Drill four (4) manual auger borings to a depth of up to 7 feet below ground surface in the paved off-street parking areas for pavement evaluation.
- Measure the boring locations using a high precision GPS device.
- Prepare a geotechnical report including results of the soil investigations in profile form, locations of the soil borings (Latitude & Longitude and State Plane NAD 83 coordinates), evaluation of encountered conditions, estimation of seasonal high groundwater, and recommendations for proper site preparation, support of the proposed pavilion structures on shallow foundations and pavement section design.

This fee assumes that the site is clear and accessible to truck-mounted drilling equipment. If clearing services are necessary, you will be invoiced for the clearing costs incurred to AEI plus an additional 20%. Alternatively, you may provide clearing services to the boring locations indicated by AEI. This estimate also assumes that no traffic control will be needed during our field investigations. We anticipate that we can begin this investigation within 15 working days after receiving your authorization, and we estimate report completion within 12 to 15 working days thereafter.

FEE: \$4,970.00

PHASE 500 LANDSCAPE DESIGN

Halff will prepare detailed landscape plans for the areas immediately adjacent of the two (2) entry features and parking lots. These plans will be prepared as follows:

1. Halff will coordinate with the engineer of record to determine final entry feature location based on available site plan. Landscape plans will be prepared at an appropriate scale and will be submitted to the CLIENT for refinement, once. Parking lot landscaping shall comply with Mt. Dora LDC. Any additional refinement will be done on an hourly basis.
2. Upon completion of design revisions Halff will prepare Final Construction Documents, these plans shall be considered Final and used for Bidding and Construction.
3. Halff is able to prepare "enhanced" landscape plans, which may include pavers, irrigation, retaining walls, lighting plans, fountains, signage, and other site amenities, but is not included within this proposal.
4. One site visit with the CLEINT is anticipated and shall be billed hourly under client coordination. Additional site visits, as directed by the CLIENT, shall also be billed hourly under client coordination.

FEE: \$4,235.00

PHASE 600 LIGHTING DESIGN (ELECTRIC SERVICES, INC.)

Electric Services, Inc., subconsultant to HALFF, will prepare construction documents required for permit application and competitive bidding. The scope includes parking area lighting for the two (2) new parking areas and canopy structures for the entrances. The scope also includes the following:

1. Site investigation of existing facilities.
2. Parking area lighting design including photometric point-by-point calculations, fixture selection, required pole details, lighting controls and circuit design.
3. Lighting design of canopy structures including fixture selection, layout, lighting controls and circuit design.
4. New service design for parking areas as may be required.
5. Power distribution system(s) to accommodate lighting as required.
6. Coordination with electric utility for new service.
7. Required fault current calculations.

FEE: \$6,040.00

PHASE 700 CONSTRUCTION CONTRACT DOCUMENTS

ENGINEER will prepare a set of plans for bidding, that demonstrates the requested features near the COMD Public Library Forestry Preserve Trail area. Plans will include trail/park features to include the following design guidelines/features:

1. Design an ADA-accessible, aboveground walkway/trail
2. Design walkway between the Butterfly Garden and one of the preserve entry points.
3. Design off-street parking for the trail/preserve with lighting
4. Design two (2) entry structure with kiosk/display based on examples provided and provide landscaping design around the entry points only.
5. Provide the installation of no more than twenty (20) Story Wall signs only; COMD to provide the material,
6. Provide the installation of no more than twenty (20) interpretive signs only; COMD to provide the material.

7. Provide a cost-effective barrier that blends with the environment around the existing lift station.
8. Provide rustic seating near the existing intersection of the trail system HALFF
9. Provide a typical section of a proposed trail that connects two existing trail that exit towards the west into the residential area.

Trail geometrics (if required), typical trail section, plan sheets depicting limits of work, and general notes for construction activities will be included in the. Construction Contract Developments services shall consist of providing Construction Contract Documents for the Preliminary and Final Design deliverables which shall include, but not limited to, the following:

1. Construction Plans
 - a. Site/Geometry Plan of COMD Public Library Forestry Preserve Trail
 - b. Erosion Control Plan
2. Contract Document Book to include Contractual Documents and Technical Specifications
3. Engineer's Opinion of Probable Construction Costs.

The Preliminary Design deliverable shall consist of Construction Plans with the project specific details, and all specifications for OWNER review. The Final Design Deliverable shall consist of Construction Contract Documents that will be used for Bidding purposes.

FEE: \$9,260.00

PHASE 800 BID

ENGINEER will provide construction contract documents to the City's Construction Project Manager for project bidding. During this phase of the project, ENGINEER shall attend the pre-bid meeting, develop meeting minutes, address bidder's questions and/or Request for Information (RFI) prior to bid award, assist with and/or issue addendums to the construction contract documents, assist evaluating Contractors' Bid Proposals and provide a recommendation, and develop Conformed Documents for issuance prior to the pre-construction meeting.

FEE: \$4,205.00

PHASE 900 CONSTRUCTION ADMINISTRATION

ENGINEER will advise and consult with OWNER, and act as one of its representatives during construction. ENGINEER will make visits to the site to observe the progress and quality of the executed site work and to determine in general if the work is proceeding in accordance with the Construction Documents. ENGINEER shall attend project meetings led by the Contractor during construction, and will review and provide recommendations to submittals, shop drawings, results of tests and inspections and other information the contractor is required to submit. ENGINEER will also review Contractor's RFI and provide feedback to the OWNER and Contractor, as necessary. ENGINEER shall address OWNER's questions or concerns regarding Pay Requests and shall attend the Contractor's Substantial Completion and/or Final Completion Walk-through and provide inputs to the OWNER's punch list.

FEE: \$8,105.00

PHASE 9999 REIMBURSABLES

Costs for reimbursables, including printing, copying, blueprints, binding, mileage, etc., shall be billed at the rates shown in the attached Rate Schedule, or at cost.

FEE: \$1,000.00 (BUDGET, TO BE BILLED AT COST)

Our fees for the described services are outlined in the following table. We have provided "Lump Sum Fees" for the services identified in the Scope of Work. Lump Sum Fees do not include Reimbursable Expenses directly associated with the project (travel, mileage, reproduction, supplies, and other non-labor reimbursable costs.) Our fee schedule is as follows:

SCHEDULE FEE SUMMARY

PHASE	AMOUNT
PHASE 100	\$2,275.00
PHASE 200	\$7,140.00
PHASE 300	\$4,840.00
PHASE 400	\$4,970.00
PHASE 500	\$4,235.00
PHASE 600	\$6,040.00
PHASE 700	\$9,260.00
PHASE 800	\$4,205.00
PHASE 900	\$8,105.00
PHASE 9999	\$1,000.00
TOTAL	\$52,070.00

This proposal does not include:

1. Florida Department of Transportation (FDOT) agency coordination and permitting
2. Lake County agency coordination and permitting
3. Topographic Surveying Services
4. Construction Surveying
5. As-Built Surveying
6. Sketch and Descriptions for Conservation Easements
7. Offsite Right-of-Way survey for utilities
8. Tree Survey
9. Off-site Roadway or Trans
10. Monumentation of wetlands for Conservation Easement
11. Platting
12. Sketch and Descriptions for Conservation Easements
13. Offsite Right-of-Way survey for utilities.
14. Off-site Utilities Design
15. Off-site Roadway or Transportation Improvements

16. NPDES Permitting
17. Conditional Use Permit
18. Earthwork Calculations
19. Rezoning
20. Land Use Changes
21. Franchise Utility Coordination
22. Conversion of AutoCad Files to any other format
23. Florida Fish and Wildlife Conservation Commission Permit
24. Landscape/Irrigation Plans
25. Hardscape, Walls, Entry Features
26. Electrical Controls for Lift Stations
27. Traffic Study / Impact Analysis
28. Noise Study
29. Reimbursables to be billed based upon direct expense incurred by Halff Associates, for blueprints, copies, mylars, reproductions, postage, etc.
30. Advance of permit fees, impact fees, title search fees, recording or advertising fees.
31. The above prices allow for up to five (5) response submittals for any request for additional information letters from referenced agencies. Any additional request's will be billed on an hourly basis based on the attached hourly rate schedule.

HOURLY RATE SCHEDULE
(2018)

Professional Services shall be charged at the following rate schedule:

ENGINEERING

PROFESSIONAL ENGINEER (PRINCIPAL)	\$175.00/HOUR
PROFESSIONAL ENGINEER	\$145.00/HOUR
PROJECT ENGINEER	\$115.00/HOUR
ENGINEER TECHNICIAN I	\$105.00/HOUR
ENGINEER TECHNICIAN II	\$80.00/HOUR
BUILDING INSPECTOR	\$70.00/HOUR
CONSTRUCTION ENGINEER	\$90.00/HOUR
EXPERT TESTIMONY PROFESSIONAL ENGINEER	\$300.00/HOUR

SURVEYING

PROFESSIONAL SURVEYOR (PRINCIPAL)	\$160.00/HOUR
PROFESSIONAL SURVEYOR	\$125.00/HOUR
4 MAN FIELD CREW	\$195.00/HOUR
3 MAN FIELD CREW	\$155.00/HOUR
2 MAN FIELD CREW	\$130.00/HOUR
SURVEY TECHNICIAN I	\$100.00/HOUR
SURVEY TECHNICIAN II	\$80.00/HOUR
EXPERT TESTIMONY PROFESSIONAL SURVEYOR	\$300.00/HOUR

All printing for this project shall be billed out at the following rate schedule, plus sales tax:
(Outside Copying Services will be billed at cost)

Engineering Bond Copies

Black & White

11 x 17.....	\$1.25
24 x 36.....	\$2.50

Color Copies

11 x 17.....	\$2.00
24 x 36.....	\$6.00

Black & White Copies

8 ½ x 11.....	\$0.10
8 ½ x 14.....	\$0.10
11 x 17.....	\$0.20

Color Copies

8 ½ x 11.....	\$0.25
8 ½ x 14.....	\$0.25
11 x 17.....	\$0.45

Other Printing Services

24 x 36 Mylar.....	\$12.00
24 x 36 Photo Paper, Color.....	\$36.00
24 x 36 Foam Board.....	\$30.00

Other Services

Fax/Scan.....	\$0.05/Page
Postage (Fed-Ex, Certified Mail, Etc)....	@ cost
Concrete Monuments.....	\$11.00
Rebar.....	\$2.00
Mileage (T/M Projects Only).....	\$0.59

ATTACHMENT #2

CITY OF MOUNT DORA FOREST PRESERVE

West 20th Avenue

Mount Dora, Florida 32757



Prepared by Chris Otremba

Senior Forester, Florida Forest Service

December 20, 2022

Mount Dora's Forest Preserve is located behind the Mount Dora Library within Section 30, Township 19, Range 27:

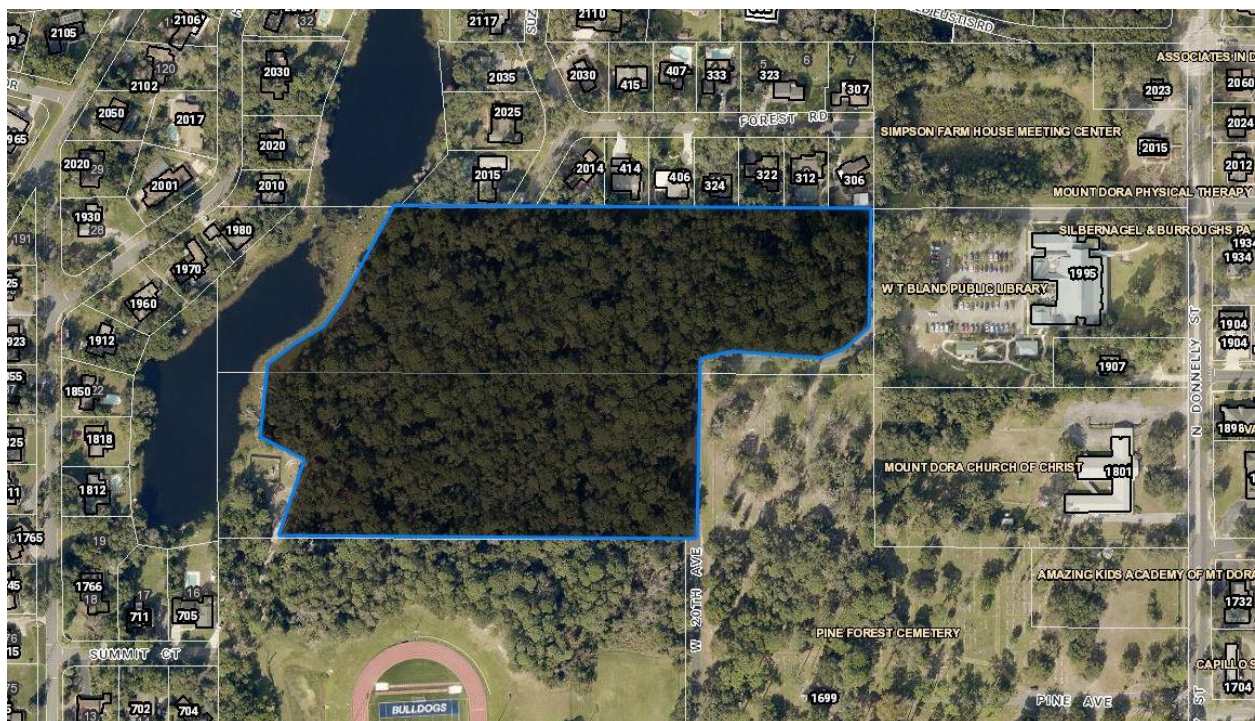


Figure 1 Forest Preserve

Description

The wooded area is about 13.5 acres. It was a longleaf pine sandhill stand in the past. The absence of fire has allowed the tract to succeed into a hardwood hammock, with laurel oaks dominating the overstory. Walking paths are present through the stand, which can be utilized for forest management (breaks for different stands, firelines for burning, recreation trails).

There is a trail entrance from West 20th Avenue that separates two distinct stands: longleaf pine and hardwood hammock. To a regular citizen, both conditions appear healthy. However, the west section is full of invasive species (especially coral ardisia) with no longleaf pine present. The picture below (Figure 2) shows a mature longleaf pine with understory that can support longleaf regeneration. Figure 2 shows the thick understory and absence of longleaf or any pine due to the lack of fire.



Figure 2 Longleaf pine, north of trail



Figure 3 Hardwood hammock, no longleaf pine - south of trail

Recommendations

There are about two-three acres with mature longleaf pine that may be managed to keep the longleaf habitat from succeeding into a hardwood hammock like on the west side of the path. It may be possible to use prescribed fire with a wet line from a brush truck and a hand crew to keep the understory low. The Florida Forest Service may be able to assist with burning. Burning may be done every three to four years.

Hand planting wiregrass and longleaf containerized seedlings should be performed after burning. These are fire tolerant species and most likely were on this property at the turn of the century.

Leaving the west portion as a hardwood hammock is acceptable and could be used as a learning opportunity to the benefits of prescribed fire and why it is utilized in Florida as a management tool. A sign like the one in Figure 4 may be useful as an educational tool.



Figure 4 Educational outdoor sign

There are more laurel oaks than desired in the longleaf habitat area. Removing about half of the laurel oak overstory will improve the stand for longleaf pine. This can be done by chainsaw. The downed trees can be left in place where they fall. Another option is to use a 'hack and squirt' herbicide technique. This involves cutting into the cambium layer of the oak and then squirting herbicide into the wound. The tree will be a snag after dying and can be used by wildlife.

Managing that area for longleaf pine would not be difficult as the conditions are not too far gone to where it would be intense ground disturbance.

There are many invasive species found though out the property: coral ardisia, cogon grass, chinaberry, camphor, Boston fern are some that are obvious. Continued removal these invasive-exotics is recommended at all times. This will be a project that has no ending but will lessen as time goes by.

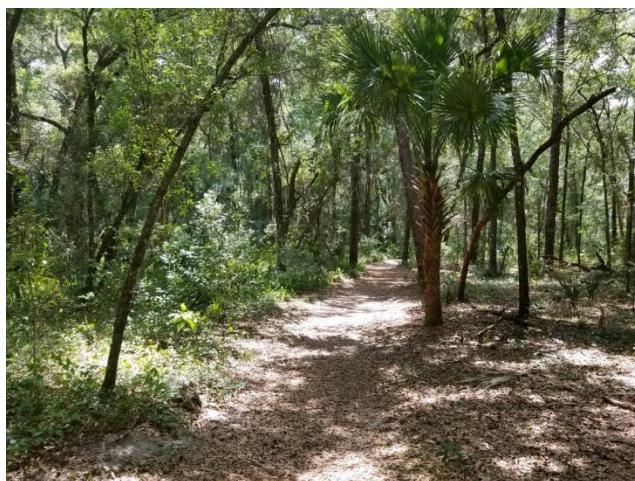


Figure 5 Path that separates hardwood hammock (left) and longleaf pine habitat (right)

The rest of the tract has many laurel oaks with a few beautiful live oaks scattered throughout.

Removing or killing some of the laurel oaks where they stand would be recommended to improve wildlife habitat along with aesthetics. The laurel oaks that are endangered of falling onto the paths should be downed as soon as possible. Laurel oaks have a life expectancy of only 65 years as compared to well over one hundred for live oaks. More paths, including a boardwalk closer to the library entrance, are being discussed as future projects.

Mechanical or chemical treatment to prevent hardwoods from succeeding would be the best option in the majority of the tract due to the proximity to schools, residential homes, and roads. Burning the whole tract would be a great risk and is not recommended.

Below, the forester is standing on the path coming from the east near the cemetery. One is able to clearly see the two distinct stand types. Behind him is the hardwood hammock with a heavy understory. In front is a longleaf pine sandhill that is slowly changing into a hardwood stand.



Figure 6 Delineation of the preserve's succession

These are just some recommendations that seem feasible and attainable. Managing the Preserve depends upon the specific goals as to which methods are best suited for the desired outcome. There are no right or wrong ways for how Mount Dora wants the Preserve to appear. These are just suggestions to make Forest Preserve as diverse as possible, by improving the health of the tract and making it safe for the public to enjoy its beauty and tranquil trails.

Summary of Recommendations

1. Consideration of prescribed burn in two-three acre of longleaf pines.
2. Selective removal of laurel oaks, cherry laurels and other trees so that live oak and longleaf pine trees flourish.
3. Ongoing removal of exotic and invasive species.
4. Hand-planting wiregrass, longleaf containerized seedlings and other native specimens to help restore the forest.
5. Educational signage to explain the forest's transition.

PRELIMINARY ENVIRONMENTAL SITE ASSESSMENT REPORT

for

**CITY OF MOUNT DORA FOREST PRESERVE
West 20th Avenue
Mount Dora, Florida 32757**

Prepared for:

**Mrs. Cathy Lunday, Library Manager
City of Mount Dora, W.T. Bland Public Library
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(352) 735-7151
lundayc@cityofmoundora.com**

Prepared by:



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1517 East Orange Avenue
Eustis, Florida 32726
(352) 589-4013

APRIL 2022

This report represents a true, accurate, and representative description of the site assessment at the time of survey.

Signed _____ Date April 20, 2022

PRELIMINARY ENVIRONMENTAL SITE ASSESSMENT REPORT

for

**CITY OF MOUNT DORA
FOREST PRESERVE
West 20th Avenue
Mount Dora, Florida 32757**

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**PRELIMINARY ENVIRONMENTAL
SITE ASSESSMENT REPORT
For
CITY OF MOUNT DORA FOREST PRESERVE
West 20th Avenue
Mount Dora, Florida 32757**

1.0 INTRODUCTION

The purpose of this Preliminary Environmental Site Assessment (PESA) was to conduct a “Threatened & Endangered Plant & Animal Species Survey and a “Preliminary Wetland Delineation” on (1) one vacant parcel (~ 9.5 acres) and a portion of another vacant parcel (~ 7.23 acres) identified in the Lake County Property Appraiser records as Parcel #30-19-27-0001-000-01001 and Parcel #30-19-27-0001-000-011001 respectively. The vacant land parcels are located at West 20th Avenue, Mount Dora, Florida 32757 and are owned by the City of Mount Dora (see Figure 1, Project Location Map - Appendix I).

This Preliminary Environmental Site Assessment was conducted to provide information regarding any potential issues that will need to be addressed as part of a proposed future trail system, part of which will be handicap accessible. This PESA also included a 100% gopher tortoise burrow survey and a preliminary wetland delineation. For clarification purposes the two parcels will be referred to as the City of Mount Dora Forest Preserve in this report.

The fieldwork for the Preliminary Environmental Site Assessment was conducted between 09 March 2022 and 15 April 2022 by experienced field biologists from Habitat Restoration & Wildlife Protection Services, LLC (HRWP). This report summarizes the findings of those investigations.

2.0 HABITAT CHARACTERISTICS

According to the land use codes outlined in the Lake County Database (2022), one (1) upland habitat type was identified within the City of Mount Dora Forest Preserve (see Figure 2, Land Use Map - Appendix I). The entire City of Mount Dora Forest Preserve is listed as (8089) Vacant Government Municipal property. However, the City of Mount Dora Forest Preserve is currently a dense forest dominated by large laurel oaks (*Quercus laurifolia*). The City of Mount Dora Forest Preserve also contains scattered mature longleaf pine (*Pinus palustris*) and southern magnolia (*Magnolia grandiflora*) with a few live oak (*Quercus virginiana*), sand live oak (*Quercus geminata*), water oak (*Quercus nigra*) and cabbage palms (*Sabal palmetto*). In addition, the entire City of Mount Dora Forest Preserve has a variety of nuisance/exotic tress including Chinese tallow (*Triadica sebifera*), Camphor tree (*Cinnamomum camphora*) and black cherry (*Prunus serotina*).

The mid-story contains scattered beautyberry (*Callicarpa americana*), saw palmetto (*Serenoa repens*), elderberry (*Sambucus nigra*), with wax myrtle (*Myrica cerifera*) and buttonbush (*Cephalanthus occidentalis*) along the wetland edge. HRWP biologists also observed large patches of exotic coral ardisia (*Ardisia crenata*) throughout the entire City of Mount Dora Forest Preserve. Coral ardisia is listed as a Category I invasive species by the Florida Exotic Pest Plant Council (FLEPPC). Coral ardisia is a small upright shrub that is used and sold extensively in the

horticulture industry as an ornamental plant. It has red berries and looks visually desirable, but shades out native seedling and understory plants, preventing their growth and development and disrupting native plant communities. HRWP biologists also observed dense patches of primrose willow (*Ludwigia peruviana*) and Mexican primrose willow (*Ludwigia octovalvis*) along the edge of the wetland.

The groundcover within the City of Mount Dora Forest Preserve is composed of shade tolerant herbs, graminoids, and vines including scattered patches of Virginia creeper (*Parthenocissus quinquefolia*), blackberry (*Rubus spp.*), grapevine (*Vitis spp.*), bracken fern (*Pteridium aquilinum*), Caesar's weed (*Urena lobata*), beggar's tick (*Bidens alba*) and greenbrier (*Smilax spp.*) along with a few patches of sedges (*Carex spp.*) and cinnamon fern (*Osmundastrum cinnamomeum*) along the transitional edge of the lake and the forest canopy. The lake edge contains patches of native blue maidencane (*Amphicarpum muhlenbergia*) but dominated by large patches of nuisance/exotic species such as torpedo grass (*Panicum repens*), alligator weed (*Alternanthera philoxeroides*), water hyacinth (*Eichornia crassipes*), and hydrilla (*Hydrilla verticillata*) all of which are listed as Category I exotic species by the Florida Exotic Pest Plant Council (FLEPPC).

HRWP biologists also observed several large patches of exotic Cogon grass (*Imperata cylindrica*) within the City of Mount Dora Forest Preserve. Cogon grass aggressively invades areas such as open forests, pastures, and right-of-ways. It is considered a severe fire hazard as the "grass" is extremely flammable (Miller, Chambliss, and Loewenstein, 2010) and is listed as a Category I invasive species by the Florida Exotic Pest Plant Council (FLEPPC). HRWP biologists also observed paragrass (*Urochloa mutica*) along the transitional edge of the lake and the forest canopy. Paragrass is also a nonnative category I invasive species in central and south Florida. This perennial grass species outcompetes native vegetation, is capable of rapid spread by vegetative reproduction.

However, even more prevalent are extremely large patches of exotic Boston fern (*Nephrolepis cordifolia*) that are dominant throughout the entire City of Mount Dora Forest Preserve, which have prevented native plant growth. Boston fern, also called tuberous sword fern, erect sword fern or ladder fern is listed as a Category I invasive species by the Florida Exotic Pest Plant Council.

The remainder of the City of Mount Dora Forest Preserve consists of open canopy with either grapevine, bracken fern and/or leaf litter (detritus) or pine needles.

3.0 SOIL CHARACTERISTICS

According to the Lake County Database (2022) soil metadata, five (5) soil types occurred within City of Mount Dora Forest Preserve (see Figure 3, Soils Map - Appendix I) along with a 0.3-acre portion of open water (Lake John) along the west side of the two parcels. The five soil types are (8) Chandler sand, 0 to 5 percent slopes (0.9 acre), (9) Chandler sand, 5 to 12 percent slopes (12.4 acres), (10) Chandler sand, 12 to 40 percent slopes (1.1 acres), (17) Arens (0.1 acre) and (40) Placid sand Myakka sands, depressionnal (2.1 acres).

The Candler sand series consists of very deep, excessively drained, very rapidly to rapidly permeable soils on uplands of Southern Florida Flatwoods, South Central Florida Ridge, Eastern Gulf Coast Flatwoods, and the Atlantic Coast Flatwoods. They formed in thick beds of eolian or sandy marine deposits. The mean annual precipitation is about fifty-five inches. Slopes are primarily 0 to 12 percent but range up to 40 percent in the more dissected areas. The water table is at depths

greater than eighty inches.

Arents soils are considered disturbed soils that do not have diagnostic horizons because they have been deeply mixed by plowing, spading, or other methods of moving by humans. Arents soils throughout Lake County and are typically the result of native habitat being converted to citrus groves, cropland, urban land, or pasture.

The Myakka series consists of very deep, very poorly or poorly drained, moderately rapid, or moderately permeable soils that occur primarily in mesic flatwoods of peninsular Florida. They formed in sandy marine deposits. Myakka soils have an average annual precipitation is about fifty-five inches. Slopes range from 0 to 8 percent. The water table is at depths of less than 18 inches for 1 to 4 months duration in most years and recedes to depths of more than forty inches during very dry seasons. Depressional areas are typically covered with standing water for periods of 6 to 9 months or more in most years.

Placid sands are associated with Southern Florida Flatwoods along low broad flats, depressions, drainageways, and floodplains and were formed by sandy marine sediments. Placid sands have negligible to extremely low surface runoff with frequent ponding where the soil is covered by water (ponded), very frequently for exceptionally long duration for more than 6 months.

The City of Mount Dora Forest Preserve slopes from a high ridge (145-150 feet of elevation) on east side of the property down to Lake John (75 feet of elevation) on the west side with an elevation change of between 65 to 75 feet drop in elevation. HRWP has provided a Topology Map of the site City of Mount Dora Forest Preserve for reference (see Figure 4, Topology Map - Appendix I). During this PESA no artesian wells or surficial springs were observed within the City of Mount Dora Forest Preserve, despite noting some obvious erosion and/or channeling from surface rainfall. Note: HRWP did not conduct a hydrological assessment as part of this PESA.

4.0 SURVEY METHODOLOGY

Listed Species Survey

The Threatened & Endangered Species Survey (T&E) conducted at the City of Mount Dora Forest Preserve was conducted in general accordance with the United States Department of Agriculture (USDA) Forest Service Multiple Species Inventory & Monitoring Technical Guide, Florida Fish and Wildlife Conservation Commission (FFWCC) Wildlife Survey Methodology Guidelines, FFWCC Specific Species Listed Species Management & Permitting Guidelines, FFWCC Imperiled Species Management Plans and United States Fish & Wildlife Service (USFWS) Endangered Species Act (ESA) Protection Guidelines. Pedestrian-transect surveys for listed species of wildlife were conducted by HRWP staff on 09 March 2022 and 15 April 2018. During this survey, the entire site was canvassed for listed species. Pedestrian transects were used to cover 100% of the area within the City of Mount Dora Forest Preserve. Observations of any listed species as well as physical features that may indicate the presence of these species such as tracks, scat, nests, burrows, and cavity trees were mapped on aerial maps of the site. HRWP biologists searched for any listed plant and animal species along specific pedestrian transects in all habitats in the study area for any listed species, including gopher tortoise burrows as part of this survey. Any species observed were recorded by GPS and labeled for mapping purposes.

Gopher Tortoise Survey

HRWP conducted a 100% gopher tortoise burrow survey within the upland habitat of the City of Mount Dora Forest Preserve, to approximately twenty-five feet outside the project boundary to locate gopher tortoise burrows and estimate the density of gopher tortoises on site. Observed burrows were categorized as "active," "inactive" or "abandoned." The gopher tortoise burrow survey was conducted in accordance with the FFWCC Gopher Tortoise Permitting Guidelines April 2008 (Revised July 2020). HRWP biologists censused gopher tortoise (*Gopherus polyphemus*) burrows on straight-line pedestrian of the City of Mount Dora Forest Preserve. Widths of the strip transects were determined by visibility, a function of the density and height of the vegetation at (10) ten feet apart. Active and inactive burrows were marked with wood survey grade stakes (1/2" x 2"x 36"), labeled and flagged with orange biodegradable marking tape in the field.

Florida Black Bear

According to Florida Fish and Wildlife Conservation Commission, the City of Mount Dora Forest Preserve is within the range of the Florida black bear (*Ursus americanus floridanus*). The Florida black bear is regulated by the FFWCC Black Bear Management Plan. According to the FFWCC Black Bear Management Plan (December 11, 2019), "The first regulations on Florida black bears were established in 1936 when they were listed as a fur-bearing mammal. Since then, many changes have occurred regarding seasons, weight limits, and other hunting-related regulations, as well as listing as a State-designated Threatened Species in 1974. Prior to removal from the list of State-designated Threatened Species in 2012, five sections of the Florida Administrative Code (F.A.C.) specifically addressed bears: feeding prohibitions (F.A.C. 68A-4.001(3)), possession (F.A.C. 4.004), sale or purchase (68A-12.004(12)), exemption from take as nuisance wildlife (68A-9.010), and restrictions related to State-designated species (68A-27.003). In addition, Florida Statutes (F.S. 379.411) addressed intentional killing of State-designated species. The Bear Conservation Rule states, "In 2012, the FWC approved the Florida Black Bear Conservation Rule (F.A.C. 68A-4.009), which prohibited the unauthorized take, possession, injuring, shooting, collecting, or selling of bears or their parts. Given the potential for illegal trade in bear parts and bear hides, the level of specificity and detail in this rule was considered necessary to aid in successful enforcement and prosecution. Violation of any provisions of the Bear Conservation Rule is a second-degree misdemeanor."

Listed Species Small Mammal and/or Funnel Trapping

No small mammal and/or funnel trapping was conducted for listed species within City of Mount Dora Forest Preserve as these areas were shown to have unsuitable habitat and/or occurrence was unlikely.

Florida Scrub-jay Surveys

No Florida Scrub-jay habitat occurred within or immediately adjacent to the City of Mount Dora Forest Preserve.

Florida Sandhill Crane Surveys

No Florida Sandhill crane habitat occurred within or immediately adjacent to the City of Mount Dora Forest Preserve.

Other Listed Species Survey

During the survey, HRWP observed several armadillo burrows. HRWP staff looked for signs of other listed species, including frogs and snakes within those burrows. HRWP also looked for signs of short-tailed snakes (*Stilosoma extenuatum*) and Florida pine snakes (*Pituophis melanoleucus mugitas*). HRWP also looked for signs of Sherman's fox squirrels (*Sciurus niger shermani*) in the adjacent habitat. HRWP also searched for southeastern American kestrels, along with potential nesting cavities in trees adjacent to the City of Mount Dora Forest Preserve. The methodology followed the FFWCC Technical Report No. 13: Ecology and Habitat Protection Needs of the Southeastern American Kestrel (*Falco sparverius paulus*) on Large-Scale Development Sites in Florida (Stys 1993).

HRWP also searched the areas surrounding the City of Mount Dora Forest Preserve for bald eagle (*Haliaeetus leucocephalus*) and osprey (*Pandion haliaetus*) nests in all large pine and/or oak trees since the property is along side of Lake John.

5.0 LISTED SPECIES SURVEY RESULTS

Tables 1 & 2 – Appendix II provide a list of Listed Plant & Wildlife Species that have the potential to occur within the City of Mount Dora Forest Preserve.

Florida Black Bear

Despite reports of Florida black bear sightings by local residents, no Florida black bears were observed, or any sign of this species occurred on the City of Mount Dora Forest Preserve during this PESA. It is our professional opinion that there is potential for roaming bears to traverse the City of Mount Dora Forest Preserve on rare occasions.

Gopher Tortoise

During the 100% gopher tortoise burrow survey HRWP biologists censused gopher tortoise (*Gopherus polyphemus*) burrows on straight-line pedestrian transect (see Figure 5, Pedestrian Transect Survey Map – Appendix I). No gopher tortoise burrows were observed within the City of Mount Dora Forest Preserve. This is likely because the habitat is dense with a closed tree canopy, which is not suitable for gopher tortoises. HRWP staff conducted a 100% Gopher Tortoise (*Gopherus polyphemus*) Burrow Survey (as required by the FFWCC Gopher Tortoise Permitting Guidelines) within suitable upland habitat by our FFWCC Authorized Gopher Tortoise Agent (Permit #GTA-09-00027H).

Sand Skink

No suitable sand skink (*Neoseps reynoldsi*) habitat occurred within the City of Mount Dora Forest Preserve. Therefore, HRWP staff did not survey for sand skinks.

Eastern Indigo Snake

The eastern indigo snake (*Drymarchon corais couperi*) is a large, wide-ranging predator that occupies most native upland and wetland habitats in Florida. Indigo snakes are often associated with gopher tortoise burrows, which they use as refugia from extreme temperatures (Moler

1992). No eastern indigo snakes were observed within City of Mount Dora Forest Preserve, and it is highly unlikely of occurrence on site. However, trail construction crews should be aware of the “potential for occurrence,” as the eastern indigo snake is “federally listed” as a “threatened” species by USFWS, which requires construction be halted immediately upon observation and a knowledgeable biologist must be consulted.

Gopher Frog

No suitable gopher frogs (*Lithobates capito*) habitat occurred within the City of Mount Dora Forest Preserve. Therefore, HRWP staff did not survey for gopher frogs.

Sherman’s Fox Squirrel

No Sherman’s fox squirrels (*Sciurus niger shermani*) were observed within the City of Mount Dora Forest Preserve or adjacent habitat near the project area. Fox squirrels typically forage in the pine flatwoods, open pastures and palmetto prairies and they primarily nest in the pines and oaks

Florida Sandhill Crane

The Florida sandhill crane (*Grus canadensis*) is listed as “threatened” and is non-migratory in peninsular Florida (Nesbitt 1996). Florida sandhill cranes are late winter to early spring nesters, although the nesting season can be protracted. Cranes nest in emergent wetlands with water 1 - 3 feet in depth (Nesbitt 1996). No sandhill cranes were observed within City of Mount Dora Forest Preserve or in the adjacent. However, there is a remote possibility that sandhill cranes could nest in the hourglass portion (shallow grassy areas) of the middle portion of Lake John.

Southeastern American Kestrel

No Southeastern American kestrels (*Falco sparverius paulus*) were observed within or near the City of Mount Dora Forest Preserve, nor were any nest structures or nests observed within or near the project area.

Bald Eagles & Ospreys

No bald eagles or ospreys were observed within or near City of Mount Dora Forest Preserve, nor were any nests observed within or near the project area.

Florida scrub-jay, red cock-aided woodpecker, red knot

No Florida scrub-jays (*Aphelocoma coerulescens*), red cock-aided woodpeckers (*Picoides borealis*) or red knots (*Calidris canutus rufa*) were observed within the City of Mount Dora Forest Preserve, nor was there suitable habitat in the immediate adjacent areas around the project area.

Listed Wading Birds

Wood storks (*Mycteria americana*) were not observed on the property during the survey. According to the USFWS database, no wading bird colonies are reported within two miles of the City of Mount Dora Forest Preserve. However, HRWP staff did observe a pair of nesting ospreys

(*Pandion haliaetus*) off-site approximately 243 feet southwest of the City of Mount Dora Forest Preserve southwest boundary corner. The pair of ospreys are utilizing Lake John for foraging and nesting in a mature longleaf pine tree southwest of the City of Mount Dora Forest Preserve (see Figure 6 – Listed Avian Species Map – Appendix I).

Anuran Species

No listed anuran species were observed within the City of Mount Dora Forest Preserve. HRWP staff observed (2) two anuran species during this assessment (one native and one exotic species). HRWP staff observed a native American bullfrog (*Lithobates catesbeianus*) and an exotic Cuban tree frog (*Osteopilus septentrionalis*), neither of which is a protected species.

Fish species

During the site assessment, no dip-net samples within Lake John were conducted. However, HRWP biologists observed mosquito fish (*Gambusia affinis*) and golden shiner (*Notemigonus crysoleucas*). It likely that Lake John contains Florida largemouth bass (*Micropterus salmoides floridanus*) and several catfish species (*Ameiurus spp.*), both of which are game species regulated by FFWCC.

Other Animal Species

During the T&E survey, HRWP biologists encountered one (1) black racer snake (*Coluber constrictor*) and one (1) common raccoon (*Procyon lotor*), one (1) Virginia opossum (*Didelphis virginiana*) and one (1) nine-banded armadillo (*Dasypus novemcinctus*). HRWP did observe small mammal holes throughout the City of Mount Dora Forest Preserve. Tracks from several nuisance animal species were also observed throughout the entire City of Mount Dora Forest Preserve, including nine-banded armadillo and Virginia opossum all of which cause damages soil and vegetation and typically interferes with forest regeneration, and can lead to erosion problems, especially on slopes.

No other Endangered, Threatened or Species of Special Concern were observed within or immediately adjacent to the City of Mount Dora Forest Preserve.

Listed Plants

Several Listed Plants shown in Table 2 (Appendix II) and are known to occur in Lake County. Only one listed plant species Pineland Butterfly Pea (*Centrosema Arenicola*) was observed within the City of Mount Dora Forest Preserve during the pedestrian survey. *C. arenicola* is a vining species with tri-foliolate leaves, endemic to central peninsular Florida and is listed as State endangered. *C. arenicola* was observed on the upper eastern portions of the City of Mount Dora Forest Preserve.

6.0 WETLAND ASSESSMENT

Prior to the site visit, HRWP conducted a desktop review of the current available wetland maps (Florida Department of Environmental Protection Wetland Database (FDEP), Florida Natural Areas Inventory (FNAI), U.S. Fish and Wildlife National Wetlands Inventory (FWS NWI), National Resource Conservation Service (NRCS) and Lake County to determine the proximity of

potential wetlands that may occur on the property. During the PESA, HRWP traversed the entire east and west edge of Lake John.

HRWP conducted a preliminary wetland delineation along the edge of Lake John (see Figure 7 – Wetland Map – Appendix I). HRWP determined the approximate wetland boundary line(s) by onsite ground-truthing by soil probing soils, observations of wetland vegetation and high-water marks on trees. The approximate wetland boundary line was marked with wood survey grade stakes (1/2" x 2"x 36"), labeled and flagged with the wetland line was marked and GPS'd as points #96 – 112 (Flags #1 – 16 in the field). It has not been determined at this time if the wetlands and/or any portion of the lower elevation areas were known historical wetlands.

HRWP hereby provides notification that this assessment is a "preliminary wetland delineation only." If any impacts are to occur within wetlands identified within the City of Mount Dora Forest Preserve it will be necessary to file the appropriate wetland permit applications, provide FDEP, SJRWMD, ACOE and local agencies with a Formal Wetland Determination and provide mitigation funding to impact the City of Mount Dora Forest Preserve, none of which are not included as part of this PESA.

7.0 OTHER OBSERVATIONS

As mentioned earlier in this report, HRWP walked the entire City of Mount Dora Forest Preserve during this assessment. During the site visits, HRWP staff did not observe any stained soils, chemical, oil or gas spills, stressed vegetation, or visual evidence of any hazardous chemicals within City of Mount Dora Forest Preserve. *Note: HRWP did not complete a Phase I Environmental Site Assessment on this site as part of our investigation.*

6.0 SUMMARY

During this Preliminary Environmental Site Assessment, HRWP conducted a listed floral and faunal species survey, evaluated on-site wetlands along with their connection to or lack thereof to adjacent properties or roadways and conducted a pedestrian survey of the entire City of Mount Dora Forest Preserve.

Observations of all listed species as well as physical features that may indicate the presence of these species such as tracks, scat, nests, burrows, and cavity trees were mapped on aerial maps of the site. HRWP biologists searched for any potential listed plant and animal species throughout the City of Mount Dora Forest Preserve for any listed species.

A 100% gopher tortoise burrow survey was conducted as part of this assessment and no gopher tortoise burrows were located or observed in the available upland habitat.

No listed fish, reptiles, birds, or mammals were observed during the PESA. No listed vertebrate and/or invertebrate species were observed within the City of Mount Dora Forest Preserve. HRWP biologists did not encounter any threatened or endangered avian or anuran species within the City of Mount Dora Forest Preserve. HRWP did not encounter any bald eagle nests or wading bird rookeries in the vicinity or immediately adjacent to the project area. However, HRWP staff did observe a pair of nesting ospreys (*Pandion haliaetus*) off-site approximately 243 feet southwest of the City of Mount Dora Forest Preserve southwest boundary corner. The pair of ospreys are utilizing Lake John for foraging and nesting in a mature longleaf pine tree southwest of the City of

Mount Dora Forest Preserve.

HRWP did not observe any signs of the Florida black bear within or immediately adjacent to the City of Mount Dora Forest Preserve.

Although several Listed Plants shown in Table 2 (Appendix II) and are known to occur in Lake County, no listed plant species were observed within the City of Mount Dora Forest Preserve during the pedestrian survey.

HRWP conducted a preliminary wetland delineation along the edge of Lake John. HRWP determined the approximate wetland boundary line(s) by onsite ground-truthing by soil probing soils, observations of wetland vegetation and high-water marks on trees. The approximate wetland boundary line was marked with wood survey grade stakes (1/2" x 2" x 36"), labeled and flagged with the wetland line was marked and GPS'd as points #96 – 112 (Flags #1 – 16 in the field). It has not been determined at this time if the wetlands and/or any portion of the lower elevation areas were known historical wetlands. The remaining habitat is high and dry, suitable for building hiking trails, potential picnic areas and other minimal impact public amenities. HRWP did not conduct a hydrological assessment as part of this PESA.

In addition, HRWP did not observe any stained soils, stressed vegetation, or visual evidence of any potential hazardous chemical structures (old pumps, wells, tanks, etc.) within the City of Mount Dora Forest Preserve during this PESA. However, there is a County operated water treatment facility and power substation along east shoreline of Lake John. HRWP did not perform a formal Phase I Hazardous Waste Assessment as part of this PESA.

HRWP also notes that the result of this environmental survey was based on observations and technical information available at the time of this assessment. This report is for general planning purposes only. The wildlife surveys conducted within the City of Mount Dora Forest Preserve boundary does not preclude the potential for any listed species from occupying the site at any given time in the future.

HRWP took representative photos of the site during the environmental assessment. Representative photographs are included in Appendix III.

7.0 LITERATURE CONSULTED

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APPENDIX I

FIGURES 1-7



City of Mount Dora Public Library
Forest Area PESA
Environmental Site Assessment
Location Map

HRWP
HABITAT RESTORATION & WILDLIFE PROTECTION SERVICES, LLC.
1517 E. Orange Ave. Eustis, FL. 32726
Office: 352.589.4013 Fax: 352.589.1245
ronconcobyc@earthlink.net

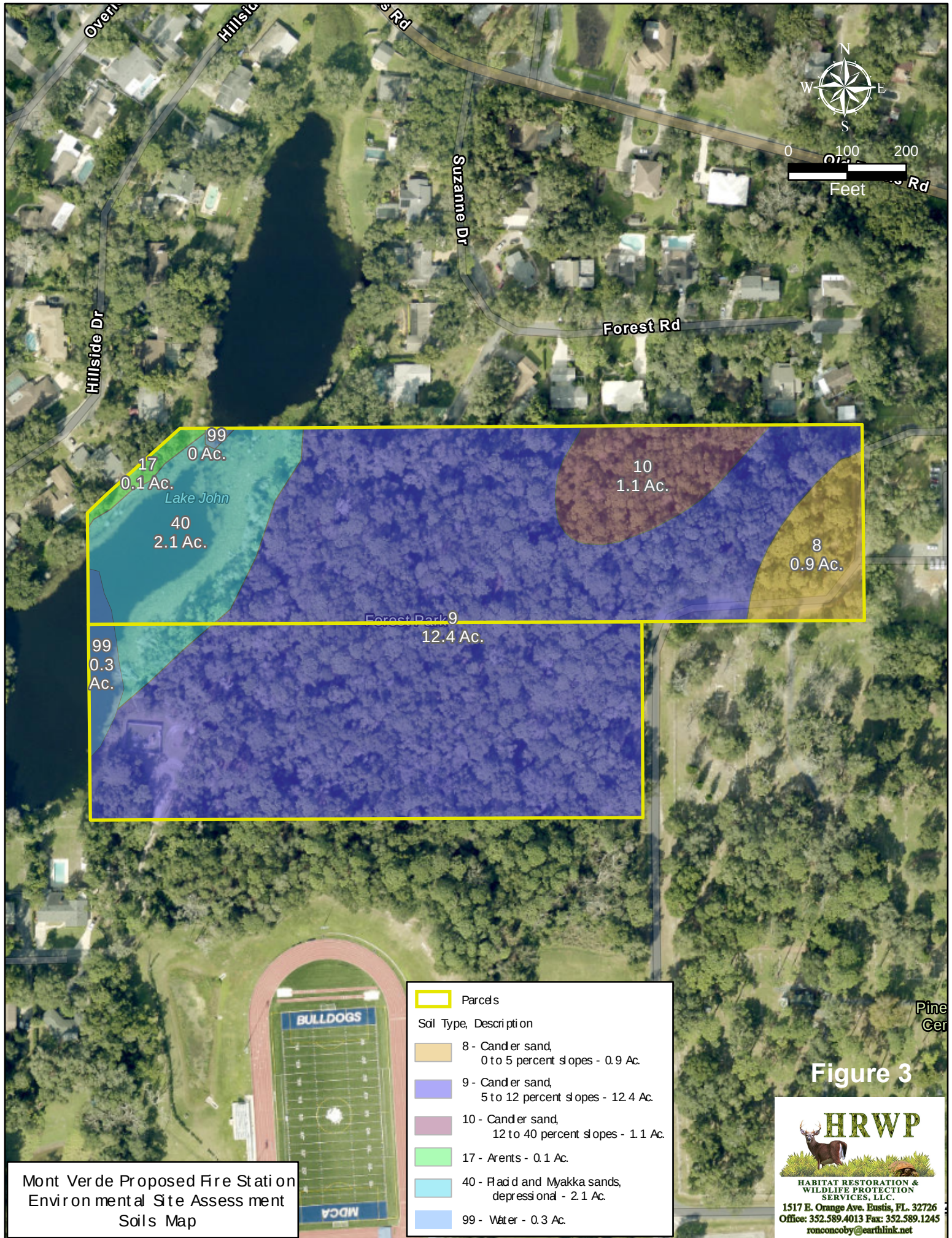


City of Mount Dora Public Library
 Forest Area PESA
 Environmental Site Assessment
 Land Use Map

8089 - Vacant Govt Municipal

Figure 2

HRWP
 HABITAT RESTORATION &
 WILDLIFE PROTECTION
 SERVICES, LLC.
 1517 E. Orange Ave. Eustis, FL 32726
 Office: 352.589.4013 Fax: 352.589.1245
ronconcobyr@earthlink.net



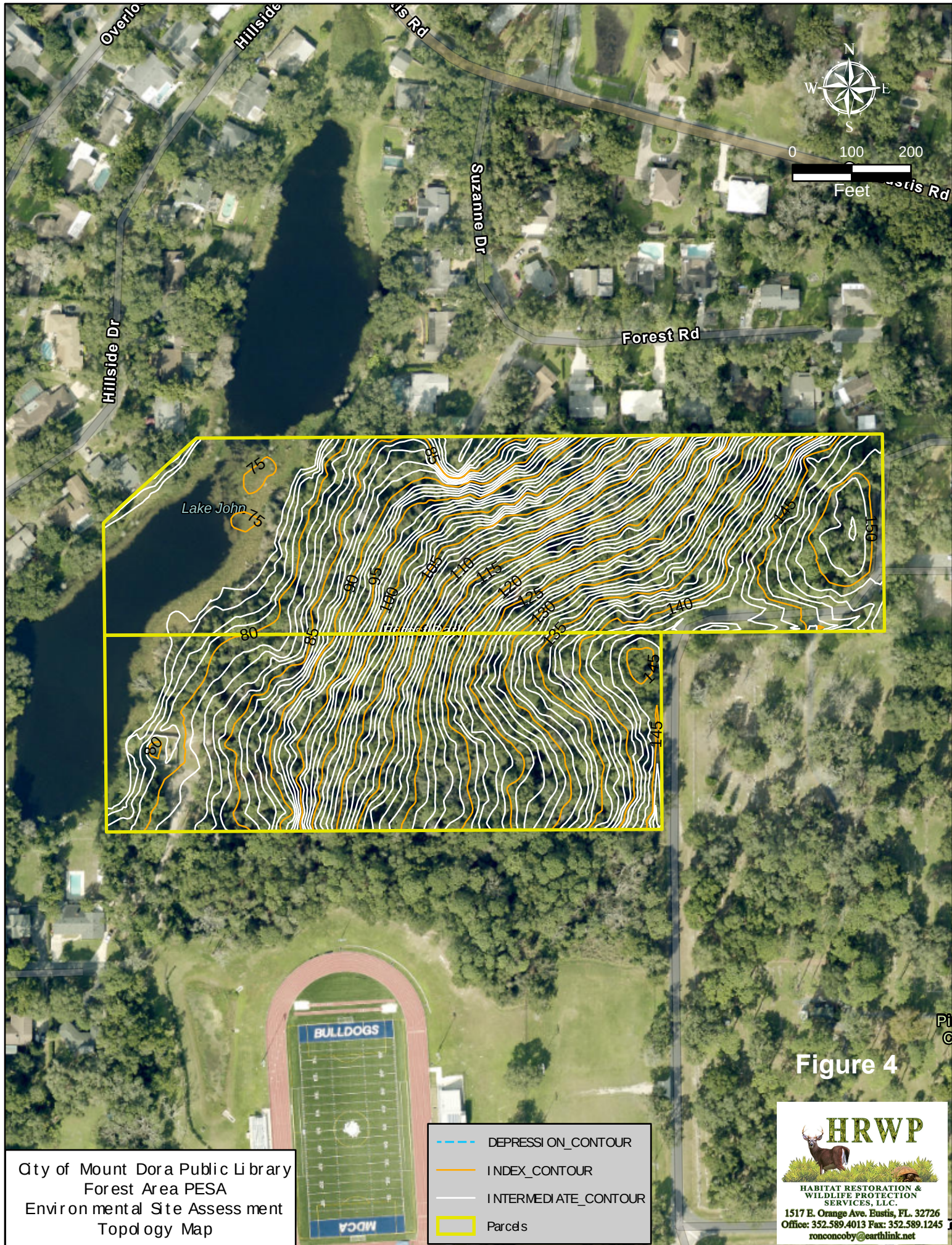
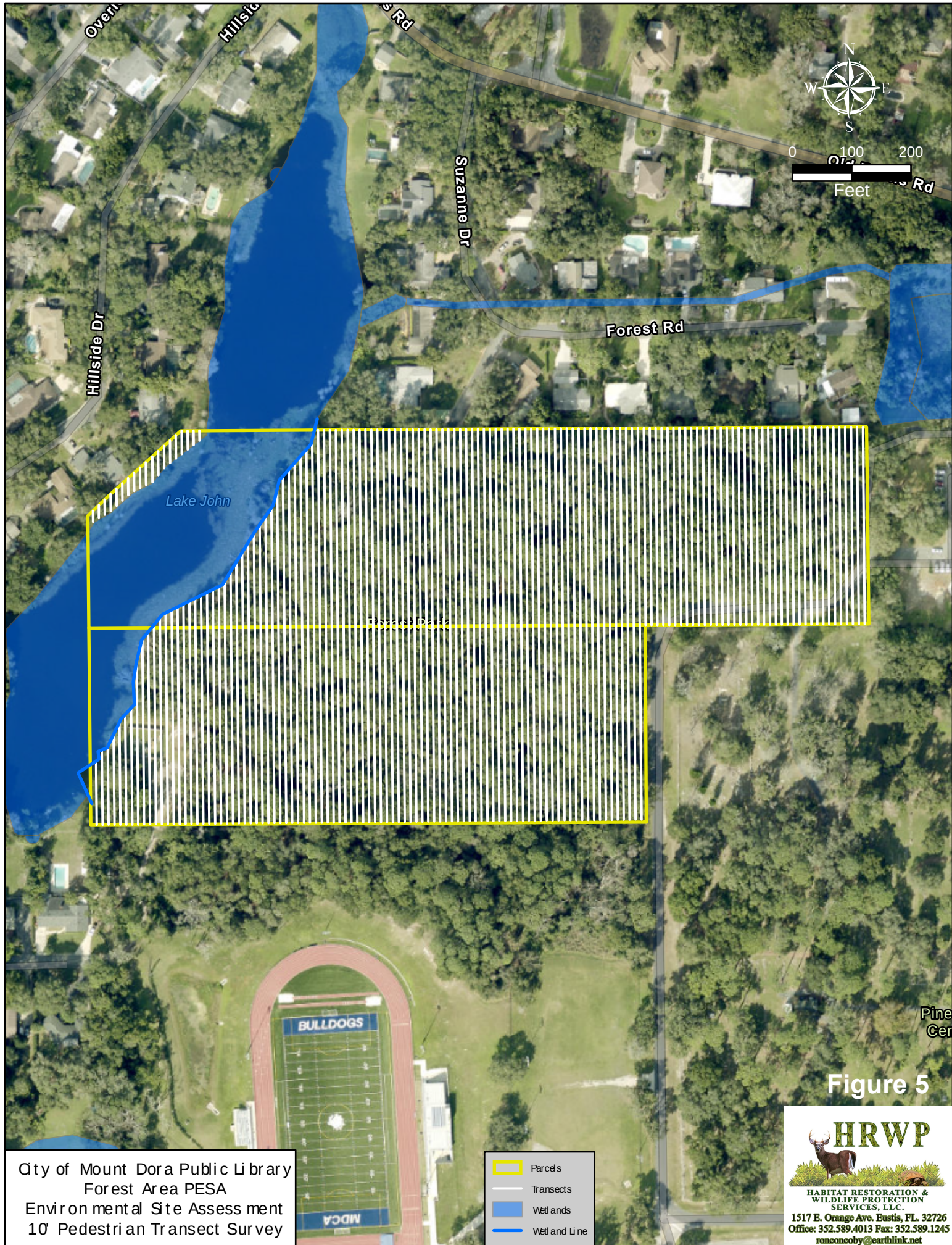


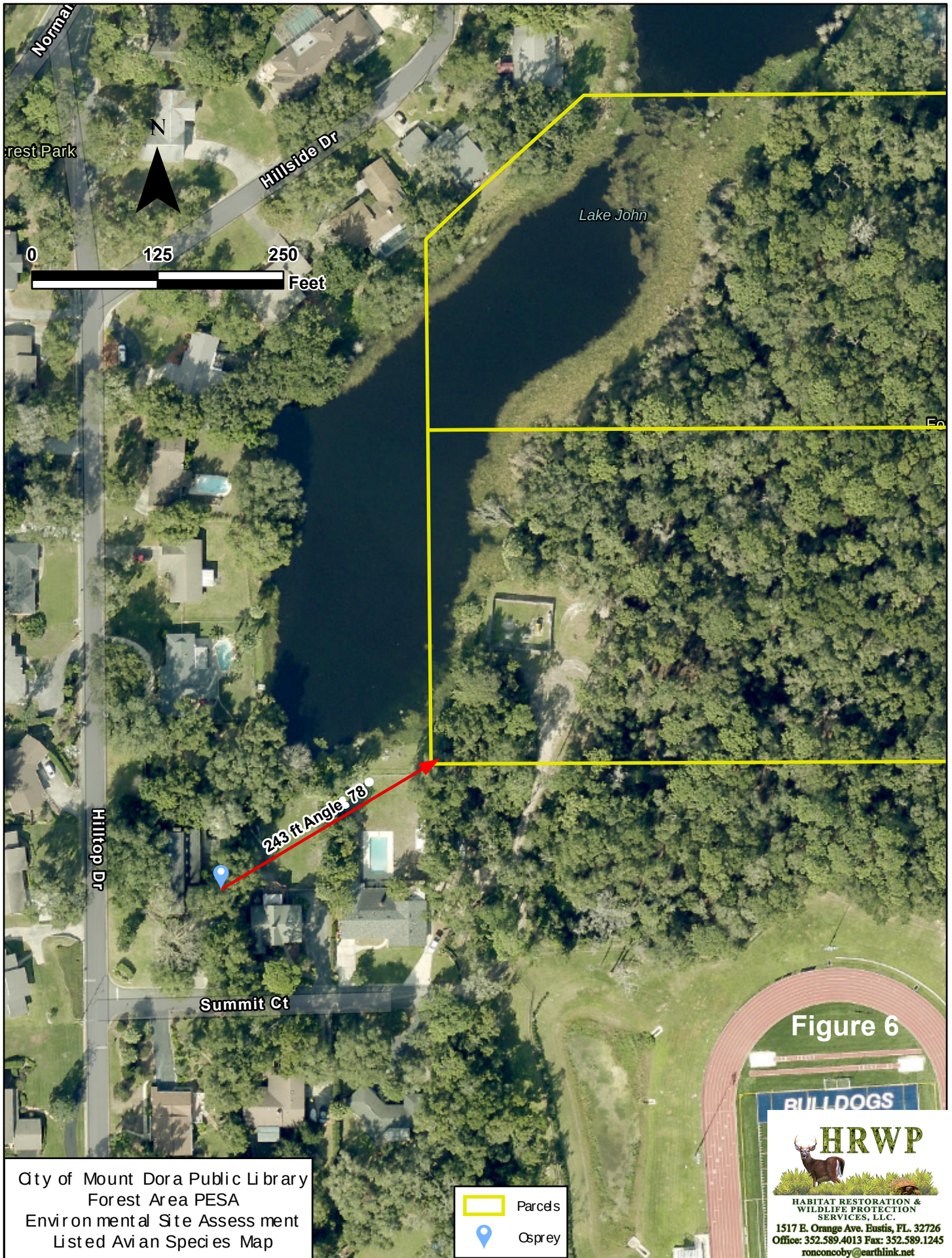
Figure 4

HRWP

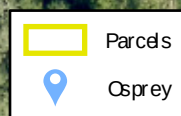
 HABITAT RESTORATION & WILDLIFE PROTECTION SERVICES, LLC.
 1517 E. Orange Ave. Eustis, FL. 32726
 Office: 352.589.4013 Fax: 352.589.1245
 ronconcoy@earthlink.net

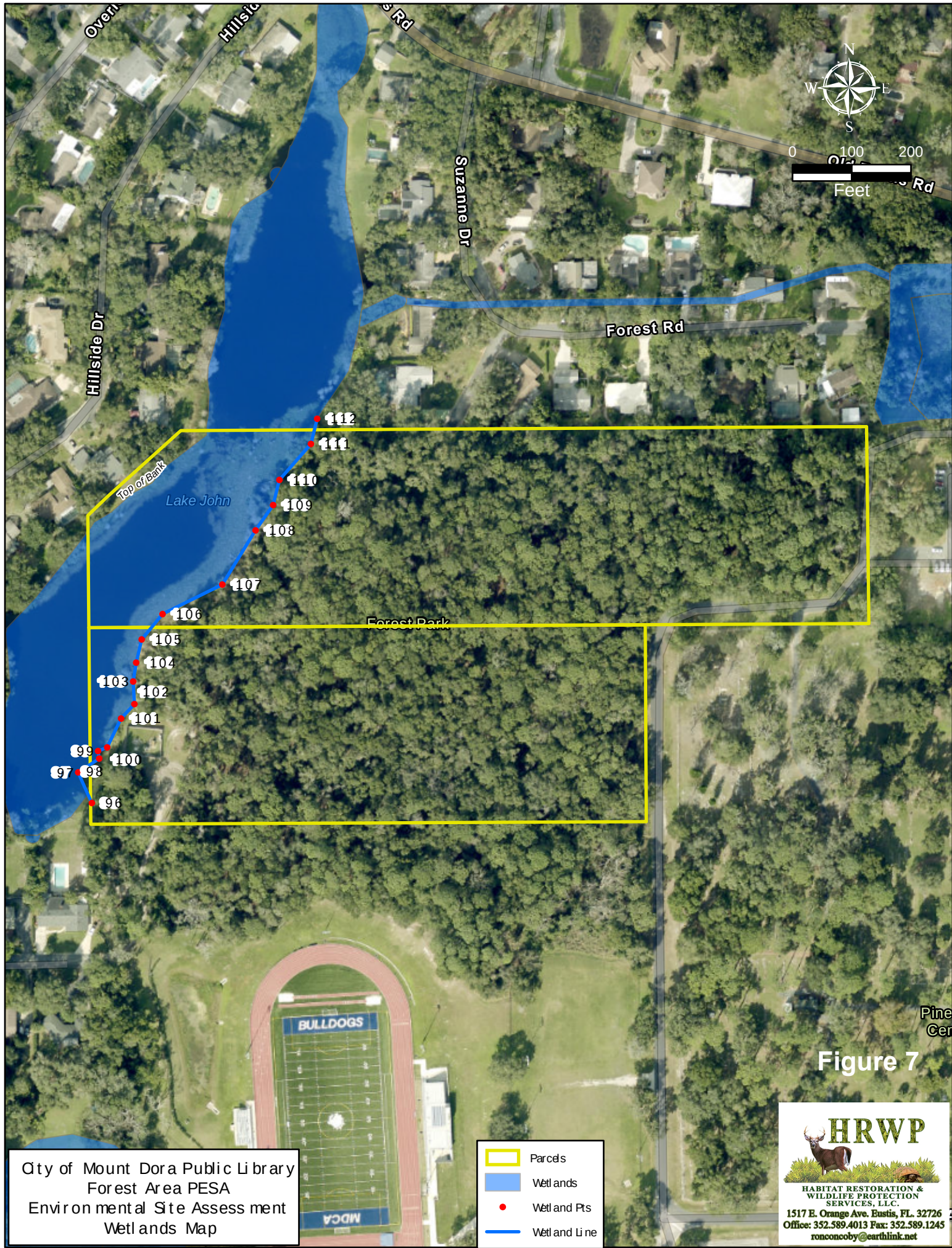
City of Mount Dora Public Library
 Forest Area PESA
 Environmental Site Assessment
 Topology Map





City of Mount Dora Public Library
Forest Area PESA
Environmental Site Assessment
Listed Avian Species Map





APPENDIX II

Table 1. USFWS Potential for listed
wildlife species in Lake County
(Pages 1-2)

Table 2. USFWS Potential for listed plant
species in Lake County (Page 1)

Appendix I

Table 1. Potential for listed wildlife species at the City of Mount Dora Forest Preserve (Lake County, Florida).

Common Name	Scientific Name		Legal Status		Preferred Habitat	Comments
			USFWS	FFWCC		
Reptiles						
Gopher tortoise	<i>Gopherus polyphemus</i>		C	T	Inhabits sandhills, xeric oak scrub, sand pine scrub, and scrubby flatwoods.	Active & inactive gopher tortoise burrows on site.
American alligator	<i>Alligator mississippiensis</i>		T	T	Inhabits marshes, rivers, lakes, and ponds.	None were observed but potential to occur if the conditions become appropriate.
Sand skink	<i>Neoseps reynoldsi</i>		T	T	Inhabits sandhills, sand pine scrub, and xeric hammocks.	None were observed.
Eastern indigo snake	<i>Drymarchon corais couperi</i>		T	T	Inhabits gopher tortoise habitat.	None were observed but potential to occur on-site.
Mammals						
Florida black bear	<i>Ursus americanus floridanus</i>		-----	T	Inhabits large wilderness areas.	None were observed but potential to occur on-site.
Sherman's fox squirrel	<i>Sciurus niger shermani</i>		-----	SSC	Inhabits sandhills with some pines and mesic flatwoods with low ground cover.	None were observed but potential to occur on-site.
Birds						
Florida sandhill crane	<i>Grus canadensis pratensis</i>		-----	T	Breeds in emergent palustrine wetlands and forages in pastures.	None were observed but potential to occur on-site.
Southeastern American kestrel	<i>Falco sparverius paulus</i>		-----	T	Inhabits open lands and nests in natural cavities of dead trees and abandoned woodpecker nests.	None were observed but potential to occur on-site.
Bald eagle	<i>Haliaeetus leucocephalus</i>		*ESA	*ESA	Nests in tall trees along coasts, rivers, and lakes.	None were observed, and no appropriate nesting trees were observed in adjacent areas.
Everglades snail kite	<i>Rostrhamus sociabilis plumbeus</i>		E	E	shallow freshwater marshes	None were observed but potential to occur on-site.
Red-cockaded woodpecker	<i>Picoides borealis</i>		E	E	Old growth longleaf pine habitat	None observed, but potential for occurrence in adjacent suitable upland habitat.

Common Name	Scientific Name		Legal Status		Preferred Habitat	Comments
			USFWS	FFWCC		
Florida scrub-jay	<i>Aphelocoma coerulescens</i>		T	T	Inhabits low, open xeric oak scrub in peninsular Florida.	None observed, but potential for occurrence in adjacent suitable upland habitat if available.
Roseate spoonbill	<i>Ajaia ajaja</i>		-----	SSC	Breeding: marshes, swamps, ponds, estuaries, rivers; nest underneath canopy in shrubs and small trees.	None were observed but potential to occur on-site.
Wood stork	<i>Mycteria americana</i>		T	T	Inhabits estuarine or freshwater wetlands; nest in tops of trees in cypress or mangrove swamps.	None were observed but potential to occur on-site.
White ibis	<i>Eudocimus albus</i>		-----	SSC	Inhabits marshes, swamps, ponds, estuaries, and rivers. Nests in shrubs and small trees.	None were observed but potential to occur on-site.
Osprey	<i>Pandion haliaetus</i>		-----	SSC	Inhabits marshes, swamps, ponds, estuaries, lakes, and rivers. Nests in large trees and power poles.	None were observed but potential to occur on-site.
Limpkin	<i>Aramus guarauna</i>		-----	SSC	Inhabits marshes, swamps, ponds, lakes, and rivers. Nests in herbaceous material, shrubs, and small trees.	None were observed but potential to occur on-site.
Little blue heron	<i>Egretta caerulea</i>		-----	SSC	Inhabits marshes, swamps, ponds, estuaries, and rivers. Nests in shrubs and small trees.	None were observed but potential to occur on-site.
Snowy egret	<i>Egretta thula</i>		-----	SSC	Inhabits marshes, swamps, ponds, estuaries, and rivers. Nests in shrubs and small trees.	None were observed but potential to occur on-site.
Tri-colored heron	<i>Egretta tricolor</i>		-----	SSC	Inhabits marshes, swamps, ponds, estuaries, and rivers. Nests in shrubs and small trees.	None were observed but potential to occur on-site.

Appendix II

Table 2. Potential for listed plant species at the City of Mount Dora Forest Preserve (Lake County, Florida).

Common Name	Scientific Name	Legal Status		Preferred Habitat	Comments
		USFWS	FFWCC		
Plants					
Clasping (wide leaf) warea	<i>Warea amplexifolia</i>	E	E	Inhabits Longleaf pine/wiregrass.	None observed, but potential for occurrence in adjacent longleaf pine habitat.
Britton's beargrass	<i>Nolina brittonia</i>	E	E	Inhabits longleaf pine, scrubby flatwoods, and xeric scrub.	None observed, but potential for occurrence in appropriate adjacent habitat.
Scrub buckwheat	<i>Eriogonum longifolium</i> <i>var gnaphalifolium</i>	T	T	Inhabits scrub habitat.	None observed, but potential for occurrence in adjacent scrub habitat.
Okeechobee gourd	<i>Cucurbita okeechobeensis</i> ssp. <i>okeechobeensis</i>	E	E	Inhabits specific transitional areas of wetland forested ponds.	None were observed. Unlikely occurrence in the RT area.
Florida bonamia	<i>Bonamia grandiflora</i>	T	T	Inhabits scrub and high pine habitat.	None observed, but potential for occurrence in adjacent habitat.
Scrub plum	<i>Prunus geniculata</i>	E	E	Inhabits scrub and high pine habitat.	None observed, but potential for occurrence in adjacent habitat.
Papery Whitlow-wort	<i>Paronychia chartacea</i> (=Nyachia) <i>pulvinata</i>	T	T	Inhabits scrub habitat.	None observed, but potential for occurrence in adjacent scrub habitat.
Pineland Butterfly Pea	<i>Centrosema arenicola</i>	-----	E	Inhabits upland hardwood habitat.	Identified on site w/o leaves or flowers. Confirm species identification in summer during flowering stage.

Federally Listed Species Code Key: E = Endangered, T = Threatened, CH = Critical Habitat Designated, C = Candidate

State Listed Species Code Key: E = Endangered, ST = Threatened, SSC = Species of Special Concern

*Not Listed, but Protected Under the Endangered Species Act = *ESA

Appendix I

Table 1. Potential for listed wildlife species at the City of Mount Dora Forest Preserve (Lake County, Florida).

Common Name	Scientific Name		Legal Status		Preferred Habitat	Comments
			USFWS	FFWCC		
Reptiles						
Gopher tortoise	<i>Gopherus polyphemus</i>		C	T	Inhabits sandhills, xeric oak scrub, sand pine scrub, and scrubby flatwoods.	Active & inactive gopher tortoise burrows on site.
American alligator	<i>Alligator mississippiensis</i>		T	T	Inhabits marshes, rivers, lakes, and ponds.	None were observed but potential to occur if the conditions become appropriate.
Sand skink	<i>Neoseps reynoldsi</i>		T	T	Inhabits sandhills, sand pine scrub, and xeric hammocks.	None were observed.
Eastern indigo snake	<i>Drymarchon corais couperi</i>		T	T	Inhabits gopher tortoise habitat.	None were observed but potential to occur on-site.
Mammals						
Florida black bear	<i>Ursus americanus floridanus</i>		-----	T	Inhabits large wilderness areas.	None were observed but potential to occur on-site.
Sherman's fox squirrel	<i>Sciurus niger shermani</i>		-----	SSC	Inhabits sandhills with some pines and mesic flatwoods with low ground cover.	None were observed but potential to occur on-site.
Birds						
Florida sandhill crane	<i>Grus canadensis pratensis</i>		-----	T	Breeds in emergent palustrine wetlands and forages in pastures.	None were observed but potential to occur on-site.
Southeastern American kestrel	<i>Falco sparverius paulus</i>		-----	T	Inhabits open lands and nests in natural cavities of dead trees and abandoned woodpecker nests.	None were observed but potential to occur on-site.
Bald eagle	<i>Haliaeetus leucocephalus</i>		*ESA	*ESA	Nests in tall trees along coasts, rivers, and lakes.	None were observed, and no appropriate nesting trees were observed in adjacent areas.
Everglades snail kite	<i>Rostrhamus sociabilis plumbeus</i>		E	E	shallow freshwater marshes	None were observed but potential to occur on-site.
Red-cockaded woodpecker	<i>Picoides borealis</i>		E	E	Old growth longleaf pine habitat	None observed, but potential for occurrence in adjacent suitable upland habitat.

Common Name	Scientific Name		Legal Status		Preferred Habitat	Comments
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Roseate spoonbill	<i>Ajaia ajaja</i>		-----	SSC	Breeding: marshes, swamps, ponds, estuaries, rivers; nest underneath canopy in shrubs and small trees.	None were observed but potential to occur on-site.
Wood stork	<i>Mycteria americana</i>		T	T	Inhabits estuarine or freshwater wetlands; nest in tops of trees in cypress or mangrove swamps.	None were observed but potential to occur on-site.
White ibis	<i>Eudocimus albus</i>		-----	SSC	Inhabits marshes, swamps, ponds, estuaries, and rivers. Nests in shrubs and small trees.	None were observed but potential to occur on-site.
Osprey	<i>Pandion haliaetus</i>		-----	SSC	Inhabits marshes, swamps, ponds, estuaries, lakes, and rivers. Nests in large trees and power poles.	None were observed but potential to occur on-site.
Limpkin	<i>Aramus guarauna</i>		-----	SSC	Inhabits marshes, swamps, ponds, lakes, and rivers. Nests in herbaceous material, shrubs, and small trees.	None were observed but potential to occur on-site.
Little blue heron	<i>Egretta caerulea</i>		-----	SSC	Inhabits marshes, swamps, ponds, estuaries, and rivers. Nests in shrubs and small trees.	None were observed but potential to occur on-site.
Snowy egret	<i>Egretta thula</i>		-----	SSC	Inhabits marshes, swamps, ponds, estuaries, and rivers. Nests in shrubs and small trees.	None were observed but potential to occur on-site.
Tri-colored heron	<i>Egretta tricolor</i>		-----	SSC	Inhabits marshes, swamps, ponds, estuaries, and rivers. Nests in shrubs and small trees.	None were observed but potential to occur on-site.

Appendix II

Table 2. Potential for listed plant species at the City of Mount Dora Forest Preserve (Lake County, Florida).

Common Name	Scientific Name	Legal Status		Preferred Habitat	Comments
		USFWS	FFWCC		
Plants					
Clasping (wide leaf) warea	<i>Warea amplexifolia</i>	E	E	Inhabits Longleaf pine/wiregrass.	None observed, but potential for occurrence in adjacent longleaf pine habitat.
Britton's beargrass	<i>Nolina brittonia</i>	E	E	Inhabits longleaf pine, scrubby flatwoods, and xeric scrub.	None observed, but potential for occurrence in appropriate adjacent habitat.
Scrub buckwheat	<i>Eriogonum longifolium</i> <i>var gnaphalifolium</i>	T	T	Inhabits scrub habitat.	None observed, but potential for occurrence in adjacent scrub habitat.
Okeechobee gourd	<i>Cucurbita okeechobeensis</i> ssp. <i>okeechobeensis</i>	E	E	Inhabits specific transitional areas of wetland forested ponds.	None were observed. Unlikely occurrence in the RT area.
Florida bonamia	<i>Bonamia grandiflora</i>	T	T	Inhabits scrub and high pine habitat.	None observed, but potential for occurrence in adjacent habitat.
Scrub plum	<i>Prunus geniculata</i>	E	E	Inhabits scrub and high pine habitat.	None observed, but potential for occurrence in adjacent habitat.
Papery Whitlow-wort	<i>Paronychia chartacea</i> (= <i>Nyachia</i>) <i>pulvinata</i>	T	T	Inhabits scrub habitat.	None observed, but potential for occurrence in adjacent scrub habitat.
Pineland Butterfly Pea	<i>Centrosema arenicola</i>	-----	E	Inhabits upland hardwood habitat.	Identified on site w/o leaves or flowers. Confirm species identification in summer during flowering stage.

Federally Listed Species Code Key: E = Endangered, T = Threatened, CH = Critical Habitat Designated, C = Candidate

State Listed Species Code Key: E = Endangered, ST = Threatened, SSC = Species of Special Concern

*Not Listed, but Protected Under the Endangered Species Act = *ESA

APPENDIX III

PHOTOGRAPHIC DOCUMENTATION

SITE PHOTOGRAPHS



1) City of Mt Dora Forest Preserve – NE Boundary Corner looking West



2) City of Mt Dora Forest Preserve – NE Boundary Corner looking South

SITE PHOTOGRAPHS



3) City of Mt Dora Forest Preserve – South Boundary looking South



4) City of Mt Dora Forest Preserve – South Boundary looking North

SITE PHOTOGRAPHS



5) City of Mt Dora Forest Preserve – South Boundary looking East



6) City of Mt Dora Forest Preserve – South Boundary looking North

SITE PHOTOGRAPHS



7) City of Mt Dora Forest Preserve – SW Boundary Corner looking East



8) City of Mt Dora Forest Preserve – SW Boundary Corner looking North (exotic Torpedo grass along Lake John)

SITE PHOTOGRAPHS



9) City of Mt Dora Forest Preserve – Wetland line along Lake John



10) City of Mt Dora Forest Preserve – North Boundary @ End of Suzanne Road (Entrance to Preserve)

SITE PHOTOGRAPHS



11) City of Mt Dora Forest Preserve – NW Boundary Corner Looking East



12) City of Mt Dora Forest Preserve – NW Boundary Corner Looking South

SITE PHOTOGRAPHS



13) City of Mt Dora Forest Preserve – *Coral ardisia* (exotic plant)



14) City of Mt Dora Forest Preserve – Water hyacinth (exotic plant) in Lake John

SITE PHOTOGRAPHS



15) City of Mt Dora Forest Preserve – Boston fern (exotic plant)



16) City of Mt Dora Forest Preserve – East side interior groundcover vegetation

SITE PHOTOGRAPHS



17) City of Mt Dora Forest Preserve – Boston fern (exotic plant) south central of parcel



18) City of Mt Dora Forest Preserve – North central interior groundcover vegetation

SITE PHOTOGRAPHS



19) City of Mt Dora Forest Preserve – Water Treatment Substation along west side of Lake John



20) City of Mt Dora Forest Preserve – – Closeup of Water Treatment Substation along west side of Lake John

SITE PHOTOGRAPHS



19) City of Mt Dora Forest Preserve – Pineland Butterfly Pea (*Centrosema arenicola*) “State Endangered Plant”

ATTACHMENT #4

The Vascular Flora of Forest Preserve and an Analysis of its Habitats



Jared Brown
Rollins College
Environmental Studies Department
Spring 2022

Summary of Findings

Forest Preserve is a 18.77-acre nature preserve located in Lake County, Florida. The preserve provides an ecological steppingstone for flora and fauna and remains one of the last natural areas in the sub-urban Mount Dora area. The property is situated between Lake John to the west, sub-urban housing to the north, the Mount Dora Public Library to the east, and the Mount Dora Christian Academy to the south (Figure 1).

The topography of the preserve, analyzed through U.S. Geological Survey (USGS) data, ranges from 135ft at the eastern extent to 95ft to the western boundary (Figure 3).

There are five soil types located within the preserve boundaries, per USDA soil data, ranging from well drained sandhill soil types, highly disturbed soil types, to poor drained wetland soils. (Figure 4 and USDA Soil Data Maps). The Topography along with varieties in soil and hydrology allow for three different natural and land use community types within the based on the Florida Land Use, Cover and Forms Classification System (FLUCCS) (Figure 5).

The analysis and data collection of all vascular flora within the preserve limits accounted 101 unique species. Of these species, 65 are native, 12 are non-invasive exotics (classified as non-native), and 24 are invasive exotics. The native flora biodiversity is small, but impressive, and the continued effort of ecological restoration would certainly work at increasing the native diversity. The study also revealed the presence of two listed/endemic plant species within the site boundary.

Appendix

- SSURGO Soil Data
- FLUCCS Habitat/Land Use Assessment
- Summary of Listed Plant Species
- Summary of Invasive Plant Species
- Fire Management Philosophy
- Maps/Figures
- Complete Flora
- Transect Data / Photos

Description of Project and Project Objectives

Introduction

This study was done to aid towards the continued ecological restoration and management of the Forest Preserve. Given the lack of natural areas in the Mount Dora area, it is important that the Forest Preserve provides adequate refuge for as much of the native flora and fauna as possible. To best support this goal, it is important to have as much knowledge of the ecological systems as possible. This baseline assessment of the habitats and flora of the preserve will not only give us an idea of the challenges we face in the continued restoration efforts but will also allow for future reports to display the progress of restoration efforts.

Field Survey

Five belt transects were placed in various segments of the preserve. Each transect is 100ft in length, and approximately 5ft in width (Figure 6). These transects were performed during the spring 2022 semester (January-April). Transects were placed by analyzing the topographic and soil maps of the preserve, this allowed me to better assess potential breaks in habitat types. Data

on plant species names and native status for all individual species can be found for each transect in the Appendix A section of the report. The transect data can be referenced for later analysis and can be compared to assess improvements in species composition and biodiversity. The transect data was gathered in a field notebook, and then uploaded to an Excel spreadsheet for access and presentation purposes.

Flora

A total flora depicting all plant species by family, genus, and species is found in Appendix B. Within the flora is data on native status and notes on any listed, or endemic plant species. The flora was composed on an Excel spreadsheet for analytical and presentation purposes.

Mapping

Mapping was primarily done using ARCGIS 2019 aerial photographic data, with some map data being gathered through the US Department of Agriculture website. The boundary for the site was created utilizing Lake County Florida tax parcel data. Topographic maps were created using US Geological Survey Data.

Habitat Assessment

Soil Data

Within the project boundaries are five USDA classified soil types, including: (8) Candler sand, 0 to 5 percent slopes; (9) Candler sand, 5 to 12 percent slopes; (10) Candler sand, 12 to 40 percent slopes; (17) Arents; and (40) Placid and Myakka sands, depressional. Below are descriptions of each listed soil type.

(8) Candler sand, 0 to 5 percent slopes

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

(9) Candler sand, 5 to 12 percent slopes

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

(10) Candler sand, 12 to 40 percent slopes

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

(17) Arents

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

(40) Placid and Myakka sands, depressional

These are very poorly drained hydric soils found in depressions mostly on the flatwoods. The surface layer of this soil type generally consists of black fine sand about 18 inches thick. Placid soil is ponded for at least 6 months during most years. Permeability of this soil type is rapid.

Habitats and Land-Use Types

There are four habitats and land-use types present at Forest Preserve. These were classified using Florida Land Use, Cover and Forms Classification System (FLUCCS). Community types found within the preserve include (425) Temperate Hardwoods; (434) Hardwood – Conifer Mixed; (617) Mixed Wetland Hardwoods; and (830) Utilities. Below includes a description of each habitat type and the dominant vascular flora, as well as any structures, within each.

(425) Temperate Hardwoods

The Temperate Hardwoods FLUCCS classification area covers the vast majority of the core of the preserve. This habitat community type is dominated by a dense canopy of hardwood tree species such as (but not limited to) live oak (*Quercus virginiana*), pignut hickory (*Carya glabra*), laurel oak (*Quercus laurifolia*), camphor tree (*Cinnamomum camphora*), and southern magnolia (*Magnolia grandiflora*). There are a few scattered longleaf pines (*Pinus palustris*) though the vast majority (greater than 66% aerial coverage) of canopy species are hardwood. The sub canopy is dense with many opportunistic species that have thrived through no recent burns. These species include American beauty berry (*Callicarpa americana*), sabal palm (*Sabal palmetto*), coral ardisia (*Ardisia crenata*), loquat (*Eriobotrya japonica*), cherry laurel (*Prunus caroliniana*), and others. The ground cover of this vegetative community is rather sparse due to the dense canopy/sub-canopy. Species include (but not limited to) river sage (*Salvia misella*),

Spanish needles (*Bidens alba*), guinea grass (*Urochloa maxima*), tall nutsedge (*Scleria triglomerata*), and tuberous sword fern (*Nephrolepis cordifolia*).

(434) Hardwood-Conifer Mixed

Located on the higher elevation hills of the eastern segment of the preserve this area is primarily classified because of its increased presence of canopy long leaf pines (*Pinus palustris*). Other canopy species include live oak (*Quercus virginiana*), laurel oak (*Quercus laurifolia*), sabal palm (*Sabal palmetto*) and southern magnolia (*Magnolia grandiflora*). Species found within the subcanopy include saw palmetto (*Serenoa repens*), American beauty berry (*Callicarpa americana*), sabal palm (*Sabal palmetto*), , coral ardisia (*Ardisia crenata*), loquat (*Eriobotrya japonica*), cherry laurel (*Prunus caroliniana*), and others. Common ground cover includes muscadine (*Vitis rotundifolia*), river sage (*Salvia misella*), Spanish needles (*Bidens alba*), guinea grass (*Urochloa maxima*), coontie (*Zamia integrifolia*), and tuberous sword fern (*Nephrolepis cordifolia*).

(617) Mixed Wetland Hardwoods

Located on the eastern segment of the preserve along the edge of John's Lake is a small wooded wetland area where the water table is only a few inches below ground level. Species here are more tolerant of moist soil types. The canopy of this area is largely dominated by laurel oak (*Quercus laurifolia*), and camphor tree (*Cinnamomum camphora*). Sub-canopy is primarily comprised of dahoon holly (*Ilex cassine*), wax myrtle (*Morella cerifera*), and American holly (*Ilex opaca* var. *opaca*). Common ground cover species are saw palmetto (*Serenoa repens*) and Virginia chainfern (*Woodwardia virginica*).

(830) Utilities

A portion of the preserve has been classified as Utilities. This segment is in the southeast corner of the property and includes a small access road and a pump-station. The only form of vegetation is common ground cover species such as Spanish needles (*Bidens alba*), river sage (*Salvia misella*), and guinea grass (*Urochloa maxima*).

Endangered and Endemic Plants

The Forest Preserve is home to one listed plant species, and two endemic plant species. The listing is based on the Florida Department of Agriculture's regulated plant index. Below is the list of the endangered plants found at the Forest Preserve and their official listing.

Centrosema arenicola	pineland butterfly pea	Endangered-State; Endemic
<i>Chapmannia floridana</i>	Florida alicia	Endemic

Invasive Species

Part of the initiative of this research project was documenting the presence of invasive species at the preserve, as well as providing a percent coverage of each invasive species along each transect, to resemble a baseline to be improved on as the ecological restoration projects continue. Of the 101 vascular plant species documented at the preserve, 24 species are classified as either a category 1 or a category 2 invasive species, according to the Florida Exotic Plant Pest Council (FLEPPC. Below is a list of each invasive species documented at Genius Preserve, as well as their invasive status per FLEPPC.

FLEPPC Invasive Plant Species Found Within the Limits of Forest Preserve

<i>Abrus precatorius</i>	rosary pea	EPPC(I)
<i>Albizia julibrissin</i>	mimosa tree	EPPC(I)
<i>Ardisia crenata</i>	coral ardisia	EPPC(I)
<i>Cinnamomum camphora</i>	camphor tree	EPPC(I)
<i>Dioscorea bulbifera</i>	air-potato	EPPC(I)
<i>Dolichandra unguis-cati</i>	catsclaw	EPPC(I)
<i>Eugenia uniflora</i>	Surinam cherry	EPPC(I)
<i>Imperata cylindrica</i>	cogongrass	EPPC(I)
<i>Lantana strigocamara</i>	lantana	EPPC(I)
<i>Ligustrum lucidum</i>	glossy privet	EPPC(I)
<i>Ludwigia peruviana</i>	Peruvian primrose	EPPC(I)
<i>Nandina domestica</i>	sacred bamboo	EPPC(I)
<i>Nephrolepis cordifolia</i>	tuberous sword fern	EPPC(I)
<i>Paederia foetida</i>	skunkvine	EPPC(I)
<i>Senna pendula</i>	valamuerto	EPPC(I)
<i>Syngonium podophyllum</i>	American evergreen	EPPC(I)
<i>Urena lobata</i>	caesarweed	EPPC(I)
<i>Koelreuteria elegans</i> subsp. <i>formosana</i>	golden raintree	EPPC(II)
<i>Melia azedarach</i>	Chinaberry	EPPC(II)
<i>Momordica charantia</i>	balsam apple	EPPC(II)
<i>Ruellia blechum</i>	green shrimp plant	EPPC(II)
<i>Sphagneticola trilobata</i>	wedelia	EPPC(II)
<i>Syagrus romanzoffiana</i>	queen palm	EPPC(II)
<i>Urochloa maxima</i>	guineagrass	EPPC(II)

Fire Management Philosophy

The forest preserve serves as a rare remnant long leaf pine sandhill habitat that still remains in the Mount Dora area. Though, following decades of fire suppression, the natural native biodiversity of this preserve has dwindled, and hardwoods and invasive species have taken over the canopy and subcanopy that would have likely been primarily dominated by occasional scrub oaks, saw palmetto, and a ground cover comprised of wire grass, and a canopy nearly entirely dominated by long leaf pines and the occasional sandhill hardwood such as sand live oak and black cherry.

Based on the complete report and the available data, a basic Fire Management Philosophy has been created to address concerns related to the potential of fire management being introduced at the Forest Preserve.

To begin, when referencing the created FLUCCS Map (Figure 5), you will see that the eastern segment of the preserve is categorized as “Hardwood – Conifer Mixed”. This is where the long leaf pines remain in abundance, and where they have not been fully taken over by hardwoods. The other two-thirds of the preserve has rather spotty populations of long leaf pines, with hardwoods (primarily laurel oaks), dominating the canopy. The “Hardwood – Conifer Mixed” would likely be a good “starting point” for the fire management process, as the mechanical clearing needed to clear large-scale canopy trees will be less intense; and the sub-canopy is overall less dense, so the impacts of the burn will be more noticeable initially. This will allow the residents of Mount Dora to see the beneficial impacts of the burn quickly, which could help with those that have doubts on the impacts and importance of fire. This will also help promote the healthy growth of the sites only endangered plant species, *Centrosema arenicola* (pine land butterfly pea).

Once the “Hardwood – Conifer Mixed” portion of the site has been burned continually, the beginning of clearing up the remainder of the site could initiate. This involves the procedure of removing a large portion of undesirable hardwoods, such as laurel oaks, cherry laurel, and camphor trees, amongst others. This alone would be a huge step for the preserve. This would instantly allow for a greater diversity of ground cover species with the introduction of more sunlight to the forest floor. Once fires are introduced, seedlings will sprout up even more with less debris build up and through the process of seed scarification.

The habitat along the lake, classified as “Mixed Wetland Hardwoods”, should be a rather quick, and easy burn, considering the habitat is rather narrow, and is backed by a natural firebreak (John’s Lake). Removal of undesirable hardwoods would also help this habitat greatly, as there is very little direct sunlight to the understory. This would allow for a greater diversity of wetland grasses, wildflowers, and aquatic floating plants. There are a few remaining pine trees in this habitat. This area also shows lack of fire due to the very tall saw palmetto. Saw palmetto is very much a desirable species, but when left unburned, the species will begin to get very dense, creating a monoculture in the understory. Regular burns will help with this issue.

The introduction of pesticides to the site will be necessary considering the severe infestation of tough invasives such as coral ardisia, tuberous sword fern, and cogon grass. Fire alone would not be able to handle these species, as all of them are capable of regrowing directly from the roots. Cogon grass actually responds well to fires, and typically grows back denser. Thankfully, cogon grass was only found in a few locations, and treatments with pesticides should be easy.

One of the primary issues that I see when it comes to prescribing burns to this site is the construction of firebreak lines along the northern boundary of the site, which is where the preserve borders houses. The firebreaks will likely need to be at minimum 10-15ft in width,

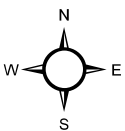
considering that the shrubs currently stand at 5+ ft. This would likely not be taken kindly by those neighboring the preserve, or those that wish to keep the preserve fully intact – but it is a necessity if burns were to take place. All other boundaries of the preserve have a pre-existing firebreak, or construction of a break would be rather easy.

Legend

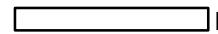
 Forest Preserve (18.77 ac)



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

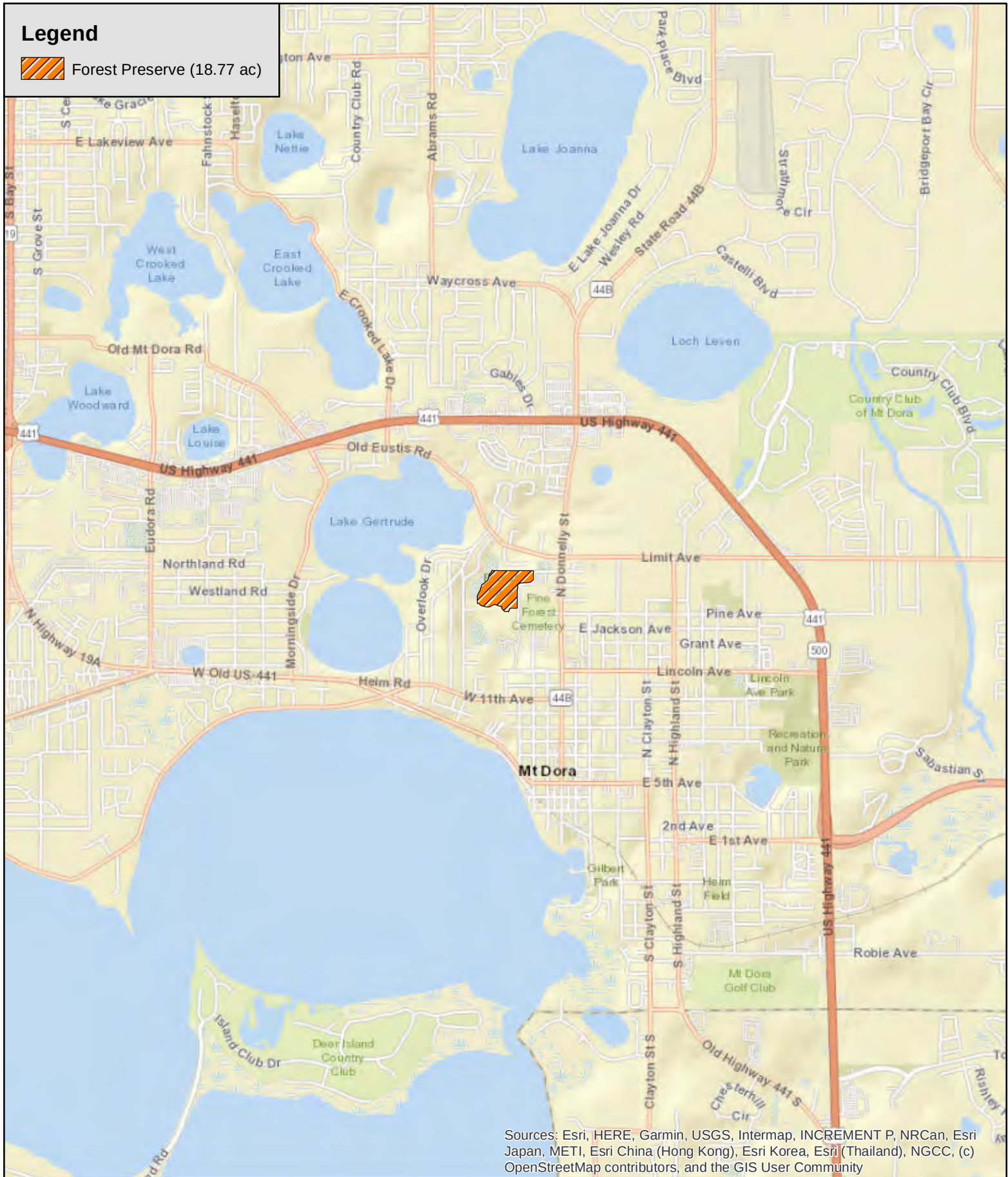


Forest Preserve
Lake County, Florida
Figure 1
Aerial Map

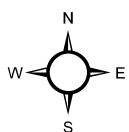
180
 Feet
Rollins College
Produced By: JRB
Date: 2/26/2022

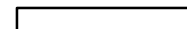
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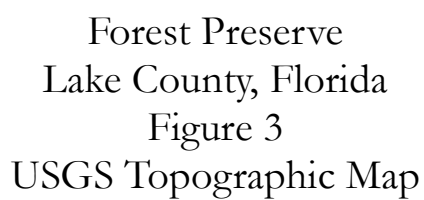
 Forest Preserve (18.77 ac)



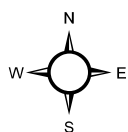
Forest Preserve
Lake County, Florida
Figure 2
Location Map



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 Miles
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Produced By: JRB
Date: 2/26/2022

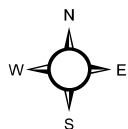


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Produced By: JRB
Date: 2/26/2022



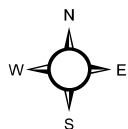
Forest Preserve
Lake County, Florida
Figure 4
SSURGO Soils Map

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 Feet
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Produced By: JRB
Date: 2/26/2022



Forest Preserve
Lake County, Florida
Figure 5
FLUCCS Map

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Date: 2/26/2022



Forest Preserve
Lake County, Florida
Figure 6
Transect Map

180
Feet
Rollins College
Produced By: JRB
Date: 3/5/2022

Family	Bionomial	Common Name	Native Status
Acanthaceae	<i>Odontonema cuspidatum</i>	fire spike	Non-Native
Acanthaceae	<i>Ruellia blechum</i>	green shrimp plant	EPPC(II)
Adoxaceae	<i>Sambucus nigra</i> subsp. <i>canadensis</i>	elderberry	Native
Anacardiaceae	<i>Rhus copallinum</i>	winged sumac	Native
Annonaceae	<i>Asimina reticulata</i>	netted pawpaw	Native
Aquifoliaceae	<i>Ilex cassine</i>	dahoon holly	Native
Aquifoliaceae	<i>Ilex opaca</i>	American holly	Native
Aquifoliaceae	<i>Ilex vomitoria</i>	yuapon holly	Native
Araceae	<i>Syngonium podophyllum</i>	American evergreen	EPPC(I)
Arecaceae	<i>Sabal palmetto</i>	cabbage palm	Native
Arecaceae	<i>Serenoa repens</i>	saw palmetto	Native
Arecaceae	<i>Syagrus romanzoffiana</i>	queen palm	EPPC(II)
Aristolochiaceae	<i>Aristolochia serpentaria</i>	Virginia snakeroot	Native
Aristolochiaceae	<i>Aristolochia serpentaria</i>	Virginia snakeroot	Native
Asteraceae	<i>Ambrosia artemisiifolia</i>	common ragweed	Native
Asteraceae	<i>Baccharis halimifolia</i>	salt bush	Native
Asteraceae	<i>Bidens alba</i>	beggars ticks	Native
Asteraceae	<i>Bidens bipinnata</i>	Spanish needles	Native
Asteraceae	<i>Elephantopus elatus</i>	tall elephants foot	Native
Asteraceae	<i>Emilia sonchifolia</i>	lilac tasselflower	Non-Native
Asteraceae	<i>Mikania cordifolia</i>	Florida Keys hempvine	Native
Asteraceae	<i>Mikania scandens</i>	hemp vine	Native
Asteraceae	<i>Sphagneticola trilobata</i>	wedelia	EPPC(II)
Asteraceae	<i>Verbesina virginica</i>	frostweed	Native
Asteraceae	<i>Vernonia angustifolia</i>	tall iron weed	Native
Berberidaceae	<i>Nandina domestica</i>	sacred bamboo	EPPC(I)
Bignoniaceae	<i>Dolichandra unguis-cati</i>	catsclaw	EPPC(I)
Blechnaceae	<i>Woodwardia virginica</i>	Virginia chainfern	Native
Bromeliaceae	<i>Tillandsia recurvata</i>	ball moss	Native
Bromeliaceae	<i>Tillandsia usneoides</i>	spanish moss	Native
Clusiaceae	<i>Hypericum hypericoides</i>	St. Andrews cross	Native
Commelinaceae	<i>Tradescantia ohiensis</i>	Ohio spiderwart	Native
Convolvulaceae	<i>Distimake dissecta</i>	Noyua vine	Native
Convolvulaceae	<i>Ipomoea cairica</i>	mile-a-minute vine	Non-Native
Cucurbitaceae	<i>Momordica charantia</i>	balsam apple	EPPC(II)
Cupressaceae	<i>Juniperus virginiana</i>	red cedar	Native
Cyperaceae	<i>Scleria triglomerata</i>	tall nut-grass	Native

Dennstaetiaceae	<i>Pteridium aquilinum</i> var. <i>pseudocaudatum</i>	tailed brackenfern	Native	
Dioscoreaceae	<i>Dioscorea bulbifera</i>	air-potato	EPPC(I)	
Ebenaceae	<i>Diospyros virginiana</i>	common persimmon	Native	
Ericaceae	<i>Vaccinium stamineum</i>	deerberry	Native	
Euphorbiaceae	<i>Acalypha arvensis</i>	field copperleaf	Non-Native	
Euphorbiaceae	<i>Cnidocolus stimulosus</i>	tread softly	Native	
Euphorbiaceae	<i>Euphorbia heterophylla</i>	Mexican fireplant	Native	
Fabaceae	<i>Abrus precatorius</i>	rosary pea	EPPC(I)	
Fabaceae	<i>Albizia julibrissin</i>	mimosa tree	EPPC(I)	
Fabaceae	<i>Centrosema arenicola</i>	pineland butterfly pea	Native	Endemic; Endangered-State
Fabaceae	<i>Chapmannia floridana</i>	Florida alicia	Native	Endemic
Fabaceae	<i>Crotalaria spectabilis</i>	showy rattlebox	Non-Native	
Fabaceae	<i>Erythrina herbacea</i>	coral bean	Native	
Fabaceae	<i>Senna pendula</i>	valamuerto	EPPC(I)	
Fagaceae	<i>Quercus geminata</i>	sand live oak	Native	
Fagaceae	<i>Quercus laurifolia</i>	laurel oak	Native	
Fagaceae	<i>Quercus virginiana</i>	live oak	Native	
Gelsemiaceae	<i>Gelsemium sempervirens</i>	yellow jessamine	Native	
Hemerocallidoidaceae	<i>Dianella ensifolia</i>	cerulean flaxlily	Non-Native	
Juglandaceae	<i>Carya glabra</i>	pignut hickory	Native	
Lamiaceae	<i>Callicarpa americana</i>	beautyberry	Native	
Lamiaceae	<i>Cantinoa mutabilis</i>	tropical bushmint	Non-Native	
Lamiaceae	<i>Salvia misella</i>	river sage	Native	
Lauraceae	<i>Cinnamomum camphora</i>	camphor tree	EPPC(I)	
Lauraceae	<i>Persea borbonia</i>	red bay	Native	
Lauraceae	<i>Persea humilis</i>	silk bay	Native	
Lauraceae	<i>Persea palustris</i>	swamp bay	Native	
Magnoliaceae	<i>Magnolia grandiflora</i>	southern magnolia	Native	
Malvaceae	<i>Sida rhombifolia</i>	Cuban jute	Native	
Malvaceae	<i>Urena lobata</i>	caesarweed	EPPC(I)	
Meliaceae	<i>Melia azedarach</i>	Chinaberry	EPPC(II)	
Myricaceae	<i>Morella cerifera</i>	wax myrtle	Native	
Myrsinaceae	<i>Ardisia crenata</i>	coral ardisia	EPPC(I)	
Myrtaceae	<i>Eugenia uniflora</i>	Surinam cherry	EPPC(I)	
Nephrolepidaceae	<i>Nephrolepis cordifolia</i>	tuberous sword fern	EPPC(I)	
Oleaceae	<i>Ligustrum lucidum</i>	glossy privet	EPPC(I)	
Onagraceae	<i>Ludwigia peruviana</i>	Peruvian primrose	EPPC(I)	
Onagraceae	<i>Ludwigia repens</i>	creeping primrose	Native	

Orchidaceae	<i>Habenaria floribunda</i>	mignonette orchid	Native
Orchidaceae	<i>Oeceoclades maculata</i>	Monk orchid	Non-Native
Oxalidaceae	<i>Oxalis corniculata</i>	common woodsorrel	Native
Oxalidaceae	<i>Oxalis debilis</i>	pink woodsorrel	Non-Native
Passifloraceae	<i>Passiflora edulis</i>	passionfruit	Non-Native
Phytolaccaceae	<i>Phytolacca americana</i>	pokeweed	Native
Pinaceae	<i>Pinus palustris</i>	longleaf pine	Native
Plantaginaceae	<i>Bacopa monnieri</i>	herb-of-grace	Native
Poaceae	<i>Dichanthelium portoricense</i>	hemlock witchgrass	Native
Poaceae	<i>Imperata cylindrica</i>	cogongrass	EPPC(I)
Poaceae	<i>Urochloa maxima</i>	guineagrass	EPPC(II)
Podocarpaceae	<i>Podocarpus macrophyllus</i>	yew plum	Non-Native
Polypodiaceae	<i>Phlebodium aureum</i>	golden polypody	Native
Rosaceae	<i>Eriobotrya japonica</i>	loquat	Non-Native
Rosaceae	<i>Prunus caroliniana</i>	cherry laurel	Native
Rosaceae	<i>Prunus serotina</i>	black cherry	Native
Rubiaceae	<i>Hamelia patens</i> var. <i>patens</i>	fire bush	Native
Rubiaceae	<i>Houstonia procumbens</i>	innocence	Native
Rubiaceae	<i>Paederia foetida</i>	skunkvine	EPPC(I)
Sapindaceae	<i>Acer rubrum</i>	red maple	Native
Sapindaceae	<i>Koelreuteria elegans</i> subsp. <i>formosana</i>	golden raintree	EPPC(II)
Urticaceae	<i>Parietaria floridana</i>	Florida pellitory	Native
Verbenaceae	<i>Lantana strigocamara</i>	lantana	EPPC(I)
Vitaceae	<i>Parthenocissus quinquefolia</i>	Virginia creeper	Native
Vitaceae	<i>Vitis rotundifolia</i>	muscadine	Native
Zamiaceae	<i>Zamia integrifolia</i>	coontie	Native

Transect 5

Common Name	Species Name	Percent Coverage	Status
Canopy			
Laurel Oak	Quercus laurifolia	25	Native
Long Leaf Pine	Pinus palustris	1	Native
Camphor Tree	Cinnamomum camphora	10	EPPC(I)
Sub-Canopy			
Camphor Tree	Cinnamomum camphora	25	EPPC(I)
Dahoon Holly	Ilex cassine	2	Native
Sabal Palm	Sabal palmetto	10	Native
Common Persimmon	Diospyros virginiana	3	Native
Chinese Tallow	Triadica sebifera	5	EPPC(I)
Wax Myrtle	Morella cerifera	8	Native
Beauty Berry	Callicarpa americana	1	Native
American Holly	Ilex opaca	1	Native
Dahoon Holly	Ilex cassine	2	Native
Yuapon Holly	Ilex vomitoria	5	Native
Ground Cover			
Saw Greenbriar	Smilax bona-nox	2	Native
Coral Ardisia	Ardisia crenata	45	EPPC(I)
Virginia Chainfern	Woodwardia virginica	3	Native
Sawtooth Blackberry	Rubus pensilvanicus	4	Native
Skunkvine	Paederia foetida	1	EPPC(I)
Saw Palmetto	Serenoa repens	20	Native
Tuberous Sword Fern	Nephrolepis cordifolia	50	EPPC(I)
Cesar Weed	Urena lobata	1	EPPC(I)



Transect 1



Transect 1



Transect 2



Transect 2



Transect 3



Transect 3



Transect 4



Transect 4



Transect 5



Transect 5

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ATTACHMENT #5



0 150
Feet

SUMMIT CT

City of Mt Dora Forest Preserve Proposed Nature Trail Field Map

MtDora Trail GPS

- Proposed New Trail
- Mt Dora Optional Trail

Old and New Trail

- New Trail
- Existing
- New Trail Connector
- 10' Cleared Areas
- parcels

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