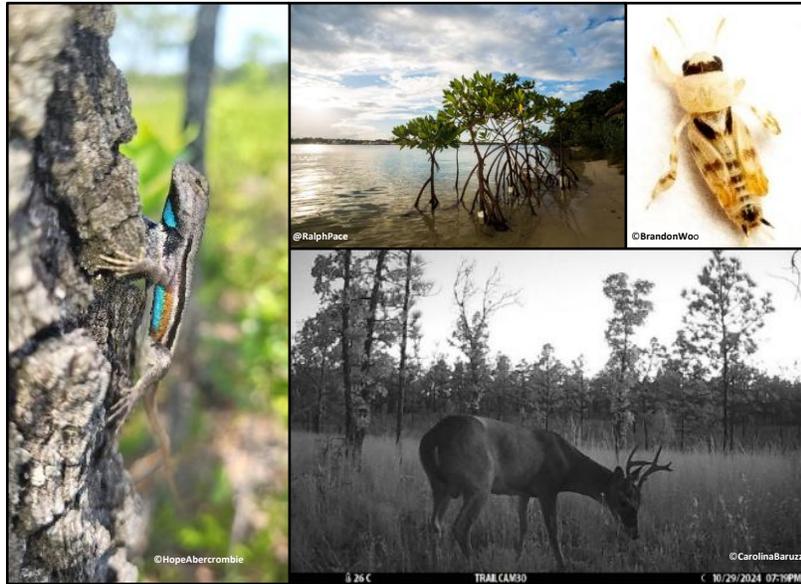


# CENTER FOR CONSERVATION INITIATIVES 5<sup>TH</sup> ANNUAL RESEARCH & MONITORING REPORT



## 2025

A COMPILATION OF RESEARCH AND MONITORING CONDUCTED BY AGENCY, ACADEMIC,  
AND OTHER INVESTIGATORS IN COORDINATION WITH  
THE NATURE CONSERVANCY'S  
CENTER FOR CONSERVATION INITIATIVES  
2024-2025



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## INTRODUCTION

### THE NATURE CONSERVANCY

Founded in the District of Columbia in 1951, The Nature Conservancy (TNC) currently impacts conservation in 79 countries, including all 50 states of the US. We have over one million members and have protected more than 125,000,000 acres of land and thousands of miles of rivers worldwide. TNC also operates more than 100 marine conservation projects globally. Our work focuses on the global priorities of Lands, Water, Climate, Oceans, and Cities. The Nature Conservancy's mission is to conserve the lands and waters on which all life depends.

### CENTER FOR CONSERVATION INITIATIVES (CCI)

The Florida Chapter of The Nature Conservancy has established the Center for Conservation Initiatives (CCI) to address the state's environmental issues through four initiatives:

- Public Outreach - Connecting People & Nature
- Conservation Education & Training - Our Future Conservationists
- Science & Strategies - An Environment for Discovery & Solutions
- Natural Resource Stewardship - Advancing Natural Resource Management

**Vision:** The Center for Conservation Initiatives' vision is for the conservation of nature to be a fundamental and integral value of our community that is informed and underpinned by science and research.

**Mission:** The Center for Conservation Initiatives' mission is to advance conservation knowledge and action and inspire the next generation of conservation leaders.

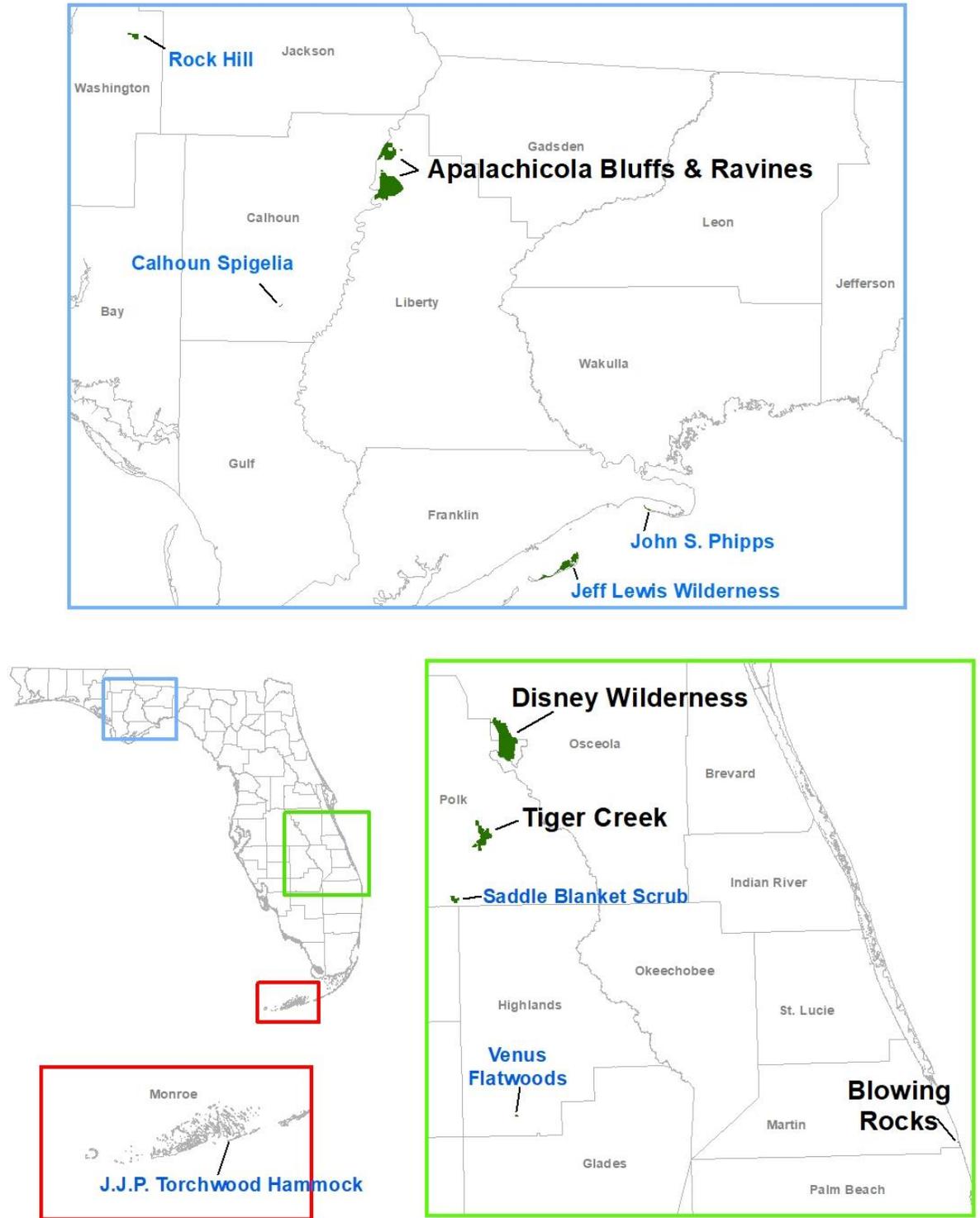
Four of the Chapter's preserves serve as CCI campuses, where most of the Center's on the ground programs, events, and strategies occur. Based on site location, history, and conservation strengths, each campus preserve has a unique conservation focal theme that is emphasized through the four CCI initiatives.

#### Campus Preserve Focal Themes

- Apalachicola Bluffs & Ravines Preserve: Working Forests
- Disney Wilderness Preserve: Connected Land, Water, and Communities
- Tiger Creek Preserve: Florida's Rare & Ancient Wilderness
- Blowing Rocks Preserve: Marine and Coastal Environment

Research is a critical component of the CCI Science & Strategy Focal Initiative. The goal of this initiative is to serve as a networked, site-based science and strategy platform for TNC and partners to investigate critical conservation questions, demonstrate strategies, and communicate with specific audiences. To achieve this goal, we are working to establish the CCI campuses as notable regional and national research sites by expanding research activity across the campus preserves. To provide access to additional species, ecological, hydrological, and geological research opportunities throughout the state, seven other Conservancy preserves are also open to researchers (Figure 1).

Figure 1. The Nature Conservancy preserves open to research in Florida.



The Conservancy's Florida Chapter has encouraged research and monitoring on its lands by academic, agency, and other investigators for over 30 years. Through 2007, research projects were documented in annual reports. In 2018, near the beginning of the CCI concept development, we identified research tracking and reporting as critical for establishment of the campuses as research hubs. Therefore, in 2020 we began compiling information and updates on the research and monitoring conducted by our conservation and science partners in annual research and monitoring reports. This fourth annual report documents the projects that were initiated, continuing, or completed in 2024 and through April 2025.

We have divided this report into four sections. The first two sections contain brief descriptions of research projects conducted by external (non TNC) researchers using non TNC funds. The projects are organized by preserve and then alphabetically by project title. These include 18 total projects, of which 14 are ongoing and 4 have been completed. The researchers are from 11 universities and colleges; 4 federal, state, and local agencies; and 2 other science or conservation organizations.

The second section has descriptions of two projects funded by CCI grants in 2004 and 2005 with researchers from the Universities of Florida, Central Florida, and South Florida.

The third section has descriptions of seven active monitoring projects by local, county, state, and federal agencies. These are organized by preserve and then by project title. Online links to data are provided where available.

The third section contains a list of all reports and publications generated from research and monitoring on TNC lands in Florida by academic, agency, and other investigators as well as by Conservancy staff since 1980. The list of 607 reports and publications is organized by preserve, then chronologically from the most recent to oldest, and then alphabetically by author. Copies of or web links to the reports and publications are available from the Chapter's Florida Research Reports and Published Works online map at [Research Reports and Published Works Web Map](#).

## EXTERNAL RESEARCH PROJECTS

### Apalachicola Bluffs and Ravines Preserve

#### Community level effects of longleaf pine savannah restoration

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Dr. Carolina Baruzzi, University of Florida/IFAS North Florida Research and Education Center, Quincy, FL

Kathleen Carey, Graduate Research Assistant, University of Florida/IFAS North Florida Research and Education Center, Quincy, FL

**Duration:** 2023-2025

**Objectives:** The goal of this study was to understand the contribution of wildlife to the maintenance of the longleaf pine savannah habitat. The study had the following objectives:

- 1) Identifying patterns of wildlife site use (abundance and occupancy) depending on time since restoration.
- 2) Understanding the effects of wildlife on longleaf pine savanna restoration outcomes through microbial dispersal.

**Methods:** Staff from the UF/IFAS North Florida Research and Education Center sampled large and small mammal communities in longleaf pine savanna in restored and control sites. They selected sites with similar time since fire to not confound time since restoration with time since fire.

To determine presence and abundance of large mammals, the researchers placed eight cameras per site, 200 or more meters apart, in September to November 2023. From each camera trap photo, the following data was collected: date, time, individual species, and number of individuals.

Small mammals were trapped in the fall of 2023 and 2024 using Sherman live traps placed in 7x7 grids with 20-m spacing between each trap (49 traps per grid). The traps were baited (e.g., a peanut butter/whole oats mixture, sunflower seeds) set at dusk, checked at dawn, and closed during the day. This procedure was repeated for a total of four nights each month. When a small mammal was found in a trap, it was marked with an ear-tag, swabbed, and had individual data collected (i.e., species, sex, age, and weight). Any fecal samples left in the traps were collected.

Trapped small mammals and any feces left in the traps were swabbed for microbial samples. Using a DNA amplicon approach, samples were tested for both fungi and bacteria to understand patterns of microbial dispersal by small mammals.

**Progress/Results:** FIELD WORK COMPLETED. In 2023-2024, data was collected for the following: 1) small mammal community responses to longleaf pine savanna restoration, 2) fire ant bait testing, which originated from issues during the small mammal trapping, and 3) vertebrate community responses to longleaf pine savannah restoration.

Small mammals and longleaf pine restoration: Researchers trapped and marked (via ear tags) five small mammals across four sites at ABRP in the fall of 2023 and three small mammals across two sites in 2024. Each individual was swabbed and fecal samples were collected for microbial dispersal. Microbial DNA extraction and analyses will be completed in spring 2025. This dataset is part of a larger project across 13 longleaf pines sites in the Florida panhandle. The sites are categorized into one of four groups: unrestored sites (n = 2), reference sites (n = 4), long-term restoration sites (n = 4), and early-phase restoration sites (n = 3).

From the researchers' progress report submitted in 2025 (Baruzzi 2025): [Across the 13 panhandle sites], "the capture rate (number of captured rodents / number of traps set) was low (2023 = 0.004 capture rate, 2024 = 0.002 capture rate). Overall, we did not find a difference in the microbiomes of scat and swab samples, suggesting that small mammals may be facilitating similar microbes through both dispersal modes. Moreover, we found a significant difference in the bacterial gut microbiome between hispid cotton rats (*Sigmodon hispidus*) and oldfield mice (*Peromyscus polionotus*) in the long-term restoration sites (i.e., sites restored around 20 years ago), suggesting trait variations between the two species may be driving these microbial differences, such as diet (e.g. omnivores versus granivores, respectively), habitat breadth, or behavior. Lastly, our results found a significant difference in the fungal community between long-term restoration sites and unrestored, pine plantations sites. Thus, restoring pine plantations back to savannas may be a driving factor of the fungal community. Overall, this study highlights the impact small mammals have on a historic Florida ecosystem through their microbiome."

Fire ant bait testing: In 2023, the researchers looked at the influence of bait type and the use of ant spray around Sherman live traps when trapping for small mammals. At four ABRP sites, they tested 5 different bait types and ant spray around the perimeter of half the traps and then recorded the occurrences of fire ants. Insecticide significantly reduced the occurrence of fire ants with peanut butter, peanut butter/oat mixture, or sunflower seed baits. There was no significant difference in fire ant abundance in traps baited with vanilla spray. These results were published in *Wildlife letters*, a peer-reviewed journal.

Vertebrate communities and longleaf pine savanna restoration: Camera traps were deployed at four sites in the fall of 2023. Data from this project were used to supplement the Snapshot USA project. Dr. Baruzzi is currently using ABRP and other SnapShot USA data to estimate wild turkey abundance across different habitats. Snapshot USA is a nationwide, collaborative camera trap survey of a wide range of taxa, primarily focused on medium to large mammals, across every state in the United States. The survey is led by the Smithsonian Institution and North

Carolina Museum of Natural Sciences. Camera trap data from ABRP was included in a paper published in *Global Ecology and Biogeography* in 2025.

### Publications

Carey K.A., Cove M.V., Miller D.L., et al. In Prep. Uncovering the Microbiome Behind Enigmatically Low Rodent Populations. Target Journal: *Journal of Animal Ecology*.

Rooney B., Kays R., Cove M.V., et al. 2025. SNAPSHOT USA 2019–2023: The first five years of data from a coordinated camera trap survey of the United States. *Global Ecology and Biogeography* 34(1):e13941.

Carey K.A., McDonald B.W., Pietras A., et al. 2024. Guidelines to reduce invasive fire ant interference of small mammal trapping. *Wildlife Letters* 2024:1-5.

### Presentations

Carey, K.A., Moore N., Cove M.V., and Baruzzi C. Where are all the rodents? Florida Fish and Wildlife Conservation Commission Florida Mammal Conclave. Gainesville, Florida (November 11th, 2024).

Carey K.A., McDonald B.W., Cove M.V., and Baruzzi C. Evaluating small mammal trapping techniques in the presence of fire ants. North Florida Research and Education Center Graduate Student Spring Showcase, Quincy, FL (April 5th, 2024).

Carey, K.A. M.V. Cove, D.L. Miller, and C. Baruzzi. Exploring the microbiome of low rodent populations in longleaf pine savannas. Spring Meeting of the Florida Chapter of The Wildlife Society. Tallahassee, Florida (April 17th, 2025).

### Distribution and ecology of soft ticks (Argasidae) in Florida

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Dr. Samantha Wisely, Department of Wildlife Ecology and Conservation, University of Florida, Gainesville, FL

Dr. Sebastian Botero-Cañola, Postdoctoral Associate, Department of Wildlife Ecology and Conservation, University of Florida, Gainesville, FL

Carson Torhorst, Graduate Assistant, Department of Wildlife Ecology and Conservation, University of Florida, Gainesville, FL

**Duration:** 2023-2024

**Objectives:** The goal of this project was to fill some knowledge gaps in the ecology of soft ticks in the United States. The project had the following objectives.

- 1) Validate and improve proposed *Ornithodoros turicata* collection methods.
- 2) Assess the distribution of *O. turicata* through the major ecosystems of Florida.
- 3) Conduct bloodmeal analysis to determine host-tick associations.

**Methods:** This study was conducted at the Apalachicola Bluffs and Ravines Preserve and throughout the Florida mainland and the Keys. The researchers selected sampling sites covering the latitudinal and environmental gradient of Florida. At each sampling site, the presence of *O.turicata* ticks was determined by collecting and examining samples of the content of gopher tortoise burrows, the only known microhabitat of the species in the region. The samples were extracted using a modified leaf vacuum that removed debris, loose soil and ticks from the burrow without causing any damage to the burrow. Before any collection was performed, the burrows were inspected using a borescope camera to assess the presence of any vertebrate species. If a vertebrate was detected, sampling was not performed.

**Progress/Results:** COMPLETED. Overall data analysis is still ongoing, but analysis of the samples from ABRP has been completed. Ten gopher tortoise burrows were sampled at ABRP in May 2023. Approximately 2 kg of soil was collected from the interior of the burrows. The tick *Ornithodoros turicata* was found in only one of the burrows sampled. One additional borrow was scoped but not sampled because of the presence of a vertebrate. A final report is expected by the end of 2025. The occurrence data collected throughout Florida will be used to create a distribution model for the species.

#### Publications

Botero-Cañola S., Torhorst C., Canino N., et al. 2024. Integrating systematic surveys with historical data to model the distribution of *Ornithodoros turicata americanus*, a vector of epidemiological concern in North America. *Ecology and Evolution* 14(11):e70547.

#### Presentations

Botero-Cañola S., Torhorst C., Canino N., O'Hara K., James A., and Wisely S. The geographic distribution and environmental drivers of *Ornithodoros turicata* through the Southeastern United States. The 2024 Emerging Pathogens Institute Research Day, Gainesville FL.

Botero-Cañola S., Torhorst C., Canino N., O'Hara K., James A., and Wisely S. A standardized survey method for soft ticks in gopher tortoise burrows: Implications for African swine fever virus introduction to the United States. The 2024 Wildlife Society Meeting, Cape Coral FL.

#### Fighting extinction of *Torreya taxifolia* through collaborative partnerships

Atlanta Botanical Garden, Atlanta, GA

**Duration:** 2021-2025

**Objectives:** To conduct a post-Hurricane Michael survey, collect cuttings for propagation, and conduct a genetic analysis of the *Torreya taxifolia* population at Apalachicola Bluffs and Ravines Preserve (ABRP). The Atlanta Botanical Garden (ABG) has funding to address several Priority #1 Recovery Actions in the US Fish & Wildlife Service's Implementation Progress Report for the

endangered *T. taxifolia*. The work at ABRP is part of a larger ABG project that includes the only two other protected *T. taxifolia* sites: Angus Gholson Nature Park and Torreya State Park.

### **Methods:**

Post-Hurricane Michael survey: To assess the biological damage to the Apalachicola Bluffs and Ravines Preserve resulting from Hurricane Michael in 2018, Garden staff and partners will survey and assess the condition of known trees. This updated information will allow ABG to provide federal and state partners a post-Hurricane Michael population assessment to be used in the management of all biological preserves.

Collection of cuttings: ABG will collect cuttings from healthy individuals not currently represented in the ABG Safeguarding Collection. Individuals selected for cutting collection will be rated a 4 or higher (on scale from 1-5), determined by the overall size of the individual, presence of leaf spot, and number and size of Fusarium cankers. A maximum of three cuttings, approximately 6-inches in length each, will be collected from each healthy individual. Cuttings will then be sent to the Safeguarding Nursery in Atlanta, Georgia for propagation. Given the extensive damage from Hurricane Michael, it is imperative to collect cuttings from all remaining trees to secure the invaluable genetic diversity found in the wild population.

Population genetics: ABG scientists will use DNA analysis techniques to assess whether conservation safeguarding efforts are properly representing the diversity within the wild population and identify any locations within the population range with unique genetic diversity. A single DNA sample (~2-inch cutting) will be collected from every individual located within the Apalachicola Bluffs and Ravines Preserve. Tangible outcomes from the genetic assessment will include: 1) determine if there is genetic differentiation among ravines; 2) locate any areas within the *T. taxifolia* range with unique genetic diversity; 3) test for isolation by distance across ravines; and 4) upload all sequences to the Short Read Archive on the National Center for Biotechnology Information database, ensuring that the data is publicly available.

### **Progress/Results: ONGOING.**

Post-Hurricane Michael survey: In May of 2021, 16 known locations of *Torreya taxifolia* were visited across ABRP to relocate the trees, assess their health, and collect DNA samples for genetic analysis. Of the 16 *Torreya taxifolia* visited at ABRP, 12 were located while the remaining 4 trees were searched for but not found (25%). It is likely these trees are either dead from debris caused by Hurricane Michael, were not found due to being covered by vines or other surrounding vegetation, or they are no longer in an above-ground state. The trees could still be alive via their underground root system. It is possible, future surveys may reveal that the trees have re-sprouted, but thorough efforts in 2021 to relocate these individuals were not successful.

Collection of cuttings: No vegetative cuttings were collected during the 2021 surveys because vegetative cuttings of *T. taxifolia* have shown lower rooting success during late spring and early summer months. Cuttings will be collected during the post-hurricane surveys planned for 2025.

Torreya taxifolia population genetics: Individuals targeted for post-hurricane assessments in 2021 were selected for inclusion in the genetic analysis because ABG did not have genetic representation of these individuals. The 12 *Torreya taxifolia* trees that were located during the search efforts, as well as additional trees from past field work at ABRP, were included in the genetic analysis. To-date, DNA has been extracted from over 200 *T. taxifolia* individuals and the extractions have been sent for processing to an external laboratory. Results are being analyzed by ABG to determine the genetic diversity between and within ravine systems.

Additional post-hurricane assessments at ABRP will be scheduled for 2025.

### Indigo snake facial coloration variance

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Lily Campagna, Undergraduate Student, Environmental Studies, Eckerd College, St. Petersburg, FL

Michelle Hoffman, Orianna Center of Indigo Conservation, Eustis, FL.

**Duration:** 2025

**Objectives:** To determine if eastern indigo snake infralabial and chin shield scale patterns change over time. Findings may aid in identification or aging of snakes.

**Methods:** This project was done in conjunction with annual monitoring for the indigo snake re-introduction project at ABRP by the Orianna Center of Indigo Conservation (OCIC). Five previously released snakes were captured and identified via PIT tags. Captured snakes were photographed from side, dorsal, and ventral views. These photos were compared with similar pre-release photos by OCIC, nine months prior to recapture. The researchers used ImageJ to determine the surface area of black pigmentation from infralabial, chin and first ventral scales.

**Progress/Results:** COMPLETED. The researchers found an increase in black pigmentation on all five snakes within all three scale areas. However, the patterns were not distinctive enough to be used for identification of individuals. The pigment increase suggests that there may be a correlation with age of the snake. Further research is needed with larger sample sizes and longer timeframes to determine if pigment levels can be used in determining the ages of snakes.

### Presentations

Campagna L., Hoffman M., and Cribbs T. Importance of the Eastern Indigo Snake Scales: can patterns be used to determine age or identity? 2025 Eckerd College Spring Symposium.

## Investigations of *Cordulegaster sayi*

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Dr. John Abbott, Director of Museum Research and Collections, University of Alabama,  
Tuscaloosa, AL

**Duration:** 2025

**Objectives:** To describe the adults and nymphs of the dragonfly *Cordulegaster sayi* for a world manual of Odonata.

**Methods:** Dr. Abbott and associates will collect adult specimens with aerial nets and nymphs with dip nets or small scoops.

**Progress/Results:** PLANNED. Dr. Abbott will conduct field sampling in spring of 2025.

## Blowing Rocks Preserve

### Habitat use and diet of spotted skunks in a coastal environment

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Kendyl Hassler and Lisa Smith, Fish and Wildlife Research Institute, Florida Fish and Wildlife  
Conservation Commission, Gainesville, FL

**Duration:** 2024

**Objectives:** This study had the following objectives:

- 1) Determine the distribution of eastern spotted skunks in coastal areas along the Atlantic.
- 2) Determine habitat associations of eastern spotted skunks in a coastal environment using occupancy analysis.
- 3) Evaluate the diet of eastern spotted skunks using scat located by the detection dog or encountered opportunistically.

**Methods:** Surveys were conducted on 97 publicly managed lands along Florida's Atlantic coast from Nassau County south to Dade County. Following classifications by the Florida Natural Areas Inventory, field sites consisted of coastal strand, scrub, open canopy forests (e.g., flatwoods), and closed canopy forests (e.g., hammock, coastal upland forest). FWC randomly generated 10 or more survey locations for each habitat group. To avoid capturing the same individual at multiple sites, survey locations were spaced  $\geq 1332$  m apart to exceed the maximum nightly movement of male skunks.

Camera traps consisted of a motion-sensitive camera within a wooden box baited with fish oil and mayonnaise. Each camera station was active for  $\geq 14$  days. Where spotted skunks were detected, a detection dog survey was conducted to locate scat for use in diet analysis.

**Results:** FIELDWORK COMPLETED. FWC placed one camera at Blowing Rock Preserve at 26.979996 -80.083883. No spotted skunks were detected; they did detect one opossum and one mouse. No further surveys are planned at the preserve. All site surveys have been completed, and results can be found in Kessler and Smith 2025.

## Leatherback sea turtle tagging

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Florida Leatherbacks Inc., Palm Beach Gardens, FL

**Duration:** 2014-Present

**Objectives:** To mark, recapture, satellite track, and conduct genetic studies on leatherback sea turtles to better understand the size and health of the population as well as nest frequency, individual size, migratory pattern, and survival rates in Martin County. The project has four study areas: Jupiter Island/Blowing Rocks Preserve, Hutchinson Island, St. Lucie Inlet State Park, and Hobe Sound National Wildlife Refuge.

**Methods:** During the nesting season (March through June), nighttime surveys are conducted to locate nesting leatherbacks. Individuals are identified, tagged, and measured while nesting. Individuals not previously tagged are fitted with flipper and PIT tags, measured, and have a skin biopsy taken. Previously tagged leatherbacks are identified, checked for tag integrity, and measured. Tagging data is submitted to the Archie Carr Center for Sea Turtle Research at the University of Florida.

**Progress/Results:** ONGOING. In 2024, Florida Leatherbacks Inc. (FLI) conducted nighttime surveys April 13-June 30, 2024. A total of 237 encounters were recorded along the Martin County study area. One hundred and sixty-two of the encounters were along the beach at Blowing Rocks Preserve (Table 1). Five leatherbacks were tracked via satellite during the 2024 season in collaboration with Dan Evans of The Sea Turtle Conservancy. The tracking maps for all turtles can be explored online at [TrackTurtles - Live sea turtle tracking](https://www.trackturtles.com) and/or <http://www.tourdeturtles.com>.

Table 1. Results of the 2024 FL leatherback turtle surveys by Florida Leatherbacks Inc. (Table from Florida Leatherbacks Inc. 2024).

Beach:	# Encounters	# Encounters with new (untagged) turtles	# Encounters with recaptured turtles
Hutchinson Island	2	0	2
St. Lucie Inlet State Park	52	8	44
HSNWR	21	0	21
Jupiter Island/Blowing Rocks	162	11	151

## Calhoun Spigelia Preserve

Status survey of gentian pinkroot (*Spigelia gentianoides*) and damage assessment following Hurricane Michael; Jackson, Washington, and Calhoun Counties

Florida Natural Areas Inventory (FNAI), Tallahassee, FL

**Duration:** 2020-2025

**Objectives:** The project objective is to measure change in the density of gentian pinkroot stems over time along with habitat structure and composition at four sites: Calhoun Spigelia, Rock Hill, Three Rivers, and Apalachee. FNAI plans to incorporate the census data into its conservation database and utilize the data to update the global and state ranking of this species using the NatureServe Conservation Rank Calculator.

**Methods:** In 2021, FNAI established three permanent monitoring plots at Rock Hill and one at Callhoun Spigelia (Figure 2). The plots are 20-m radius circular plots (Figure 3) placed within known current or historic populations of gentian pinkroot. The center point of each plot was permanently marked and mapped with a submeter GPS unit. The plots were censused and habitat metrics for canopy (cover, height, DBH of trees rooted in the plot) and overall shrub structure (cover and height) were recorded at the 20-m plot level. Three smaller subplots (2.5m radius) within the 20-m plot were established, where additional shrub and herbaceous cover and structure data were recorded. The three subplots were placed 10 m from the center of the plot at 0, 120, and 240° (Figure 3). All shrub and herbaceous species within these subplots were identified; if it was not possible to identify a plant to species, FNAI recorded genus or family. Photos were taken at each plot.

**Progress/Results:** ONGOING. At Calhoun Spigelia Preserve, the number of gentian pinkroot individuals declined from 5 to 0 in the one monitoring plot between 2021 and 2023 (Table 2). At Rock Hill Preserve, the number of gentian pinkroots increased from a total of 792 to 1869

across the three monitoring plots between 2021 and 2023. Of the four study sites, the Rock Hill plots were the only ones to have an increase in plants in 2023 (Table 2). At both sites, the monitoring plots were burned during prescribed fires within six months prior to monitoring.

Across the four study sites in 2021, plots that received a prescribed burn in the months immediately preceding this survey had on average a higher number of gentian pinkroot individuals per plot than those that did not receive a spring prescribed fire (FNAI 2021b). While several habitat metrics that were collected such as canopy cover and herbaceous cover varied by site, their overlapping confidence intervals indicated no significant patterns, especially in terms of explaining the variability of gentian pinkroot abundance (FNAI 2021b). FNAI plans to monitor the plots again in 2025. While the conclusions that can be drawn from this initial monitoring events are limited, over time and subsequent prescribed fire applications, meaningful conclusions about annual abundance fluctuation and habitat conditions, especially as they respond to prescribed fire, will be examined (FNAI 2021b and FNAI 2023a).

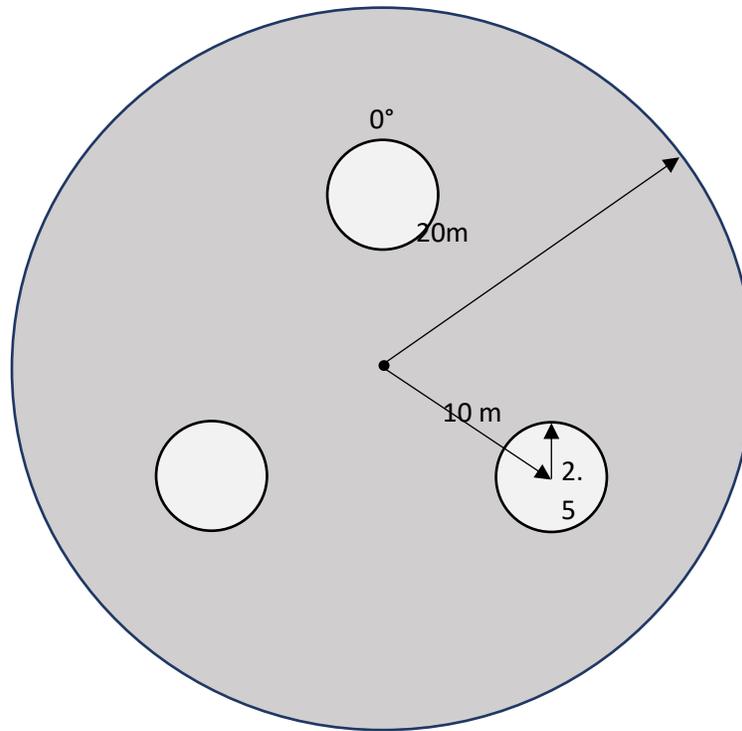
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Location	Number of Plots	Total Plant Count 2021	Total Plant Count 2023	Flower Count 2021	Flower Count 2023	Net Plant Change from 2021 to 2023	Percent of Plots where Failed to Find species	Percent of Plots that Declined	Percent of Plots that Remained Stable	Percent of plots that Increased
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Three Rivers	12	611	454	468	259	-157	42%	42%	8%	8%
Apalachee	8	2875	2094	1646	1223	-781	0%	50%	25%	25%

Figure 2. Map of gentian pinkroot plots at Calhoun Spigelia (From FNAI 2021b).



Figure 3. 20-meter radius plot for gentian pinkroot, with 3 – 2.5meter subplots located at 0°, 120°, and 240° at Calhoun Spigelia (From FNAI 2021b).



## Disney Wilderness Preserve

### Assessing drivers of nitrogen fixing symbiosis at continental scale

Dr. Ryan Folk, Department of Biological Sciences, Mississippi State University, Mississippi State, MS

**Duration:** 2024-2025

**Objectives:** To analyze the relationships between nitrogen-fixing plant communities, the corresponding microbial communities, and their environment to understand the driving evolutionary and environmental pressures that initially enabled and continues to cause change in nitrogen-fixing symbiosis.

**Methods:** This is a NEON Research Support Services (NRSS) project. NRSS makes components of NEON infrastructure to researchers for their own studies. This research study will perform DNA sequencing on extracts of nodules and surrounding roots and rhizospheres to determine how

particular microbes are recruited into symbiosis and the influence of host species and environment. Battelle field staff will collect roots with nodules at DWP and 39 other NEON terrestrial field sites. Collections will occur only in the destructive NEON soil sampling plots at each site. Forty target species will be collected at DWP, with three replicates of each.

Battelle staff will gently remove from the roots in the field and confirm the presence of nodules. The samples will then be placed on ice packs and then transported to the NEON domain facility where they will be processed for shipment to Mississippi State University for analyses.

**Progress/Results:** FIELDWORK COMPLETED. Lab analyses are in progress.

### Combining NEON and remotely sensed habitats to determine climate impacts on community dynamics

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Dr. James Clark. Nicholas School of the Environment, Duke University, Durham, NC

Dr. Roland Kays. College of Natural Resources, North Carolina State University, Raleigh, NC

**Duration:** 2018 – 2030

**Objectives:** To determine the impacts of climate change on forest seed production at three National Ecological Observatory Network (NEON) sites: the Disney Wilderness Preserve (DWP), Ordway-Swisher Biological Station, and the Talladega National Forest.

**Methods:** The Clark lab established six seed rain traps within each of three NEON plots in longleaf stands at DWP in June of 2018, amounting to 18 traps total. Each year a census is taken of trees greater than 2m tall in the 40x40 meter NEON plots surrounding the seed rain traps. The census includes growth measurements and cone production. To determine the wildlife that may be dependent upon seed production, 49 motion-activated trail cameras were deployed by Dr. Kays lab throughout DWP for the month of May 2019 and processed using eMammal.

**Progress/Results:** ONGOING. Beginning in 2019, seed rain traps have been collected annually along with crop counts of longleaf found within the NEON plots.

In 2019 at DWP, the trail cameras collected 15,510 photos, capturing 1,038 animal detections. Seventeen species in total were photographed, with white-tailed deer by far the most abundant species at 58%. Wild boar appeared in 12% of the photographs and wild turkey in 10%. The camera surveys will not be repeated at DWP.

Seed and cone data from the three study sites are contributed to the continental Masting Interference and Forecasting (MASTIF) network, set up to evaluate how climate, habitat, and individual tree traits affect maturation and fecundity in trees. Using DWP and other MASTIF data from across the US, Dr. Clark led an analysis to determine how climate indirectly effects

tree fecundity that comes through climate-condition interactions. A biogeographic divide was found, with the climate-condition interactions reducing fecundity in the western US and increasing it in the eastern US (Clark et al. 2021).

Publications: Twelve papers have been published using data from this project: Journe et al. 2024; Qiu et al. 2024, Bogdziewicz et al. 2023a and 2023b, Parsons et al. 2023, Qiu et al. 2023, Journe et al. 2022, Qiu et al. 2022, Sharma et al. 2022, Clark et al. 2021, Qui et al 2021a, and Qui et al. 2021b.

### Model-Guided Animal Prevalence Surveillance (“Project GAPS”)

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Dr. Kurt Vandegrift, Department of Biology, Pennsylvania State University, University Park, PA

**Duration:** 2025

**Objectives:** To expand the range of species screened for exposure to and infection with SARS-CoV-2.

**Methods:** This is a NEON Research Support Services (NRSS) project. NRSS makes components of NEON infrastructure to researchers for their own studies. Battelle staff will collect oronasal and anal swabs during their NEON small mammal sampling bouts at DWP and 13 other NEON sites during the 2025 season. Collections will occur at one small mammal diversity grid per site. Battelle staff will process the samples and ship them to the PI for lab analyses.

**Progress/results:** PLANNED. Field sampling will occur in spring and summer of 2025.

### A functional model of soil organic matter composition at continental scale

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Dr. Steven Hall, Plant and Agroecosystem Sciences, University of Wisconsin, Madison, WI  
Dr. Samantha Weintraub-Leff, Terrestrial Biogeochemistry, National Ecological Observatory Network, Boulder, CO

**Duration:** 2024-2026

**Objectives:** To test two overarching hypotheses: 1) Abundances of soil organic matter (SOM) molecules covary predictably from site to continental scales along three axes of variation, which reflect tradeoffs in molecular composition corresponding to distinct mechanisms of SOM persistence linked to climate, geochemical, and biological drivers. 2) Axes of variation in SOM molecules and biogeochemical drivers are predictably linked to short- and long-term rates of soil organic C decomposition and N cycling.

**Methods:** This is a NEON Research Support Services (NRSS) project. NRSS makes components of NEON infrastructure to researchers for their own studies. All field work will be conducted by Battelle staff within existing NEON plots. Soil will be collected from 10 NEON plots at each of the 47 NEON terrestrial sites. Lab analyses will be conducted at the University of Wisconsin.

**Progress/Results:** PLANNED. Field work will be conducted at DWP in 2025.

## Jeff Lewis Wilderness Preserve

### Geographic patterns of mangrove species establishment and survival

Jenny Bueno, PhD student, Department of Geography, Florida State University, Tallahassee, FL

**Duration:** 2024-2025

**Objectives:** The research objectives are to understand red and black mangrove geographic patterns of establishment and distribution. Important local factors include tidal flooding frequency and duration, sedimentation, elevation, salinity, type of salt marsh vegetation present, nutrients, predation, and herbivory. This research will address if there are geographic patterns of establishment for each mangrove species by specifically focusing on the roles of elevation, salinity, and salt marsh presence of black and red mangrove establishment and survival across the Apalachicola Bay.

**Methods:** High resolution aerial imagery will be collected using an unoccupied aerial system (UAS, also known as drones). The UAS will be flown at a low altitude (~40-meters) to capture high-resolution imagery with 75-80% overlap. Additionally, within each site, the researcher will collect elevation data using a high-resolution GPS of randomly created points, which will also be used as validation of both mangrove species and salt marsh vegetation. At those same random locations, porewater salinity data will be collected. After fieldwork data collection, classified orthomosaics with distinct classes of each mangrove species and salt marsh vegetation will be created from the drone imagery. The orthomosaic will be used to determine whether either mangrove species is spatially correlated to a specific salt marsh species. The researcher will also analyze the elevation values of red and black mangroves to see if they fall within a specific range, similar to salt marsh vegetation zonation patterns.

**Progress/Results:** FIELDWORK COMPLETED. Data analysis is in progress.

## Investigating mangrove (*Rhizophora mangle* and *Avicennia germinans*) temperature response at an expanding range front in north Florida

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Rachel Biton, Master's student, Coastal and Marine Laboratory, Florida State University, St. Teresa, FL

**Duration:** 2023-2024

**Objectives:** The purpose of this study was to measure site-specific changes in temperature surrounding mangroves and salt marsh vegetation at the Jeff Lewis Wilderness Preserve on Dog Island and four other sites in Franklin and Wakulla Counties. Knowing how temperature influences mangrove survival and growth at a microclimate scale (m) could help predict future spread. Temperature is the primary determinant of mangrove latitudinal distributions and influences their physiology and structure in coastal ecosystems, especially in the northern Gulf of Mexico. As climate change continues, a decrease in extreme cold weather events that can cause mangrove mortality is expected, which may allow mangroves to expand poleward.

**Methods:** At each site, a total of four air temperature loggers were placed in mangroves and salt marsh vegetation to autonomously record air temperature for 12 months. One logger was attached to the inside of the mangrove canopy at the fringe edge and one in the interior section of the islands. Two additional loggers were deployed on PVC poles at the *Spartina alterniflora* fringe and *Juncus roemerianus* in the interior marsh locations. Plot-level data were collected including observations of freeze damage and mortality to red and black mangroves. Additionally, red and black mangrove leaves were collected and analyzed for nutrient content.

The occurrence of a severe freeze event on December 24, 2022 allowed for the evaluation and comparison of mangrove responses. Spatial and temporal analyses were conducted on air temperature logger data to identify the timing and magnitude of the lowest temperature during the freeze event. In the spring of 2023, an assessment of post-freeze leaf damage was conducted. Leaf collection for nutrient content analysis was conducted in May of 2023 in six replicate plots. In each plot, two leaves were clipped from five different mangroves, for a total of ten leaves per species, to be analyzed for total nitrogen, carbon, and phosphorus. In December of 2023, mortality assessments were conducted. Plot data were analyzed to quantify mean average height and stem density for red and black mangroves, as well as their respective responses (% damage and mortality) to the freeze event. Mean C:N and N:P of all leaves were compared by species and by site.

**Progress/Results:** COMPLETED. From Biton 2024: "This study reveals that the median height of *R. mangle* is currently taller at 140 cm compared to *A. germinans* at 129 cm. However, *A. germinans* dominates stem densities within sites, and mangrove abundance significantly decreases from low to high latitude. Nutrient content explains very little of the differences in mangrove structure, with foliar C:N ratios accounting for less than 10% of the variation in *A. germinans* height. The study also reveals that winter freeze events, though infrequent, influence the physical structure of mangroves. Both *R. mangle* and *A. germinans* species

exhibited freeze damage and mortality when temperatures dropped from  $-4.06\text{ }^{\circ}\text{C}$ , to as low as  $-6.3\text{ }^{\circ}\text{C}$ , which is notably the first known effort to establish temperature thresholds for *R. mangle* in field-based observations. Across sites,  $83.1\% \pm 0.1$  of *R. mangle* exhibited freeze damage, compared to  $49.2\% \pm 0.1$  of *A. germinans*. The impact of the freeze event also varied by mangrove height, species, location within barrier islands, and latitude. Findings from this research will be useful for resource managers and planners predicting and evaluating how shoreline of the northern Gulf of Mexico are likely to change under continued climate warming and mangrove expansion.”

### Publications

Biton R. 2024. Investigating regional-scale differences in the physical structure of *Rhizophora mangle* and *Avicennia germinans* at an expanding range limit in northern Florida. Thesis, Florida State University, Tallahassee, FL.

### Presentations:

Biton R. 2024. Investigating regional-scale differences in mangrove structure and composition in the context of freezing air temperatures and nutrient content at an expanding range limit in northern Florida. CCI Science Webinar, June 14<sup>th</sup>, 2024.

Biton R. and Breithaupt J. 2024. Investigating regional-scale differences in mangrove structure and composition in the context of freezing air temperatures and nutrient availability at an expanding range limit in northern. Apalachicola National Estuarine Research Reserve, Apalachicola, FL. April 2024.

Biton R. and Breithaupt J. 2024. Effect of regional winter temperature gradients at an expanding mangrove range limit in Northern Florida. Florida Fish and Wildlife Conservation Commission Coastal Habitat Integrated Mapping and Monitoring Program & Mangrove Working Group. St. Petersburg, Florida. January 2024.

Biton R., Breithaupt J., and Miller T.E. 2023. Investigating mangrove (*Rhizophora mangle* and *Avicennia germinans*) freeze response using regional and site-scale temperature differences at an expanding range front in north Florida. Coastal and Estuarine Research Federation. Portland, OR. November 2023.

Biton R., Breithaupt J., and Miller T.E. 2023. Investigating mangrove (*Rhizophora mangle* and *Avicennia germinans*) freeze response using regional and site-scale temperature differences at an expanding range front in north Florida. Apalachicola National Estuary Research Reserve Symposium. Apalachicola, FL. February 2023.

## Rock Hill Preserve

Status survey of gentian pinkroot (*Spigelia gentianoides*) and damage assessment following Hurricane Michael; Jackson, Washington, and Calhoun Counties

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Florida Natural Areas Inventory (FNAI), Tallahassee, FL.

**Duration:** 2020-2025

**Objectives:** The project objective is to measure change in the density of gentian pinkroot stems over time along with habitat structure and composition at four sites: Calhoun Spigelia, Rock Hill, Three Rivers, and Apalachee. FNAI plans to incorporate the census data into its conservation database and utilize the data to update the global and state ranking of this species using the NatureServe Conservation Rank Calculator.

**Methods:** In 2021, FNAI established three permanent monitoring plots at Rock Hill (Figure 4) and one at Callhoun Spigelia. The plots are 20-m radius circular plots (Figure 5) placed within known current or historic populations of gentian pinkroot. The center point of each plot was permanently marked and mapped with a submeter GPS unit. The plots were censused and habitat metrics for canopy (cover, height, DBH of trees rooted in the plot) and overall shrub structure (cover and height) were recorded at the 20-m plot level. Three smaller subplots (2.5m radius) within the 20-m plot were established, where additional shrub and herbaceous cover and structure data were recorded. The three subplots were placed 10 m from the center of the plot at 0, 120, and 240° (Figure 5). All shrub and herbaceous species within these subplots were identified; if it was not possible to identify a plant to species, FNAI recorded genus or family. Photos were taken at each plot.

**Progress/Results:** ONGOING. At Calhoun Spigelia Preserve, the number of gentian pinkroot individuals declined from 5 to 0 in the one monitoring plot between 2021 and 2023 (Table 2). At Rock Hill Preserve, the number of gentian pinkroots increased from a total of 792 to 1869 across the three monitoring plots between 2021 and 2023. Of the four study sites, the Rock Hill plots were the only ones to have an increase in plants in 2023 (Table 2). At both sites, the monitoring plots were burned during prescribed fires within six months prior to monitoring. Across the four study sites in 2021, plots that received a prescribed burn in the months immediately preceding this survey had on average a higher number of gentian pinkroot individuals per plot than those that did not receive a spring prescribed fire (FNAI 2021b). While several habitat metrics that were collected such as canopy cover and herbaceous cover varied by site, their overlapping confidence intervals indicated no significant patterns, especially in terms of explaining the variability of gentian pinkroot abundance (FNAI 2021b). FNAI plans to monitor the plots again in 2025. While the conclusions that can be drawn from this initial monitoring events are limited, over time and subsequent prescribed fire applications, meaningful conclusions about annual abundance fluctuation and habitat conditions, especially as they respond to prescribed fire, will be examined (FNAI 2021b and FNAI 2023a).

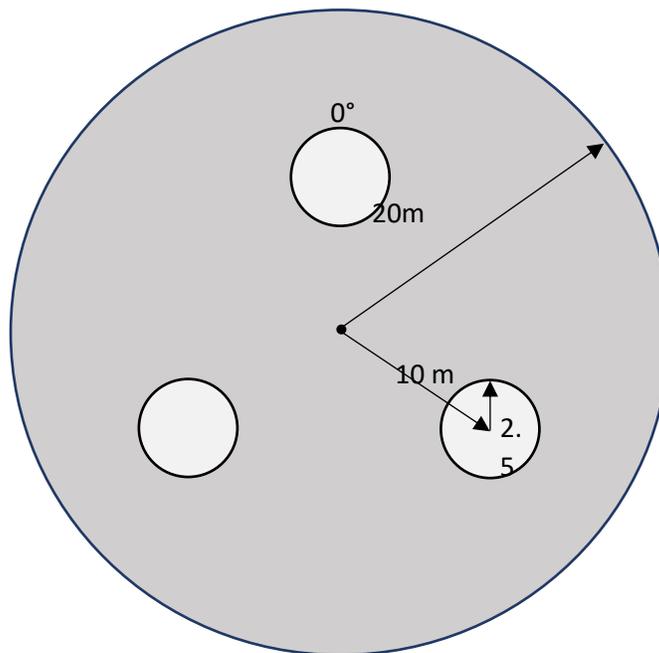
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Location	Number of Plots	Total Plant Count 2021	Total Plant Count 2023	Flower Count 2021	Flower Count 2023	Net Plant Change from 2021 to 2023	Percent of Plots where Failed to Find species	Percent of Plots that Declined	Percent of Plots that Remained Stable	Percent of plots that Increased
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Figure 4. Map of gentian pinkroot plots at Rock Hill (From FNAI 2021b)



Figure 5. 20-meter radius plot for pinkroot gentian, with 3 – 2.5meter subplots located at 0°, 120°, and 240° (From FNAI 2021b).



## Tiger Creek Preserve

### Dietary preferences of pygmy mole crickets

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Brandon Woo, PhD Student, Department of Entomology, Texas A&M University, College Station, TX

**Duration:** 2025

**Objectives:** The purpose of this project is to answer the following questions: (1) What are the primary components of the diets of the pygmy mole crickets *Ellipes deyrupei*, *Neotridactylus apicalis*, and *N. archboldi*, and how are these dietary components associated with the ecosystems these insects inhabit? (2) Do pygmy mole crickets forage in a generalized manner or do they actively select certain food items? (3) Do different species occupy different feeding niches where their ranges overlap?

**Methods:** Specimens of *N. apicalis* will be collected from northern Florida as well as in Texas; specimens of *N. archboldi* will be collected at the Archbold Biological Station in central Florida. Samples of *N. archboldi* and *E. deyrupei* will also be collected at the Tiger Creek Preserve in Polk County (~1.5 hours north of Archbold), a location on the northern Lake Wales Ridge which harbors sympatric populations of these two species. At each site, at least five adult male and five adult females of each species will be collected. Ecological data such as soil moisture, plant species composition, and pygmy mole cricket burrow density will also be collected, as well as 2-3 samples from the biological soil crust to serve as positive controls and to build a reference dataset. All specimens will be collected directly into 100% ethanol to keep DNA intact. Vouchers of all species will be retained at the Archbold Biological Station arthropod collection as well as the Texas A&M University Insect Collection (TAMUIC).

In the laboratory, the entire gut of each specimen will be extracted and used for subsequent DNA extraction. A DNA metabarcoding approach will be used to quantify the relative abundance and diversity of cyanobacteria and eukaryotic algae present in the guts of these insects. Total genomic DNA will be extracted from the gut of each specimen using the Qiagen DNA Microbiome kit, following the manufacturer's guidelines. A DeNovix Spectrophotometer and Qubit Fluorometer will be used to measure the concentration and quality of DNA extracts. A segment of the 16S rRNA gene will be used as a marker following previous studies targeting cyanobacteria, as well as a segment of the 18S rRNA hypervariable region for eukaryotic algae. PCR with standard primers will be used to amplify these gene regions in each sample. Library preparation and amplicon sequencing will be carried out at the Texas A&M AgriLife Genomics & Bioinformatics Service (TxGen). Following quality trimming of the raw sequence data, and alignment using MAFFT, BLAST searches will be used to identify prokaryotic and eukaryotic components of the samples. Resultant bar graphs will show the contribution of each major group of microorganisms to the total number of sequence reads in each sample, and similarities of gut contents between each species will be visualized using principal component analysis (PCA).

The data will shed light on an understudied group of organisms, and can help us to better understand the evolution of novel lifestyles. More broadly, this project will highlight the vital importance of biological soil crusts to functioning ecosystems, by providing empirical evidence that a diverse community of microorganisms is essential for the perseverance of habitat-restricted arthropods.

**Progress/Results:** PLANNED. Fieldwork scheduled for May-June 2025.

## Investigating impacts of mite color signals on the mate choice of the host species *Sceloporus woodi*

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Hope Abercrombie, PhD Student, School of Life Sciences, Arizona State University, Tempe, AZ

**Duration:** 2024-2025

**Objectives:** To determine whether ectoparasites, which can alter the color patterns of the lizard species *Sceloporus woodi* (commonly known as scrub lizard), can affect mate selection in the host species. Without mites, their hosts are gray and brown with black lines. When afflicted with mites, the lizards develop blue, rust, or red coloration. What is the role of these colors in intraspecies communication?

**Methods:** Field surveys will be conducted across uplands at Tiger Creek Preserve. Adult male *S. woodi* individuals will be targeted for the study. Upon selecting a specimen, its home range will be noted, and it will be revisited for three separate trials. Trials on the same individual will not be consecutive and will have a minimum 24-hour interval between them. Each trial will involve setting up a camera on a tripod to record a baseline and subsequent interactions. Two "female" *Sceloporus* robots, each representing one of three treatments, will be placed within the lizard's territory. The three treatments are: Control (female robot with normal coloration), Red Patch (female robot with red patches mimicking mite infestation), and Black Patch (female robot with a black patch resembling common coloration found in other *Sceloporus* species). The first trial for each specimen will involve exposure to the control and red patch robots. The second trial will feature the red patch and black patch robots. Robots will be placed approximately 30 cm apart and 1 meter away from the specimen. Each trial will last for 10 minutes.

Following the completion of each trial, specimens will be captured using standardized noosing techniques with a fishing pole and string. Non-invasive methods will be employed to collect various morphometric measurements, including parasite load, sex determination, and snout-vent length (SVL). Captured individuals will be marked with paint for identification purposes and then released. Their coordinates will be documented for future reference. After a minimum of one day without activity, the lizard's home territory will be revisited for subsequent trials. Only adult male *S. woodi* individuals will be assessed. In the event of non-responsiveness from

male specimens, three female *S. woodi* may be captured, marked, and presented in their place. These females will be returned to their original locations after the experiment concludes.

To obtain the distinction between the subject's responses, several datums will be obtained. Frequencies of parasite load and responses to different treatments will be calculated to understand their distribution within the population. We will also be collecting behavioral counts. The captured footage will be analyzed to count the frequency of head bobs and pushups exhibited by *S. woodi* individuals in response to different treatments. The closest distance of the individual from each robot also will be measured to analyze the lizard's interaction with the stimuli. These behavioral counts will be measured to assess their significance. We will utilize comparative analysis when exploring the responses between different treatment groups. Statistical tests such as ANOVA will be utilized along with post-hoc tests to identify significant differences between specific treatment pairs. To explore relationships between variables like parasite load and response to treatments, correlation analysis (e.g., Pearson correlation coefficient) will be conducted. By analyzing the data collected on parasite load and the responses of *S. woodi* individuals to different visual signals, insights into potential host-parasite mutualistic relationships can be gained. Examination of behavioral responses, such as head bobs and pushups, alongside proximity measurements to the robots, may reveal adaptive strategies employed by the lizards in response to ectoparasites.

**Progress/Results:** During 2024 field visits, the researcher collected video footage of baseline behavior and mate preferences of male *S. woodi*; conducted morphological measurements, including mass, snout-vent length (SVL), total length, and tail condition; recorded reproductive traits such as belly patch dimensions, femoral pore counts, and post anal scale condition; and conducted mite and tick counts on each lizard. Key pilot insights from the field work include that live female lizards are more effective for behavioral studies than robotic models; that female coloration varies seasonally, with peaks during breeding periods; and that mite are frequently found on the lizards.

Field visits in 2025 will expand the data collection to include blood samples for stress and reproductive hormones; documentation on mite count and distribution on lizard bodies; and color spectrophotometry to measure seasonal changes in female's natural rust coloration and document the wavelength of the mite coloration along with seasonal variations.

## Population genetics and reproductive biology of *Clitoria fragrans*

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Dr. Amy Faivre, Department of Biological Sciences, Cedar Crest College, Allentown, PA

Dr. Vivian Negron-Ortiz, US Fish and Wildlife Service, Panama City, FL

Dr. Richard Moore, College of Art and Science, Miami University of Ohio, Oxford, OH

**Duration:** 2025

**Objectives:** To estimate genetic diversity within and between populations, identify genetic clusters across the species range and estimate gene flow among them, and determine how fire may influence chasmogamous (showy, out-crossing) vs. cleistogamous (reduced, self-pollinating) flower production.

**Methods:** Researchers will collect leaf material (4 leaves per plant), choosing plants with the greatest number of leaves from approximately 30 plants from each occurrence. The number of chasmogamous vs. cleistogamous buds/flowers/fruits per plant will be recorded. If possible, the researchers will census flower production from all plants in the EOR, not just the ones from which leaves are collected. Two of the collected leaves will be placed in silica gel and two will be kept in a cooler for later DNA extraction. So that additional material may be collected in the future if needed, plants used for leaf collection will be flagged, tagged, and mapped using GPS.

**Progress/Results:** PLANNED. Fieldwork scheduled for May-June 2025.

## CCI SPONSORED RESEARCH PROJECTS

### Blowing Rocks Preserve

#### Directing the succession of shoreline habitat under changing water levels

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Dr. Kelly Kibler, Department of Civil, Environmental, and Construction Engineering, University of Central Florida, Orlando, FL

Dr. Melinda Donnelly, Assistant Research Scientist, Department of Biology, University of Central Florida, Orlando, FL

Dr. Iacopo Vona, Postdoctoral Researcher, Department of Civil, Environmental, and Construction Engineering, University of Central Florida, Orlando, FL

#### **Duration: 2025-2026**

**Objectives:** The objective of this project is to develop an experimental design and monitoring protocol to test the following research question: Do assisted migration planting interventions enhance success of mangrove planting for shoreline restoration or natural infrastructure development? The researchers will provide an experimental planting design for determining if where, and how mangroves can be planted upgradient so that they are well established in advance of sea level rise along the Indian River Lagoon at Blowing Rocks Preserve. The researchers will also seek opportunities within the design to compare varied techniques and isolate best practices for applying the interventions at larger scales.

**Methods:** UCF will work directly with BRP personnel to create an experimental design and monitoring protocol that will rigorously address the research question and be feasible given constraints of the BRP project site, staff time for monitoring, and overall restoration resources. UCF will complete an initial project site visit with BRP staff to assess the proposed project site. UCF will consult with BRP to understand the resources available to undertake the research, including capacity of the nursery to provide mangrove plants (e.g. number of individuals at specific ages, species), resources available to procure additional plants, if necessary, staff availability to undertake project monitoring, and computing capacity to enable data transfer. UCF will develop a robust experimental design that will optimize the available resources to address as many treatment variants as possible, while ensuring the experiment has sufficient replication and will allow for statistically meaningful comparisons. Finally, UCF will develop an implementation guide, a monitoring protocol for data collection, and a data management plan.

**Progress/Results:** IN PROGRESS. An interim report is due September 1, 2025. A final report is due April 30, 2026.

## Disney Wilderness Preserve and Tiger Creek Preserve

### Coupling forest management goals to increase water yield and carbon sequestration

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Dr. Matt Cohen, Director of the UF Water Institute, University of Florida, Gainesville, FL

Dr. Katie Glodzik, Postdoctoral Associate, Water Ecology Lab, University of Florida, Gainesville FL

Dr. David Lewis, Department of Integrative Biology, University of South Florida, Tampa, FL

**Duration:** 2024-2026

**Objectives:** To test the hypothesis that aboveground carbon loss from upland tree thinning (through ecological or agricultural management) may be balanced or exceeded by resulting soil organic carbon (SOC) gains in embedded/nearby wetlands. Recent research by the researchers has documented strong links between tree density (specifically, leaf area index [LAI]), and water yield as higher LAI increases evapotranspiration. This has led to conservation forestry management efforts to reduce tree density. However, forest biomass reduction conflicts with using forests to sequester carbon for climate change mitigation, resulting in a perceived trade-off between carbon and water priorities. The researchers contend that it is unclear whether this trade-off occurs. In Florida forests, embedded wetlands may function as carbon storage hotspots, even when they have aboveground biomass comparable to upland forests. In these wetlands, there is a strong link between hydrology and carbon storage: wet ground slows decomposition, speeding up SOC accumulation. Because hydrology of these wetlands depends on the surrounding forest, lower LAI maybe balanced or exceeded by resulting SOC gains in wetlands.

The proposed research seeks to both investigate the scientific nature of carbon-water dynamics in depressional wetlands (questions 1 & 2), and to inform the level of effort (whether field-based or computer-based) required to accurately assess these dynamics (3 & 4). Results will be compared with those from the researchers' ongoing DOE funded research at another Florida site using well monitoring and other intensive field data collection methods.

1. How do changes to upland forest LAI impact wetland hydroperiod and therefore wetland SOC? This tests the assumption of win-win situations between managing forest landscapes for both water yield and carbon sequestration.
2. How wetlands and forest patches where upland forest LAI reduction would be most beneficial for both water yield and carbon sequestration be identified?
3. How much are predictions improved at one study site by using an SOC predictive equation from that specific study site, versus one derived from another site?

4. Can reliance on depressional wetland well monitoring through the use of remote sensing be reduced? Based on the DOE data, how much is the accuracy of SOC predictions affected when our predictive metrics are remote sensing-based versus well monitoring-based?

**Methods:**

DEM-based predictor variables: The researchers will generate detailed maps of depressional wetlands within the TNC properties using digital elevation model (DEM) data and calculate metrics of basin shape (e.g., size, perimeter-to-depth, perimeter-to-area) for each wetland.

Remote sensing-based predictor variables: They will use Landsat 8 and Sentinel 2 remote sensing data to measure forest LAI and surface water inundation. Mean LAI will be calculated in forests around each wetland, over multiyear timespans. With surface water inundation, they will estimate annual hydroperiods as a function of elevation in each wetland.

Dependent variables: For soil core collection and SOC assessment, they will select study wetlands at each TNC site, spanning a range of geographic and hydrological conditions. Soil core sites will be selected to characterize SOC at each of the three elevation zones within each wetland.

Statistical model: The researchers will examine the relationship of SOC with basin shape metrics, surrounding forest LAI at different timespans, and estimated hydroperiods, using a Spatial Autoregressive (SAR) Model. Two versions of SAR modeling will be completed: one that maintains separation between elevation zones, and one aggregating data together by wetland.

**Progress/Results.** IN PROGRESS. Interim reports are due June 1, 2025 and January 1, 2026. The final report is due June 1, 2026.

## LONG-TERM MONITORING PROJECTS

### Statewide

#### Florida Automated Weather Network (FAWN) stations on TNC preserves

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University of Florida's Institute of Food and Agricultural Sciences (UF/IFAS), Gainesville, FL

**Duration:** 2021-

**Objectives:** To obtain real-time weather from automated weather towers at Apalachicola Bluffs and Ravines Preserve (ABRP), Blowing Rocks Preserve (BRP), Disney Wilderness Preserve (DWP), and Tiger Creek Preserve (TCP). These towers will be installed and maintained by UF/IFAS as part of their state-wide FAWN network, which provides weather data from 42 stations to support the agricultural and research communities. In addition to the FAWN standard sensors, the towers will include equipment to provide KBDI and other data useful for prescribed fire and other preserve management.

**Methods:** A 30' fixed tower supporting sensor arrays and associated infrastructure including power and communication installation and use, to provide the following comprehensive data at each of the three preserves:

- Soil temperature at 10 cm
- Air temperature at 60 cm, 2 meters, and 10 meters
- Wind speed and direction at 10 meters; wind direction standard deviation, and min/max wind speed
- Global solar radiation
- Barometric pressure
- Wet bulb temperature at 2 meters
- Dewpoint temperature at 2 meters
- Vapor pressure, saturated vapor pressure, and vapor pressure deficit at 2 meters
- Fuel temperature and moisture at 30 cm
- Keetch-Byrum Drought Index (KBDI) sensors at 2 meters

**Progress/Results:** ONGOING. Installations of the towers and sensors at ABRP, DWP, and TCP were completed in 2022. The Blowing Rocks Preserve station was completed in 2023. The standard suite of FAWN data is available at [FAWN - Florida Automated Weather Network \(ufl.edu\)](https://fawn.ifas.ufl.edu/). Additional data only collected on the Conservancy's preserves (e.g., KBDI and fuel moisture) is available at [https://fawn.ifas.ufl.edu/soil\\_moisture\\_dat/](https://fawn.ifas.ufl.edu/soil_moisture_dat/). The preserve weather stations have been designated as the Bristol (ABRP), Jupiter (BRP), Poinciana (DWP), and Tiger Creek (TCP) FAWN stations. The station locations at each of the three preserves are shown in Figures 6-9.

Figure 6. Location of the FAWN weather station at Apalachicola Bluffs and Ravines Preserve.



Figure 7. Location of the FAWN weather station at Disney Wilderness Preserve.



Figure 8. Location of the FAWN weather station at Tiger Creek Preserve.



Figure 9. Location of the FAWN weather station at Blowing Rocks Preserve.



## Disney Wilderness Preserve

### Long-term isolated wetland monitoring on the Disney Wilderness Preserve

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South Florida Water Management District, West Palm Beach, FL

**Duration:** 1995-present

**Objectives:** To document isolated wetland hydrology and the natural variation in hydroperiods and water levels due to seasonal and climatic changes. These wetland monitoring sites serve as reference sites for comparison with wetlands influenced by groundwater withdrawals from water supply well fields. The Disney Wilderness Preserve (DWP) is one of seven such sites that have been established throughout south Florida.

**Methods:** The project includes: 1) aerial photography analysis to determine past changes in vegetation communities in the vicinity of the wetland monitoring sites; 2) biological characterization involving field inventories of plants, macroinvertebrates, fish, and amphibians; 3) shallow groundwater monitoring wells that assess each wetland's hydrology; 4) water level recorders within each wetland monitoring well; 5) a complete weather station on the preserve; and 6) weather and water level data collection and compilation.

Six wetlands were selected for study at the preserve in 1995 (Figure 10). Initial sampling began in 1996, including the biological inventories. Installation of shallow groundwater monitoring wells, water level recorders and satellite feed weather station occurred in 1997. Surface water, groundwater and weather data continue to be collected at the Disney Wilderness Preserve (DWP). The weather data include rainfall, humidity, temperature, air pressure and light.

Additional water level monitoring wells were installed at deeper levels in the aquifer to further characterize the groundwater dynamics on a regional scale. These wells were constructed to depths of 10 ft, 36 ft and 90 ft in the surficial aquifer; 122 ft and 184 ft in the Mid Hawthorn; and 450 ft in the upper Floridan aquifer. Aquifer performance tests were conducted to determine interactions between the levels.

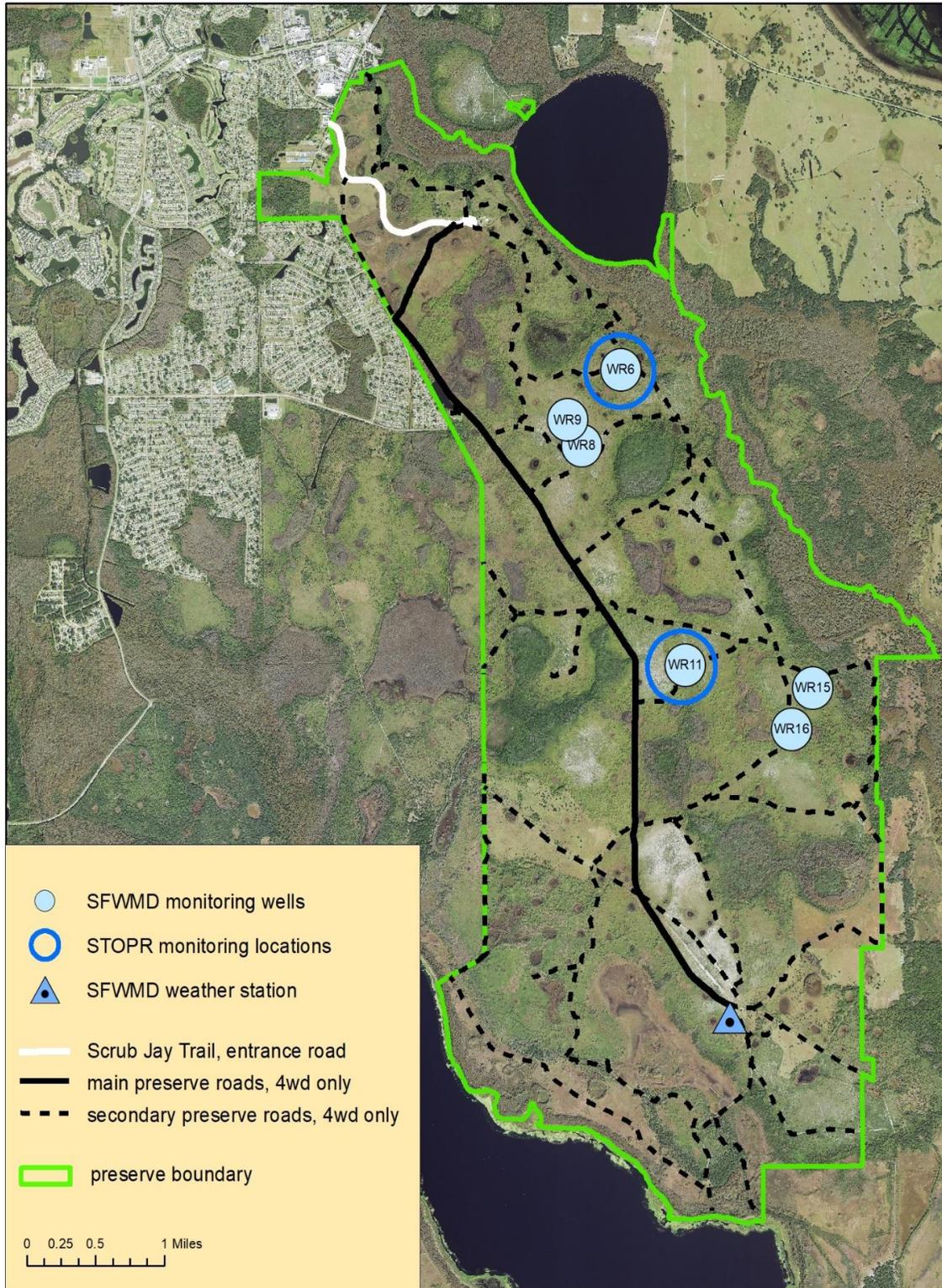
The water level data from these wells and others monitored by the South Florida Water Management District (SFWMD) are being used to develop a groundwater/surface water interaction model. This model will estimate impacts of future groundwater withdrawals occurring in metro-Orlando on the wetlands being monitored on the preserve. Results of the modeling will be incorporated into regional planning for the Kissimmee Valley.

In 2007, the SFWMD issued five different public water supply permits to five utility companies (collectively known as the STOPR Group) in the central Florida region and required the utility companies to construct a total of 39 monitoring wells throughout the Central Florida region. Two of these reference monitoring sites are located on DWP. The SFWMD agreed to allow the

STOPR group to use the existing well facilities within two wetlands (WR 6 and WR 5) that continue to be monitored by the District under the “Isolated Wetlands Program.” Monitoring site WR 6 (a.k.a. Site 21 by the STOPR Group) is an herbaceous wetland located in Osceola County. WR 15 (a.k.a. Site 10 by the STOPR Group) is a cypress dome with a wet prairie fringe located in Polk County. The SFWMD continues to collect the water level data, and the STOPR Group is responsible for one vegetative transect within each wetland. If the SFWMD budget for continued monitoring within these wetlands is not approved in the future, then it will be the STOPR Group’s responsibility to collect the water level data from these two sites.

**Progress/Results:** ONGOING. Well and vegetation monitoring data from the South Florida Water Management District is available by request. Weather data is publicly available at [DBHYDRO Browser \(sfwmd.gov\)](http://dbhydro.sfwmd.gov). The DWP weather station ID is WRWX.

Figure 10. SFWMD and STOPR well and SFWMD weather station locations at Disney Wilderness Preserve.



## National Ecological Observatory Network (NEON)

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Battelle. NEON Program HQ, Boulder, CO

**Duration:** 2012 – present

**Objectives:** The National Science Foundation’s National Ecological Observatory Network (NEON) is a continental-scale observation facility operated by Battelle to collect long-term open access ecological data to better understand how ecosystems are changing throughout the US. The Disney Wilderness Preserve (DWP) is one of NEON’s 47 terrestrial field sites across 20 ecoclimatic domains. NEON has an additional 34 aquatic sites throughout the US.

**Methods:** NEON uses standardized data collection and processing methods at all field sites. As at all NEON terrestrial field sites, data is collected via three different methods: 1) airborne remote sensing, 2) automated instruments, and 3) observational sampling. NEON’s data collection methods can be found at <https://www.neonscience.org/data-collection>.

Airborne remote sensing: Using payload sensors on light aircraft, surveys are conducted annually at each site during peak greenness to provide quantitative information on land cover and changes to ecological structure and chemistry (NeonScience.org). The primary sensors include

1. Discrete and full-waveform LiDAR, which provides three-dimensional structural landscape information.
2. Imaging spectrometer, which allows discrimination of land cover types and vegetation chemical content.
3. High-resolution digital camera for spatially accurate and detailed contextual information (NeonScience.org).

Automated instruments: A micrometeorological tower at all terrestrial sites, including DWP, collects continuous weather and climate data, including fluxes of carbon, water, and energy between the terrestrial ecosystem and the atmosphere (NeonScience.org). The tower location at the DWP is shown in Figure 11. Phenocams are mounted at the top and bottom of each tower to capture above- and below-canopy phenology (NeonScience.org). Soil sensors in an array near the tower measure soil chemical and physical properties at various depths and at the soil surface (NeonScience.org).

Observational sampling: Throughout the year, NEON scientists collect field data from permanent plots at DWP (Figure 11) and all other terrestrial sites. Data focuses on sentinel taxa that indicate ecosystem health and provide data relevant to public health (NeonScience.org). The sentinel taxa fall into six groups:

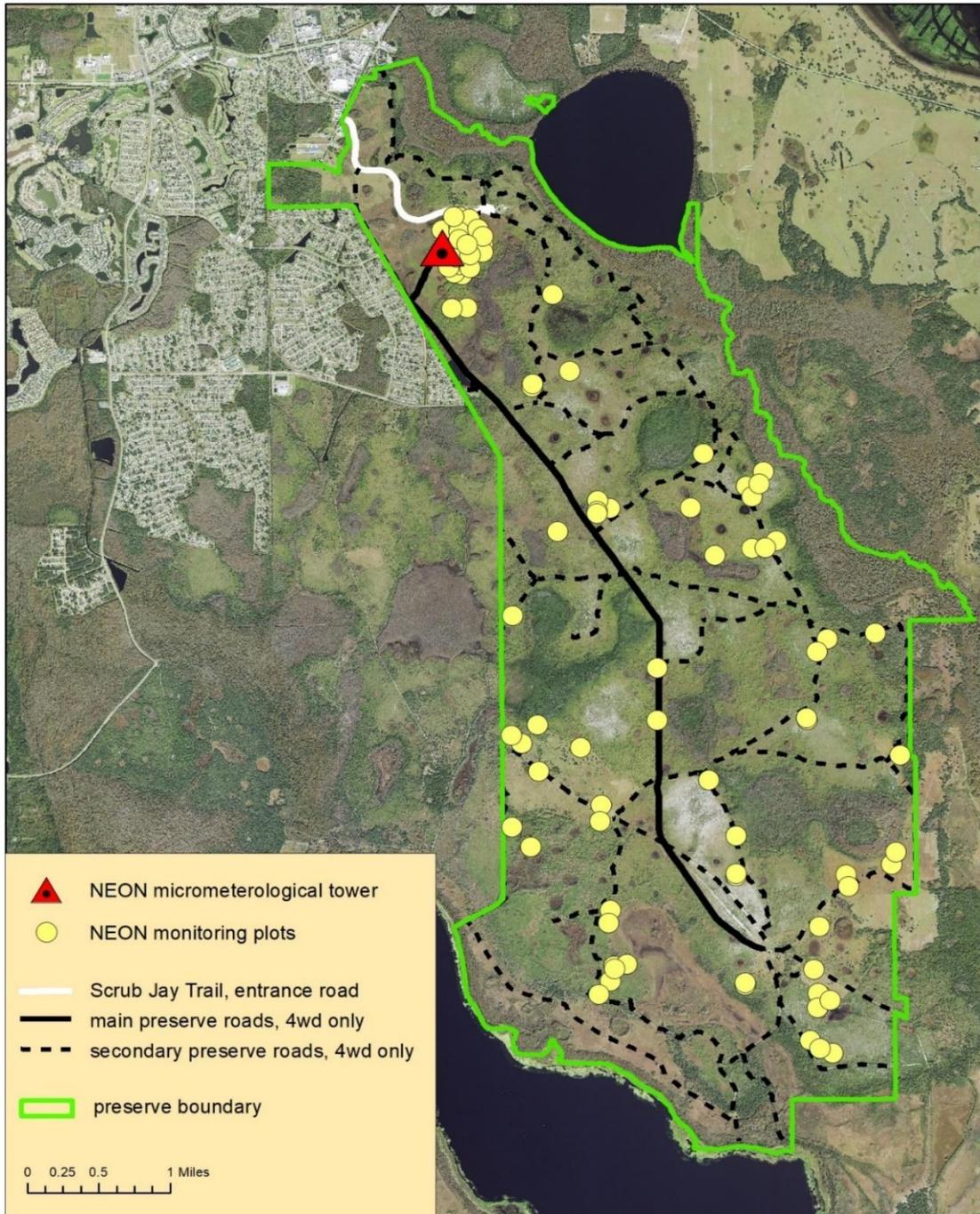
1. Breeding land birds: Bird observations are made to capture interannual variation in avian abundance, diversity, and distribution (NeonScience.org). All bird species observed are recorded using point count methods.

2. Ground beetles: NEON field scientists collect beetles with pitfall traps distributed across the site. Traps are deployed every two weeks during the time of year when beetles are most active. Each beetle is identified to species or morphospecies. A subset of the beetles is DNA barcoded.
3. Terrestrial plants: NEON collects data on plant biomass and productivity, plant diversity, plant phenology, and plant chemical properties within permanent 40 x 40-meter plots distributed across terrestrial field sites. NEON field scientists conduct field sampling annually, but data frequency and schedule vary among the data types, reflecting the requirements of specific data products and protocols (Neonscience.org).
4. Small mammals: NEON defines small mammals as nocturnal, flightless, above-ground foragers, and weighing 5-600 grams. NEON uses Sherman box traps deployed for one-three consecutive nights for at least four times per year. For each captured small mammal, species, sex, age, reproductive status, weight, hind foot length and other species-specific measurements are recorded. Blood is drawn from some individuals for pathogen testing, and the presence and abundance of ticks on each individual is determined. Individuals are tagged, using either ear tags or Passive Integrated Transponder (PIT) tags. All data collection is conducted in the field for quick release of the animals after capture. NEON collects a subset of the trapped animals for use as voucher specimens. All handling and processing have been approved by Battle' Institutional Animal Care and Use Committee (IACUC). After field collection, NEON scientists conduct lab analyses for DNA sequencing and rodent-borne pathogen status.
5. Soil microbes: NEON collects different types of soil data at different frequencies (1-5 years) depending on the data type. For each sampling, three soil cores are taken from 10 permanent plots. Up to three sampling periods may occur within a sampling year during peak greenness and during seasonal transitions. Data collection and analyses produce the following data products: soil temperature, litter depth, moisture, pH, stable isotopes, and inorganic nitrogen pools and transformations; and soil microbe biomass, marker gene sequences, community composition, and metagenome sequences.
6. Ticks: NEON field scientists collect ticks using 1 m<sup>2</sup> drag cloths dragged around the perimeter of each 40x40m vegetation plot. Ticks that cling to the cloth are counted and categorized by species, sex, and life stage (neonscience.org). Testing for pathogens is conducted on a subset of the ticks, and a smaller subset are archived.

**Progress/Results:** ONGOING. NEON is a 30-year project with data collection at the Disney Wilderness Preserve proposed for the entire project period. All data collected from DWP and other NEON sites is publicly available online at <https://data.neonscience.org/data-products>.

Papers published: As of April 2025, at least 137 papers have been published on studies using NEON data from DWP: Allred et al. 2025, Gilbert et al. 2025, LaRue et al. 2025, Pinto-Ledezma et al. 2025, Shaoning et al. 2025, Sweeney et al. 2025, Tiana et al. 2025, Uyekawa et al. 2025, Yu et al. 2025, Ayres et al. 2024, Bradfield 2024, Dallas et al. 2024, Dong et al. 2024, Doser et al. 2024, Gomarasca et al. 2024, Hansen et al. 2024, Hu 2024, Journé et al. 2024, Liu et al. 2024a, Liu et al. 2024b, Mahaur 2024, Masuda et al. 2024, Novick et al. 2024, Qiu et al. 2024, Rogers et al. 2024, Rooney and Possinger 2024, Tolan et al. 2024, Tran 2024, Wang et al. 2024, Wang and Fang 2024, Waterman 2024, Zahn and Bou-Zeid 2024, Biazzo 2023, Bogdziewicz et al. 2023a, Bogdziewicz et al. 2023b, Brown et al 2023, Chuckran et al. 2023, Dallas et al. 2023, Dynarski et al. 2023, Fulk 2023, Hakkenberg et al. 2023, Hernandez et al. 2023, Hu et al. 2023, Huang et al. 2023, Ibanez et al. 2023, Kaspari et al. 2023, Li et al. 2023, Lin et al. 2023, Lombardozzi et al. 2023, Parsons et al. 2023, Qin et al. 2023, Qui et al. 2023a, Qui et al. 2023b, Richardson 2023, Robertson et al. 2023, Sanchez-Zapero et al. 2023a., Sanchez-Zapero et al. 2023b, Santos and Herndon 2023, Scott 2023, Sipps and Magruder 2023, Wang et al. 2023a, Wang et al. 2023b, Weintraub-Leff et al. 2023, Xu et al. 2023, Yi et al. 2023, Armstrong et al. 2022, Atkins et al. 2022a, Atkins et al. 2022b, Biazzo and Quintana-Ascencio 2022a, Biazzo and Quintana-Ascencio 2022b, Doby et al. 2022, Donnelly et al. 2022, Gallo 2022, Gobron et al. 2022, Hall and Thompson 2022, Jones 2022, Journe et al. 2022, Li et al. 2022, Marconi et al. 2022, Moon et al. 2022, Musinsky et al. 2022, Paull 2022, Possinger et al. 2022, Qiu et al. 2022, Rishmawi et al. 2022, Robertson 2022, Schweiger and Laliberte 2022, Sharma et al. 2022, Tang et al. 2022, Ten Caten et al. 2022, Waterman et al. 2022, Ye et al. 2022, Yu 2022, Yu et al. 2022, Yuan et al. 2022, Zhang et al. 2022, Ayres et al. 2021, Brown et al. 2021, Clark et al. 2021, Delwiche et al. 2021, Fiorella et al. 2021, Hantak et al. 2021, Kang et al. 2021, Liu et al. 2021, Messer and Raber 2021, Parker 2021, Parra 2021, Patel et al. 2021, Pinto and Cavender-Bares 2021, Qui et al. 2021a, Qiu et al. 2021b., Stachewicz et al. 2021, Weinstein et al. 2021a, Weinstein et al. 2021b, Yang et al. 2021, Yu et al. 2021, Zhang et al. 2021, Brown et al. 2020, Egli 2020, Farella 2020, Fisher et al. 2020, Hall et al. 2020, Ritter 2020, Shu et al. 2020, Wang et al. 2020, Weinstein et al. 2020, Ayres 2019, Nave et al. 2019, Ritter et al. 2019, Sorensen 2019, Weiglein 2019, Gaynor et al. 2018, Kramer and Chadwick 2018, Hoekman et al. 2017, Ghabbour et al. 2015, and Loescher et al. 2014.

Figure 11. NEON tower and monitoring plot locations at Disney Wilderness Preserve.



## USGS seismic station at the Disney Wilderness Preserve

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US Geological Survey, Albuquerque Seismological Laboratory, Albuquerque, NM

**Duration:** 1997-present

**Objectives:** To maintain a seismic station in central Florida as part of the Global Seismograph Network (GSN). The objectives of the GSN are to provide real-time earthquake information for emergency response personnel, provide engineers with information about building and site response to strong shaking, and provide scientists around the world with high-quality data needed to understand earthquake processes and structure and dynamics of the solid earth.

**Methods:** The Disney Wilderness Preserve has one of over 100 GSN stations worldwide. The station ID is IU/DWPF and is located at the southern end of the Dorm Pond (Figure 12). Installation was conducted in 1997, and operation began in 1998. USGS installed IRIS Type II seismic sensors over a 162 m borehole. Data is transmitted real-time using satellite telemetry.

**Progress/Results:** ONGOING. Station data is available from the Incorporated Research Institutions for Seismology (IRIS) website: <https://ds.iris.edu/ds/nodes/dmc/data/#requests>.

**Papers published:** At least 60 publications have been produced using data from the DWPF station: Aster et al. 2023, Ping et al. 2023, Guimaraes 2022, Gualtieri et al. 2021, Ringler et al. 2021, Baer 2020, Ringler et al. 2020, Sobolev et al. 2020, Yepaneshnikov and Yepaneshnikova 2020, Ritzwoller and Feng 2019, Braunmiller et al. 2019, Kim and Lekic 2019, Frietsch et al. 2019, Heyburn et al. 2018, Tary et al. 2018, Mancinelli 2016, Sobolev et al. 2016, Ye et al. 2016, McNamara et al. 2015, Ringler et al. 2015a, Ringler et al. 2015b, van Driel et al. 2015, Lou 2013, Obrebski et al. 2013, Ottemöller and Bormann 2013, Yuan 2013, Bogue 2012, de Azevedo 2012, Groos et al. 2012, Ringler et al. 2012, Trnkoczy et al. 2012, Yano 2012, Gonzalez et al. 2011, Molodenskii 2011, Groos 2010, Ringler et al. 2010, Baba et al. 2009, French et al. 2009, Tsai 2009, Bensen et al. 2008, Dewey and Dellinger 2008, Liang and Langston 2008, Tauzin et al. 2008, Bensen 2007, Bensen et al. 2007, Gonzalez et al. 2007, Ichinose and Goldstein 2007, Ishii 2007, Tsai and Ekström 2007, Hensen et al. 2006, Wilson 2006, Liu et al. 2005, McNamara et al. 2005a, McNamara et al. 2005b, Baptiste 2004, Fnais 2004, McNamara and Buland 2004, O'Leary et al. 2004, Benetatos et al. 2002, and McLaughlin et al. 2000.

Figure 12. Location of the USGS seismic station at Disney Wilderness Preserve.



## Water quality monitoring on Reedy Creek and Lake Russell at the Disney Wilderness Preserve

Reedy Creek Improvement District (RCID), Lake Buena Vista, FL

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**Duration:** 1998-present

**Objectives:** Water quality monitoring for routine ecological health and urban impact assessment. Sampling is part of RCID's program for its watershed analysis, total maximum daily load, National Pollutant Discharge Elimination System, and surface water monitoring.

**Methods:** RCID Environmental Services performs water quality monitoring on two sampling sites, collected quarterly at the Disney Wilderness Preserve (Figure 13). Analyses include chlorophyll, bacteria, general chemistry, metals, pesticides, volatile organic compounds, semi-volatile organic compounds, and field parameters.

**Progress/Results:** ONGOING. Data is available from the Reedy Creek Improvement District by request.

Figure 13. Location of RCID water quality monitoring at Disney Wilderness Preserve.



## Jeff Lewis Wilderness Preserve and John S. Phipps Preserve

### Shorebird and seabird monitoring

Florida Fish & Wildlife Commission, Tallahassee, FL

**Duration:** 2013 - present

**Objectives:** To determine the distribution, status, and trends of the 20 species of shorebirds and seabirds in Florida through long-term monitoring across the state. This project is part of FWC's Florida Shorebird Alliance, which consists of regional partnerships that work locally to survey and monitor important shorebird and seabird nesting sites.

**Methods:** FWC conducts monthly site visits in May through August of each year to determine the numbers of breeding pairs, nest locations, and outcomes as well as to determine the locations of brood-rearing habitat. Monitoring is conducted following FWC's Breeding Bird

Protocol for Florida's Shorebirds and Seabirds (<https://public.myfwc.com/crossdoi/shorebirds/PDF-files/BreedingBirdProtocol.pdf>).

**Progress/Results:** ONGOING. Data is publicly available from FWC's Florida Shore Bird Database at <https://public.myfwc.com/crossdoi/shorebirds/>.

## Saddle Blanket Scrub Preserve and Tiger Creek Preserve

### Central Florida Water Initiative (CFWI) long-term wetland monitoring

Southwest Florida Water Management District, Bartow, FL.

**Duration:** 2021 - present

**Objectives:** To collect ground water and wetland vegetation data to inform regional water supply planning and regulations. The Central Florida Water Initiative (CFWI) is a collaborative water supply planning effort among the Florida Department of Environmental Protection, the Florida Department of Agriculture and Consumer Services, water management districts, water utilities, and other stakeholders in Orange, Osceola, Polk, Seminole, and Lake Counties. Southwest Florida Water Management District (SFWMD) is the CFWI monitoring lead for Polk County. SFWMD personnel will maintain the recorders at Tiger Creek Preserve and conduct the vegetation and soil monitoring. The project is currently planned for a duration of twenty years or more.

**Methods:** Tiger Creek and Saddle Blanket Scrub are two of 107 sites to be established in the CFWI monitoring by 2025. Two surficial aquifer wells with continuous water level and rainfall recorders will be installed at each preserve in upland habitat within 50 m of a wetland (Figures 14 and 15). In addition, vegetation and soil data will be collected every five years along transects extending across the wetlands. The soils and vegetation data will be used in conjunction with the surficial aquifer water level and rainfall data to determine trends in wetland boundaries and for calibration and verification of regional water models.

**Progress/Results:** ONGOING. SFWMD completed installation of the wells in 2021. The vegetation monitoring transects were established in 2022. Data available by request from the Southwest Florida Water Management District.

Figure 14. Location of CWFI monitoring wells at Saddle Blanket Scrub Preserve.

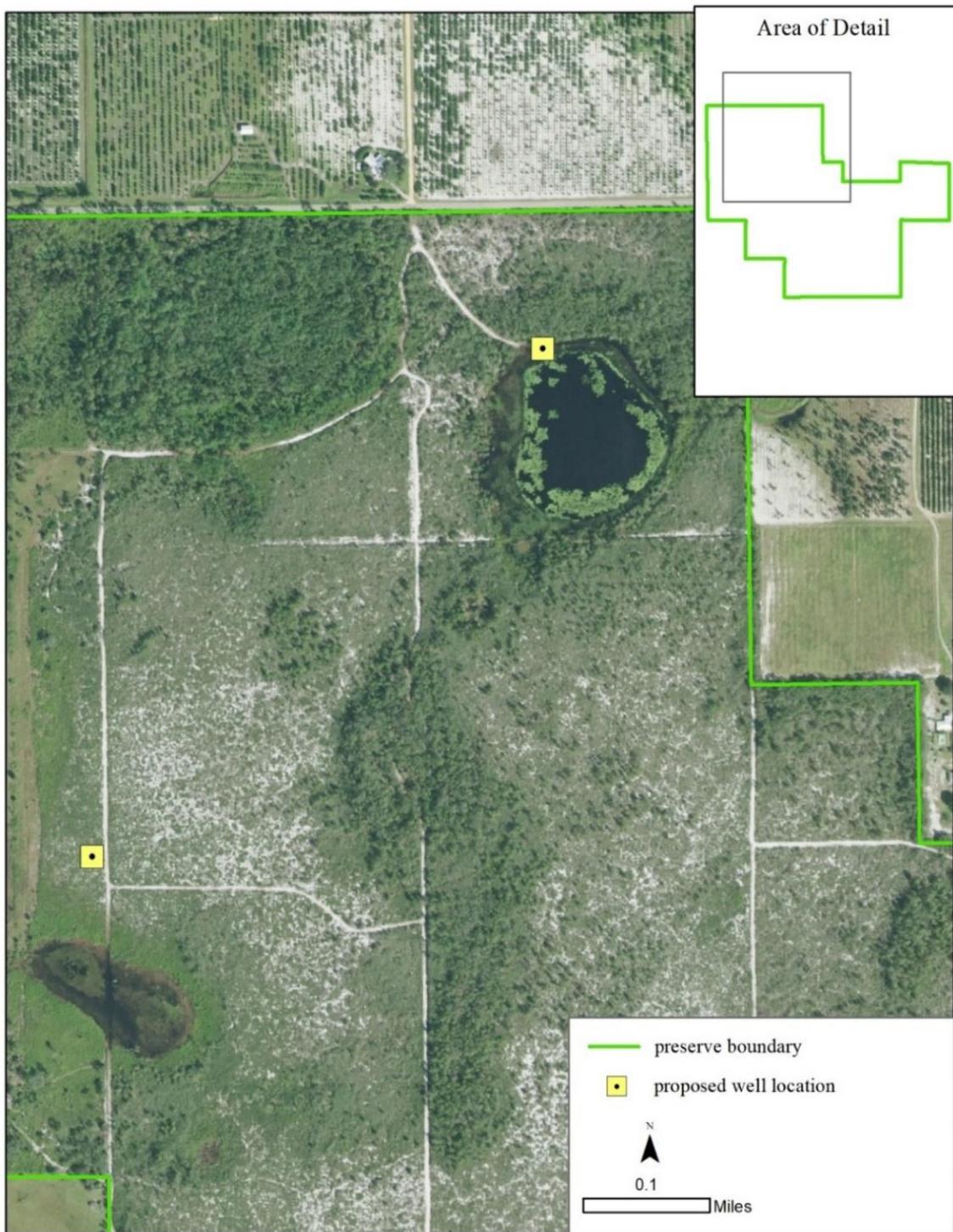
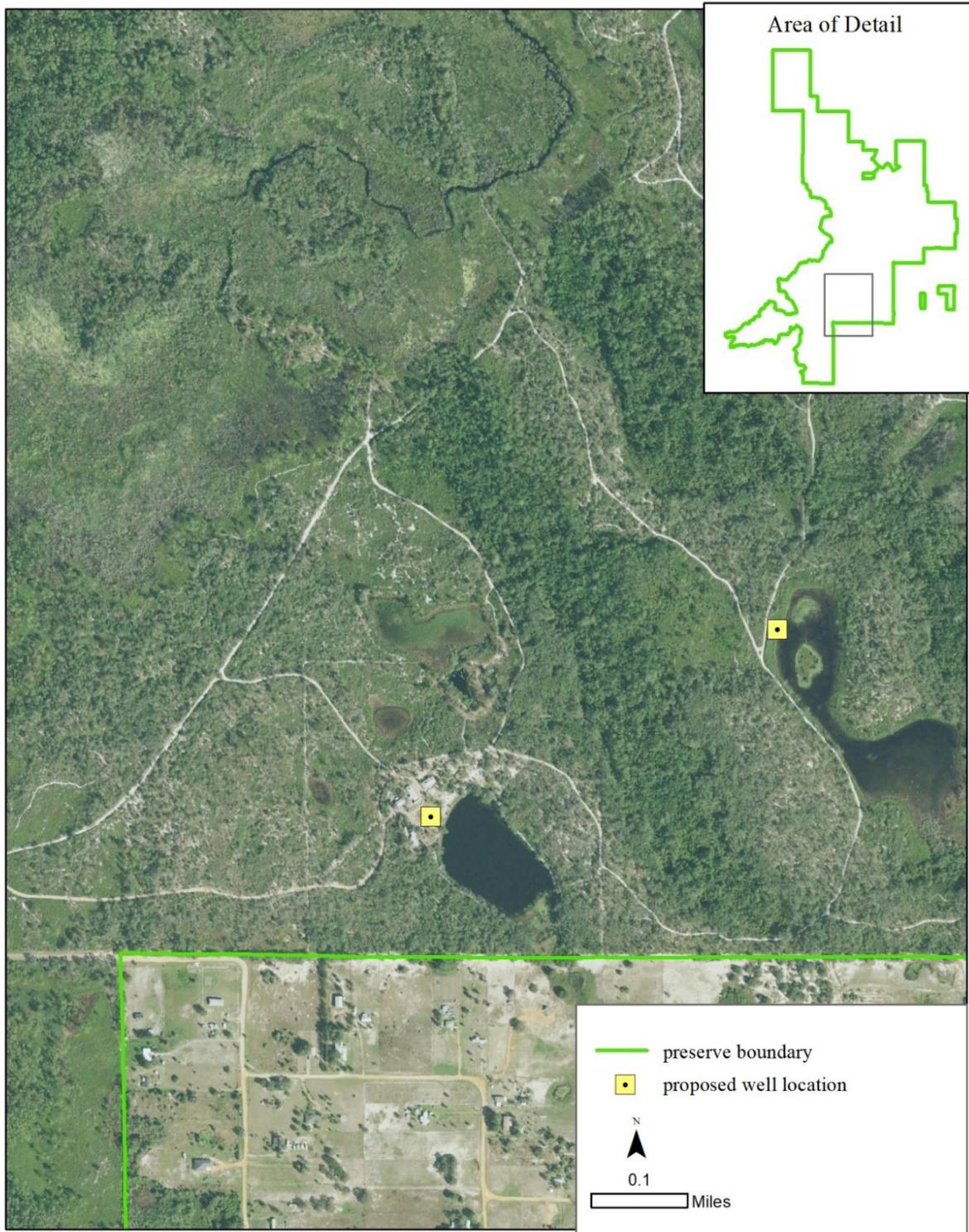


Figure 15. Location of CFWI monitoring wells and vegetation transects at Tiger Creek Preserve.



## REPORTS AND PUBLICATIONS

### Apalachicola Bluffs and Ravines Preserve

Baruzzi C. 2025. **Final project report to The Nature Conservancy.** The Nature Conservancy, Bristol, FL.

Mossa J. and Chen Y.-H. 2025. **Landslide at the river's edge: Alum Bluff, Apalachicola River, Florida.** *Geosciences* 15(4):130.

Rooney B., Kays R., Cove M.V., et al. 2025. **SNAPSHOT USA 2019-2023: the first five years of data from a coordinated camera trap survey of the United States.** *Global Ecology and Biogeography* 34(1):e13941.

Botero-Cañola S., Torhorst C., Canino N., et al. 2024. **Integrating systematic surveys with historical data to model the distribution of *Ornithodoros turicata americanus*, a vector of epidemiological concern in North America.** *Ecology and Evolution* 14(11):e70547.

Carey K.A., McDonald B.W., Pietras A., et al. 2024. **Guidelines to reduce invasive fire ant interference of small mammal trapping.** *Wildlife Letters* 2024:1-5.

Gompel N. 2024. **The Aderidae (Coleoptera: Tenebrionoidea) of the USA and Canada.** *The Coleopterists Bulletin* 78(20):1-88.

O'Keefe J.M., Pound M.J., Romero I.C., et al. 2024. **Summer-wet hydrologic cycle during the middle Miocene of the United States: New evidence from fossil fungi.** *Research* 7:0481.

Smith L. and Borkholder J. 2024. **White-nose syndrome (WNS) in bats: Enhancing Florida's capacity for responding to WNS.** Annual report to The Nature Conservancy, Apalachicola Bluffs and Ravines. Florida Fish and Wildlife Conservation Commission, Fish and Wildlife Research Institute, Gainesville, FL.

Chandler H.C., Steen D., Blue J., et al. 2023. **Evaluating growth rates of captive, wild, and reintroduced populations of the imperiled eastern indigo snake (*Drymarchon couperi*).** *Herpetologica* 79(4):220–230.

Edmonds W.D. 2023. **Taxonomic review of the North American dung beetle genus *Melanocanthon* Halffter, 1958 (Coleoptera: Scarabaeidae: Scarabaeinae: Deltochilini).** *Insecta Mundi* 1014:1-28.

Friend D.S., Anderson B.M., Altier E., et al. 2023. **Systematics and phylogeny of Plio-Pleistocene species of Turritellidae (Gastropoda) from Florida and the Atlantic coastal plain.** *Bulletins of American Paleontology* 2023(402):1-70.

O'Hanlon B.M., Bogan J.E., Godwin J.C., et al. 2023. ***Cryptosporidium serpentis* surveillance in free-ranging snakes to inform a reintroduction strategy for the eastern indigo snake.** *Journal of Wildlife Diseases* 59(1):176-180.

Reichgelt T., Baumgartner A., Feng R., et al. 2023. **Poleward amplification, seasonal rainfall and forest heterogeneity in the Miocene of the eastern USA.** *Global and Planetary Change* 222:104073.

Rounsaville T. 2023. **Conservation of *Magnolia ashei*.** Project update to The Nature Conservancy, Kissimmee, FL.

Thomson R.E. 2023. **Catalog of the Hydroptilidae (Insecta, Trichoptera).** *ZooKeys* 1140:1-499.

Harrison E.J., McElroy B., and Willenbring J.K. 2022. **Quantifying rates of landscape unzipping.** *Journal of Geophysical Research: Earth Surface* 127:e2021JF00623.

Slattery J., Brown G.M., Harries P.J., et al. 2023. **Environmental and taphonomic controls on the shell beds and fauna of the mid-Miocene Chipola formation of Florida, USA.** *Palaeogeography, Palaeoclimatology, Palaeoecology* 642:111942.

Stansifer E.M. 2022. **Theory of the growth and shape of Laplacian stream networks.** Dissertation, Massachusetts Institute of Technology, Cambridge, MA.

Thompson D.C. 2022. **Relationships between the marine environment, predation intensity, and bivalve community diversity from the late Cenozoic Tamiami, Chipola, Jackson Bluff, and Bermont formations of Florida, U.S.A.** Thesis, Kent State University, Kent, OH.

Alqurashi A.S., Kerrigan J., and Savchenko K.G. 2021. **Morphological and molecular characterization of *Langdonia walkerae* sp. nov. infecting *Aristida stricta* and *A. beyrichiana* in longleaf pine-grassland ecosystems in the southeastern USA.** *Fungal Systematics and Evolution* 8:39–47.

Florida Natural Areas Inventory (FNAI). 2021a. **Gopher tortoise survey of Apalachicola Bluffs and Ravines Preserve. Revised report to the Florida Fish and Wildlife Conservation Commission.**

Mossa J. and Chen Y-H. 2021. **Geomorphic response to historic and ongoing human impacts in a large lowland river.** *Earth Surface Processes and Landforms* 47:1550–1569.

Petuch E.J. and Breschauer D.P. 2021. **New fossil Scaphelline volutes from the Pliocene of Southern Florida.** *The Festivus* 53(2):101-108.

Rothman D. 2021. **Physics of channelization: Theory and observation.** Dissertation, Massachusetts Institute of Technology (MIT), Cambridge, MA.

Starnes D.D. 2021. **"It's about more than just the animals": Environmental politics of zoo-adjacent conservation(ists) in the U.S.** Dissertation, University of Kentucky, Lexington, KY.

Bicha W., Chiu Y., Nakamura T., et al. 2020. **Unusual scorpionfly (Mecoptera: Panorpidae) collecting techniques.** *Proceedings of the Entomological Society of Washington* 122(4):1001-1004.

Osborn A.S., Portell R.W., and Mooi R. 2020. **Neogene echinoids of Florida.** *Bulletin of the Florida Museum of Natural History* 57(3):237-469.

Piccolomini S.E. 2020. **Evaluation of movement patterns and space use in reintroduced eastern indigo snakes (*Drymarchon couperi*) in the Florida Panhandle.** Thesis, Auburn University, Auburn, AL.

Booher D.B. 2019. **Taxonomic clarification of two Nearctic *Strumgenys* (Hymenoptera: Formicidae).** *Zootaxa* 4664(3):401-411.

Folt B., McGowan C.P., Steen D.A., et al. 2019. **Modeling strategies and evaluating success during repatriations of elusive and endangered species.** *Animal Conservation* 23(3):273-285.

Gorchov D.L. 2019. **High winter temperatures facilitate invasion of *Tradescantia fluminensis* in the Apalachicola River Floodplain.** *Southeastern Naturalist* 18(1):76-98.

Harris S.C. and Rasmussen A.K. 2019. **Review of the *Orthotrichia* (Trichoptera: Hydroptilidae) of Florida, with descriptions of previously unknown females of three species.** *Zoosymposia* 14:215-230.

Lott T., Manchester S.R., and Corbett S.L. 2019. **The Miocene flora of Alum Bluff, Liberty County, Florida.** *Acta Palaeobotanica* 59(1):75-129.

McElroy B., Willenbring J., and Mohrig D. 2018. **Addressing time-scale-dependent erosion rates from measurement methods with censorship.** *Geological Society of America Bulletin* 130(3-4):381-395.

Schiefer T.L. 2018. **First record of the introduced ambrosia beetle *Ambrosiophilus nodulosus* (Eggers) in Mississippi, with notes on the distribution of *Ambrosiodmus minor* (Stebbing) (Coleoptera: Curculionidae: Scolytinae).** *The Coleopterists Bulletin* 72(2):384-385.

Bladow J.M., Bohner T., and Winn A.A. 2017. **Comparisons of demography and inbreeding depression in introduced and wild populations of an endangered shrub.** *Natural Areas Journal* 37(3):294-308.

Gompel N. 2017. **A review of North American *Elonus* species, with description of *E. gruberi* n. sp. (Coleoptera: Tenebrionoidea: Aderidae).** *Zootaxa* 4338(3):533-545.

Minogue P.J., Bohn K.K., Osiecka A., et al. 2017. **Japanese climbing fern (*Lygodium japonicum*) management in Florida's Apalachicola bottomland hardwood forests.** *Invasive Plant Science and Management* 3(3):246-252.

Yi R.S. 2017. **Emergent geometries of groundwater-fed rivers.** Dissertation, Massachusetts Institute of Technology, Cambridge, MA.

Yi R., Cohen Y., Devauchelle O., et al. 2017. **Symmetric rearrangement of groundwater-fed streams.** *Proceedings of the Royal Society A*. 473:20170539.

Yi R., Cohen Y., Seybold H., et al. 2017. **A free-boundary model of diffusive valley growth: Theory and observation.** *Proceedings of the Royal Society A* 473:20170159.

Anderson R.S. 2016. **A taxonomic revision of the genus *Lymantes* Schonherr, 1838 (Coleoptera: Curculionidae: Molytinae: Lymantini) in the United States of America.** *The Coleopterists Bulletin* 70(1):111-124.

Cohen Y., Devauchelle O., Seybold H.F., et al. 2015. **Path selection in the growth of rivers.** *Proceedings of the National Academy of Sciences* 112(46):14132-14137.

Deyrup M. 2015. **A new species of *Myrmecina* (Hymenoptera: Formicidae) from southeastern North America.** *Florida Entomologist* 98(4):1204-1206.

Hill J.V.G. 2015. **Revision of the *Melanopus scudderi* (Orthoptera: Acrididae: Melanoplinae) species group and a preliminary investigation into the grasshopper fauna of the grasslands of the southeastern United States.** Dissertation, Mississippi State University, Starkville, MS.

Kons H.L. and Borth R.J. 2015. **A new species of *Catocala* (Lepidoptera: Noctuidae) from Florida.** *Bulletin of the Peabody Museum of Natural History* 56(1):67-79.

McKee A.M., Calhoun D.L., Barichivich W.J., et al. 2015. **Assessment of environmental DNA for detecting presence of imperiled aquatic amphibian species in isolated wetlands.** *Journal of Fish and Wildlife Management* 6(2):498-510.

Thomas M.D. 2015. **A review of New World *Laemophloeus* Dejean: 3 Nearctic species.** *Insecta Mundi* 0450:1-35.

- Heupel A. 2014. **Effects of stream impoundment and dam removal on aquatic insect communities in steephead ravines of the Apalachicola River Basin, Florida.** Thesis, Florida Agricultural and Mechanical University, Tallahassee, FL.
- Perez H.E. 2014. **Do habitat and geographic distribution influence decreased seed viability in remnant populations of a keystone bunchgrass?** Ecological Restoration 32(3):295-305.
- Jackson D.R. and Franz R. 2013. **Crayfishes of the Apalachicola ravines, northern Florida: A search for the fireback crayfish, *Cambarus pyronotus*.** Southeastern Naturalist 12(3):534-551.
- Petroff A.P., Devauchelle O., Seybold H., et al. 2013. **Bifurcation dynamics of natural drainage networks.** Philosophical Transactions of the Royal Society A 371:20120365.
- Smart A.G. 2013. **Hidden order emerges in stream networks.** Physics Today 66(2):12-13.
- Devauchelle O., Petroff A.P., Seybold H.F., and Rothman D.H. 2012. **Ramification of stream networks.** Proceedings of the National Academy of Sciences Dec 2012, 109(51):20832-20836.
- Harris S.C., Rasmussen A.K., and Denson D.R. 2012. **An annotated list of the caddisflies (Trichoptera) of Florida: Part 1. The family Hydroptilidae, with descriptions of five new species.** Insecta Mundi 0273:1-32.
- Petroff A.P., Devauchelle O., Kudrolli A., et al. 2012. **Four remarks on the growth of channel networks.** Comptes Rendus Geoscience 344(1):33-40.
- Devauchelle O., Petroff A.P., Lobkovsky A.E., et al. 2011. **Longitudinal profile of channels cut by springs.** Journal of Fluid Mechanics 667(25):38-47.
- Petroff A., Devauchelle O., Abrams D., et al. 2011. **Geometry of valley growth.** Journal of Fluid Mechanics 673:245-254.
- Slapcinsky J.L., Gordon D.R., and Menges E. 2011. **Responses of rare plant species to fire in Florida's pyrogenic communities.** Natural Areas Journal 30(1):4-19.
- Somma L. A. 2011. **New collections and records for earwigs and scorpionflies in Florida.** Insecta Mundi 690.
- Trusty J.L. and Ober H.K. 2011. **Determinants of successful groundcover restoration in forests of the southeastern United States.** Journal for Nature Conservation 19(1):34-42.
- Jarzen D. M., Corbett S. L., and Manchester S.R. 2010. **Palynology and paleoecology of the Middle Miocene Alum Bluff flora, Liberty County, Florida, USA.** Palynology 34(2):261-286.

Morris A.B., Graham C.H., Soltis D.E., et al. 2010. **Reassessment of phylogeographical structure in an eastern North American tree using Monmonier's algorithm and ecological niche.** Journal of Biogeography 37(9):1657-1667.

Stevenson D.J., Ravenscroft K.R., Zappalorti R.T., et al. 2010. **Using a wildlife detector dog for locating eastern indigo snakes (*Drymarchon couperi*).** Herpetological Review 41(4):437-442.

Abrams D.M., Lobkovsky A.E., Petroff A.P., et al. 2009. **Growth laws for channel networks incised by groundwater flow.** Nature Geoscience 2:193-196.

Epler J.H. 2009. **More new distribution records for Florida water beetles (Coleoptera: Dytiscidae, Elmidae, Hydrophilidae, Scirtidae), with additional notes on *Scirtes oblongus* Guerin-Meneville.** Insecta Mundi 0087:1-4.

Somma L.A. and Dunford J.C. 2009. **Records for *Bittacus* hangingflies and *Panorpa* scorpionflies (Mecoptera: Bittacidae and Panorpidae) in Florida.** Insecta Mundi 0084:1-6.

Blaustein R.J. 2008. **Biodiversity hotspot: The Florida Panhandle.** BioScience 58(9):784-790.

Edwards C.E., Soltis D.E., and Soltis P.S. 2008. **Using patterns of genetic structure based on microsatellite loci to test hypotheses of current hybridization, ancient hybridization and incomplete lineage sorting in *Conradina*.** Molecular Ecology 17(23):5157-5174.

Morris A.B., Ickert-Bond S.M., Brunson D.B., et al. 2008. **Phylogeographical structure and temporal complexity in American sweetgum.** Molecular Ecology 17(17):3889-3900.

Beard K.H. and Depriest P.T. 2007. **Genetic variation within and among mats of the reindeer lichen, *Cladina subtenuis*.** The Lichenologist 28(2):171-182.

Dunford J.C., Kovarik P.W., Somma L.A., et al. 2007. **First state records for *Merope tuber* (Mecoptera: Meropeidae) in Florida and biogeographical implications.** Florida Entomologist 90(3):581-584.

Lobkovsky A.E., Smith B.E., Kudrolli A., et al. 2007. **Erosive dynamics of channels incised by subsurface water flow.** Journal of Geophysical Research 112.

Kons H.L. Jr. and Borth R.J. 2006. **Contributions to a study of the diversity, distribution, habitat association, and phenology of the Lepidoptera of northern Florida.** North American Journal of Lepidoptera Biodiversity 1:1-231.

Atchley E. 2004. **The effects of habitat alterations on growth and vitality of *Torreya taxifolia* Arn. in northern Florida, USA: A dendrochronological study.** Thesis. University of Tennessee, Knoxville, TN.

- Corbett S.L. 2004. **The middle Miocene Alum Bluff flora, Liberty County, Florida.** Master's Thesis, University of Florida, Gainesville, Florida.
- Cox. A.C., Gordon D.R., Slapcinsky J.L., et al. 2004. **Understory restoration in longleaf pine sandhills.** *Natural Areas Journal* 24(1):4-14.
- Kwit C., Horvitz C.C., and Platt W.J. 2004. **Conserving slow-growing, long-lived tree species: Input from the demography of a rare understory conifer, *Taxus floridana*.** *Conservation Biology* 18(2):432-443.
- Pescador M.L., Rasmussen A.K., and Harris S.C. 2004. **Identification manual for the caddisfly (Trichoptera) larvae of Florida.** Department of Environmental Protection, Tallahassee, FL.
- Rasmussen A.K. 2004. **Species diversity and ecology of Trichoptera (caddisflies) and Plecoptera (stoneflies) in ravine ecosystems of northern Florida.** Dissertation, University of Florida, Gainesville, FL.
- Segraves K.A. and Pellmyr O. 2004. **Testing the "Out of Florida" hypothesis on the origin of cheating in the yucca-yucca moth mutualism.** *Evolution* 58:2266-2279.
- Stallins J. and Griggs J. 2004. **Influence of historic upland silviculture on the composition of ravine forests along the Apalachicola River.** *Natural Areas Journal* 24(3):242-250.
- Anderson L.C. 2002. ***Liatris gholsonii* (Asteraceae: Eupatorieae), a new blazing star from the Apalachicola River Bluffs and Ravines in Florida.** *SIDA, Contributions to Botany* 20(1):97-103.
- Rasmussen A.K. and Pescador M. 2002. **A Guide to the Megaloptera and aquatic Neuroptera of Florida.** Florida Department of Environmental Protection, Tallahassee, FL.
- Vaughn E. 2001. **The Apalachicola Bluffs and Ravines Preserve in north Florida: A longleaf pine and wiregrass restoration project.** *Restoration and Reclamation Review* 7(1).
- Kwit C. 2000. **Habitat and demography of understory trees in mixed species hardwood forests in northern Florida, United States of America.** Dissertation, Louisiana State University, Shreveport, LA.
- Pescador M., Rasmussen A., and Richard B. 2000. **A Guide to the Stoneflies (Plecoptera) of Florida.** Florida Department of Environmental Protection, Division of Water Resource Management, Tallahassee, FL.
- Schwartz M.W., Hermann S.M., and van Mantgem P.J. 2000. **Estimating the magnitude of decline of the Florida *torreya*.** *Biological Conservation* 95:77-84.

Schwartz M.W., Hermann S.M., and van Mantgem P.J. 2000. **Population persistence in Florida torreya: comparing modeled projections of a declining coniferous tree.** Conservation Biology 14:1023-1033.

Moulton S.R. and Harris S.C. 1999. **Redescriptions of the *Oxyethira aeola* group species in North America (Trichoptera: Hydroptilidae): Clarifications of a taxonomic enigma.** American Benthological Society 18(4):545-552.

Schwartz M.W. and Hermann S.M. 1999. **Is slow growth of the endangered *Torreya taxifolia* normal?** Journal of the Torrey Botanical Society 126:307-312.

Gordon D.R. and Rice K. 1998. **Patterns of differentiation in wiregrass (*Aristida beyrichiana*): Implications for restoration efforts.** Restoration Ecology 6(2):166-174.

Harris S.C., Pescador M.L., and Rasmussen A.K. 1998. **Two new species of microcaddisflies in northern Florida.** Florida Entomologist 81(2):221-224.

Kwit C., Platt W.J., Geaghan J.P., et al. 1998. **The distribution of tree species in steepheads of the Apalachicola River Bluffs.** Journal of the Torrey Botanical Society 125(4):309-318.

Means D.B. 1998. **Amphibians and reptiles of Apalachicola Bluffs and Ravines Preserve.** Final report to The Nature Conservancy, Bristol, FL.

Seamon G. 1998. **A longleaf pine sandhill restoration in northwest Florida.** Restoration and Management Notes 16(1):46-50.

Hattenbach M.J., Gordon D.R., Seamon G.S., et al. 1997. **Development of direct seeding techniques to restore native groundcover in a sandhill ecosystem.** Proceedings of the Longleaf Pine Restoration Session, Meeting of the Society for Ecological Restoration and Longleaf Alliance.

Isom P.S. 1997. **Pollination transfer between and within three translocated populations of the endangered mint, *Conradina glabra*, at the Apalachicola Bluffs and Ravines Preserve, Liberty County, Florida.** The Nature Conservancy, Bristol, FL.

Gordon D.R. 1996. **Apalachicola rosemary (*Conradina glabra*) reintroduction.** Pages 417-422 in Falk A., Millar C.I., and Olwell M., editors. Restoring Diversity: Strategies for Reintroduction of Endangered Plants. Island Press.

Gordon D.R. 1996. **Experimental translocation of the endangered shrub, Apalachicola rosemary (*Conradina glabra*).** Biological Conservation 77:19-26.

- Schwartz M., Porter D., Hermann S., et al. 1996. **The occurrence of *Pestalotiopsis microspora* on *Torreya taxifolia*.** Plant Disease 80(5):600.
- Kwit C. and Platt W. 1995. **The steephead habitat of *Taxus floridana* Nutt. (Taxaceae), a 'Rare' evergreen coniferous shrub.** The Nature Conservancy, Bristol, FL.
- Lee J., Clardy J., Yang X., et al. 1995. **The relationship between an endangered North American tree and an endophytic fungus.** Chemistry and Biology 2(11):1-7.
- Schumm S.A., Boyd K.F., Wolff C.G., et al. 1995. **A ground-water sapping landscape in the Florida Panhandle.** Geomorphology 12(4):282-297.
- Schwartz M., Hermann S., and Vogel C. 1995. **The catastrophic loss of *Torreya taxifolia*: Assessing environmental induction of disease hypothesis.** Ecological Applications 5(2):501-516.
- Flowers R.W., Furth D.G., and Thomas M.C. 1994. **Notes on the distribution and biology of some Florida leaf beetles (Coleoptera: Chrysomelidae).** The Coleopterists Bulletin 48(1):79-89.
- Walters T., Decker-Walters D., and Gordon D.R. 1994. **Restoration considerations for wiregrass (*Aristida stricta*): Allozymic diversity of populations.** Conservation Biology 8:581-585.
- Folk M. 1993. **Gopher tortoise and Sherman's fox squirrel densities in sandhill communities on three TNC preserves in Florida.** The Nature Conservancy, Kissimmee, FL.
- Gordon D.R. 1993. **Population differentiation in wiregrass: A reciprocal transplant experiment.** The Nature Conservancy, Maitland, FL.
- Redmond A. and Platt W. 1993. **Population ecology of the Florida yew.** Proceedings of the International Yew Resources Conference, March 12-13, 1993.
- Schwartz M. 1993. **Allozyme variation of the endangered Florida torreyia (*Torreya taxifolia*).** Canadian Journal of Forest Research 23(12):2598-2602.
- Schwartz M.W. and Hermann S.M. 1993. **The continuing population decline of *Torreya taxifolia* Arn.** Bulletin of the Torrey Botanical Club 120(3):275-278.
- Strobel G., Stierle A., and Hess W.M. 1993. **Taxol formation in yew - *Taxus*.** Plant Science 92:1-12.
- Bryant J.D., MacFadden B.J., and Mueller P.A. 1992. **Improved chronologic resolution of the Hawthorn and the Alum Bluff Groups in northern Florida: Implications for Miocene chronostratigraphy.** Geological Society of America Bulletin 104:208-218.

Seamon P. and Myers R. 1992. **Propagating wiregrass from seed.** Palmetto 12(4):6-7.

Schmidt W. 1988. **Alum Bluff Liberty County, Florida.** In T.L. Neathery (editor), Southeastern Section of the Geological Society of America. Boulder, CO. Geological Society of America.

Drez P.E. 1981. **Olivinae (Mollusca, Gastropoda) from the Alum Bluff Group of northwestern Florida.** Tulane Studies in Geology and Paleontology 16:105–112.

### Blowing Rocks Preserve

Hassler K. and Smith L. 2025. **Habitat use and diet of spotted skunks in a coastal environment.** Annual Report, Florida Fish and Wildlife Commission, Gainesville, FL.

Kelly M. 2024. **Final report for activities conducted under Marine Turtle Permit 23-208.** Report to the Florida Fish and Wildlife Conservation Commission. Florida Leatherbacks Inc., Palm Beach Gardens, FL.

Welsh R.C. and Witherington B.E. 2023. **Spatial mapping of vulnerability hotspots: Information for mitigating vessel-strike risks to sea turtles.** Global Ecology and Conservation 46:e02592.

Harris R.J., Arrington D., Porter D., et al. 2020. **Documenting the duration and chlorophyll pigments of an allochthonous *Karenia brevis* bloom in the Loxahatchee River Estuary (LRE), Florida.** Harmful Algae 97:101851.

Wetterer J.K., Deyrup M.A., and Bryant A. 2018. **Spread of the non-native trap-jaw ant *Anochetus mayri* (Hymenoptera: Formicidae) in Florida.** Transactions of the American Entomological Society 144(2).

Roberts R., Richardson D., Roberts L., et al. 2017. **Tropical hammocks of Florida: A historical and contemporary perspective.** Florida Scientist 80(2/3):77-116.

Marshall F.E., Banks K., and Cook G.S. 2014. **Ecosystem indicators for southeast Florida beaches.** Ecological Indicators 44:81-91.

Williams J.K. and Debelica A. 2008. **Analysis of the completeness of vascular plant records in Florida.** Journal of the Botanical Research Institute of Texas 2(9):1363-1371.

Stewart K.R. 2007. **Establishment and growth of a sea turtle rookery: the population biology of the leatherback in Florida.** Dissertation, Duke University, Durham, NC.

Missimer T.M. and Maliva R.G. 2005. **Diagenesis of the Anastasia Formation in eastern coastal Florida: Beachrock or bed-scale cementation.** Gulf Coast Association of Geological Societies Transactions 55:543-553.

Gordon D.R., Miller A., Renda M., et al. 2001. **Florida native turfgrass investigation.** The Nature Conservancy, Maitland, FL.

Lockhart C., Austin D., and Downey L. 1999. **Invasion of carrotwood in Florida natural areas.** Natural Areas Journal 19(3):254-262.

Steinitz M.J., Salmon M., and Wyneken J. 1998. **Beach renourishment and loggerhead turtle reproduction: A seven-year study at Jupiter Island, Florida.** Journal of Coastal Research 14(3):1000-1013.

Randall J.M., Lewis R.R., and Jensen D.B. 1997. **Ecological Restoration.** Pages 205-219 in Simberloff D., Schmitz D.C., and Brown T.C., editors. Strangers in Paradise. Island Press, Washington, D.C.

Lockhart C.S., Austin D.F., Jones W.E., et al. 1999. **The invasion of carrotwood (*Cupaniopsis anacardioides*) in natural areas.** A report to the Florida Department of Environmental Protection, Aquatic Plants Lab, Tallahassee, FL.

Steinitz M.J. 1996. **The effects of beach renourishment on the nesting behavior and hatching success of the loggerhead sea turtle on Jupiter Island, Florida: A seven-year study.** Thesis, Florida Atlantic University, Boca Raton, FL.

Renda M.T. and Rodgers H.L. 1995. **Restoration of tidal wetlands along the Indian River Lagoon.** Bulletin of Marine Science 57:283-284.

Folk M. 1992. **Wildlife use of restored areas at Blowing Rocks, Preserve.** Resource Management Notes 4(4):3-4.

Richardson D., Roberts R., and Woodbury R. 1992. **The vegetation of Blowing Rocks Preserve, Jupiter Island, Florida.** Florida Scientist 55(3):136-156.

Vare C.N. 1991. **A survey, analysis, and evaluation of the nearshore reefs situated off Palm Beach County, Florida.** Thesis, Florida Atlantic University, Boca Raton, FL.

Cox A.C. 1988. **Distribution and species composition of tree islands in Martin and Palm Beach Counties.** Dissertation, Florida Atlantic University, Boca Raton, FL.

Lovejoy D.W. 1983. **The Anastasia Formation in Palm Beach and Martin counties, Florida.** Miami Geological Society Memoir 3:58-72.

## Calhoun Spigelia Preserve

Florida Natural Areas Inventory (FNAI). 2023a. **Gentian Pinkroot (*Spigelia gentianoides*) Monitoring Report**. Report to the US Fish and Wildlife Service, Tallahassee, FL.

Florida Natural Areas Inventory (FNAI). 2021b. **Gentian Pinkroot (*Spigelia gentianoides*) Monitoring Report**. Report to the US Fish and Wildlife Service, Tallahassee, FL.

Florida Natural Areas Inventory (FNAI). 2021c. **Status survey of gentian pinkroot (*Spigelia gentianoides*) and damage assessment following Hurricane Michael; Jackson, Washington, and Calhoun Counties, Florida – Annual Report**. Report to the Florida Forest Service, Tallahassee, FL.

## Disney Wilderness Preserve

Allred B.W., McCord S.E., and Morford S.L. 2025. **Canopy height model and NAIP imagery pairs across CONUS**. Scientific Data 12(1):322.

Corak N.K., Thornton P.E., and Lowman L.E.L. 2025. **A high resolution, gridded product for vapor pressure deficit using Daymet**. Scientific Data 12:256.

Gilbert N.A., DiRenzp G.V., and Zipkin E.F. 2025. **Idiosyncratic spatial scaling of biodiversity-disease relationships**. Ecography 2025:e07541.

He K., Wenhong L., Zhang Y, et al. 2025. **Temperature and water levels collectively regulate methane emissions from subtropical freshwater wetlands**. Global Biogeochemical Cycles 39:e30334GB008372.

LaRue E.A., Rezendes K.M., Choi D.H., et al. 2025. **Gradient surface metrics of ecosystem structural diversity and their relationships with productivity across macrosystems**. Ecosphere 16:e70172.

Pinto-Ledezma J.N., Schweiger A.K., Guzman J.A., et al. 2025. **Plant diversity across dimensions: coupling biodiversity measures from the ground and the sky**. Science Advances 11:eadr0278.

Shaoning L.V., Zhao T., Hu Y., et al. 2025. **Assessing the freeze-thaw dynamics with the diurnal amplitude variations algorithm utilizing NEON soil temperature profiles**. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing.

Sweeney C.P., Peterman P., Zhao K., et al. 2025. **Three-dimensional habitat structure drives avian functional and trait diversity across North America**. Ecology and Evolution 15:e70988.

Tiana N., Koch B.S., Banta J.A., et al. 2025. **Consequences of climate change on the emergence of pathogenic, environmentally acquired nontuberculous mycobacteria.** Open Forum Infectious Diseases (p. ofaf232), Oxford University Press.

Uyekawa J., Leland J., Bergl D., et al. 2025. **Machine Learning-Based Prediction of Ecosystem-Scale CO<sub>2</sub> Flux Measurements.** Land 14(1):124.

Yu W., Huang W., Hammel K.E., et al. 2025. **Microbial taxa and interactions can predict lignin mineralization in soil at continental scale.** Soil Biology and Biochemistry 2025:109763.

Aguilos M., Sun G., Liu N, et al. 2024. **Energy availability and leaf area dominate control of ecosystem evapotranspiration in the southeastern US.** Agricultural and Forest Meteorology 349:109960.

Ayres E.A., Reichle R.H., Colliander A., et al. 2024. **Validation of remotely sensed and modeled soil moisture at forested and unforested NEON sites.** IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing 17:14248-14264.

Bradfield S.J. 2024. **Dynamics of stress and mortality for grass dominated ecosystems: an interplay of water limitation, heat, and erosion.** Dissertation, Colorado State University, Fort Collins CO.

Dallas T.A., Holian L.A., and Ten Caten C. 2024. **Geographic and temporal distance-decay relationships across taxa.** Oikos 2024:e10269.

Dong L., Chen J.M., Yu W., et al. 2024. **A chlorophyll-constrained semi-empirical model for estimating leaf area index using a red-edge vegetation index.** Computers and Electronics in Agriculture 220:108891.

Doser J.W., Finley A.O., Kéry M., et al. 2024. **SpAbundance: an R package for single-species and multi-species explicit abundance models.** Methods in Ecology and Evolution 15:1024-1033.

Gomasasca U., Duveiller G., Pacheco-Labrador J., et al. 2024. **Satellite remote sensing reveals the footprint of biodiversity on multiple ecosystem functions across the NEON eddy covariance network.** Environmental Research: Ecology 3:045003.

Haas H., Kalin L., Sun G., et al. 2024. **Understanding the effect of afforestation on water quantity and quality at watershed scale by considering the influences of tree species and local moisture recycling.** Journal of Hydrology 640:131739.

Hansen P.M., Even R., King A.E., et al. 2024. **Distinct, direct and climate-mediated environmental controls on global particulate and mineral-associated organic carbon storage.** Global Change Biology 30(1):e17080.

Hu J. 2024. **Investigating the Soil-Plant-Atmosphere Interactions across National Ecological Observatory Network (NEON) Sites in the USA.** Dissertation, University of Wisconsin-Madison.

Journé V., Bogdziewicz M., Courbaud B., et al. 2024. **The relationship between maturation size and maximum tree size from tropical to boreal climates.** Ecology Letters 27:e14500.

Liu S., Wang Z., Lin Z., et al. 2024. **Corrigendum to “Spectra-phenology of foliar functional traits using time-series Sentinel-2 data” [Remote Sensing of Environment 305:114082].** Remote Sensing of Environment 307:114171.

Liu S., Wang Z., Lin Z., et al. 2024. **Spectra-phenology of foliar functional traits using time-series Sentinel-2 data.** Remote Sensing of Environment 305:114082.

Mahaur A. 2024. **Aboveground biomass density estimation using deep learning: insight from NEON ground-truth data and simulated GEDI waveform.** Thesis, Michigan Technological University, Houghton MI.

Masuda Y., Mise K., Xu Z., et al. 2024. **Global soil metagenomics reveals ubiquitous yet previously-hidden predominance of Deltaproteobacteria in nitrogen-fixing microbiome.** Microbiome 12:95.

Novick K.A., Ficklin D.L., Grossiord C., et al. 2024. **The impacts of rising vapour pressure deficit in natural and managed ecosystems.** Plant, Cell & Environment 47:3561-3589.

Qiu T., Clark J.S., Kovach K.R., et al. 2024. **Remotely sensed crown nutrient concentrations modulate forest reproduction across the contiguous United States.** Ecology 2024:e4366.

Rogers J.A., Robertson K.M., Hawbaker T.J., et al. 2024. **Classifying Plant Communities in the North American Coastal Plain with PRISMA Spaceborne Hyperspectral Imagery and the Spectral Mixture Residual.** JGR Biogeosciences 129(9):e2024JG008217.

Rooney E.C. and Possinger A.R. 2024. **Climate and ecosystem factors mediate soil freeze-thaw cycles at the continental scale.** Journal of Geophysical Research: Biogeosciences 129:e2024JG008009.

Tolan J., Yang H.-I., Nosarzewski B., et al. 2024. **Very high resolution canopy height maps from RGB imagery using self-supervised vision transforme and convolutional decoder trained on aerial lidar.** Remote Sensing of Environment 300(1):113888.

Tran K.H. 2024. **Generation of synthetic gap-free time series by bridging satellite and near-surface observation for advancing land surface phenology detections.** Dissertation, South Dakota State University, Brookings SD.

Wang C., He T., Song D.-X., et al. 2024. **Comparison of change-based and shape-based data fusion methods in fine-resolution land surface phenology monitoring with Landsat and Sentinel-2 data.** *Science of the Total Environment* 927:172014.

Wang Y. and Fang H. 2024. **Derivation and evaluation of LAI from the ICESat-2 Data over the NEON Sites: The impact of segment size and beam type.** *Remote Sensing* 16(16):3078.

Wang Z., Kumar J., Weintraub-Leff S.R., et al. 2024. **Upscaling soil organic carbon measurements at the continental scale using multivariate clustering analysis and machine learning.** *Journal of Geophysical Research: Biogeosciences* 129(2):e2023JG007702.

Waterman T.S. 2024. **Representing the heterogeneity of land-atmosphere interactions in earth system modeling.** Dissertation, Duke University, Durham NC.

Xiao H., Song C., Li S., et al. 2024. **Global wetland methane emissions from 2001 to 2020: Magnitude, dynamics and controls.** *Earth's Future* 12: e2024EF004794.

Zahn E. and Bou-Zeid E. 2024. **Observational partitioning of water and CO<sub>2</sub> fluxes at National Observatory Network (NEON) sites: A 5-year dataset of soil and plant components for spatial and temporal analysis.** *Earth System Science Data* 16:5603-5624.

Aster R.C., Ringler A.T., Anthony R.E., et al. 2023. **Increasing ocean wave energy observed in Earth's seismic wavefield since the late 20<sup>th</sup> century.** *Nature Communications* 14:6984.

Atkinson M.S. 2023. **Impacts of the protist pathogen *Perkinsea* on amphibian species and communities.** Dissertation, University of Central Florida, Orlando FL.

Atkinson M.S. and Savage A.E. 2023. **Widespread amphibian *Perkinsea* infections associated with *Ranidae* hosts, cooler months and *Ranavirus* co-infection.** *Journal of Animal Ecology* 92(9):1856-1868.

Biazzo I. 2023. **Responses of a pine flatwoods specialist treefrog to prescribed fire.** Dissertation, University of Central Florida, Orlando, FL.

Bogdziewicz M., Aravena Acuña M.-C., Andrus R., et al. 2023. **Linking seed size and number to trait syndromes in trees.** *Global Ecology and Biogeography*, 32, 683–694.

Bogdziewicz M., Calama R., Courbaud B., et al. 2023. **How to measure mast seeding?** *New Phytologist*, 239: 830-838.

Brown L.A., Morris H., Meier C., et al. 2023. **Stage 1 validation of plant area index from global ecosystem dynamics investigation.** *IEEE Geoscience and Remote Sensing Letters*, GRSL-00503-2023.R2.

Chuckran P.F., Flagg C., Propster J., et al. 2023. **Edaphic controls on genome size and GC content of bacteria in soil microbial communities.** *Soil Biology and Biochemistry* 178:108935.

Dallas T.A., Ten Caten C., and Holian L.A. 2023. **Temporal variability of carabid beetles as a function of geography, environment, and species.** *Theoretical Ecology* 2023:1-9.

Dellinger T.A., Bielefeld R.R., Sylvia A., et al. 2023. **Survivorship and productivity of Florida sandhill cranes on conservation lands and suburban areas in Florida.** Final Report to the Florida State Wildlife Grants Program. Florida Fish and Wildlife Conservation Commission, Tavares, FL.

Dynarski K.A., Soper F.M., Reed S.C., et al. 2023. **Patterns and controls of foliar nutrient stoichiometry and flexibility across United States forests.** *Ecology* 104(2):e3909.

Edmonds W. D. 2023. **Taxonomic review of the North American dung beetle genus *Melanocanthon* Halffter, 1958 (Coleoptera: Scarabaeidae: Scarabaeinae: Deltochilini).** *Insecta Mundi* 1014:1-28.

Fulk A.J. 2023. **The new age of fire: Exploring the effect of prescribed fire on tick propagation and distribution.** Thesis, University of Kansas, Lawrence, KS.

Hakkenberg C.R., Atkins J.W., Brodie J.F., et al. 2023. **Inferring alpha, beta, and gamma plant diversity across biomes with GEDI spaceborne lidar.** *Environmental Research: Ecology* 2(3):035005.

Hernandez D.J., Kieseewetter K.N., Almeida B.K., et al. 2023. **Multidimensional specialization and generalization are pervasive in soil prokaryotes.** *Nature Ecology & Evolution* 7(9):1408-1418.

Hu J., Hartemink A.E., Desai A.R., et al. 2023. **A continental-scale estimate of soil organic carbon change at NEON sites and their environmental and edaphic Controls.** *Journal of Geophysical Research: Biogeosciences* 128(5):e2022JG006981.

Huang W., Yu W., Yi B., et al. 2023. **Contrasting geochemical and fungal controls on decomposition of lignin and soil carbon at continental scale.** *Nature Communications* 14(1):2227.

Ibanez I., Petri L., Barnett D.T., et al. 2023. **Combining local, landscape, and regional geographies to assess plant community vulnerability to invasion impact.** *Ecological Applications* 33(4):e2821.

Kaspari M., Marshall K.E., Weiser M.D., et al. 2023. **Geographic gradients in a functional trait: Drivers of body size and size diversity of ground invertebrate communities.** *Ecosphere* 15:e4785.

Kaspari M., Weiser M.D., Marshall K.E., et al. 2023. **Temperature–habitat interactions constrain seasonal activity in a continental array of pitfall traps.** *Ecology* 104:e3855.

Li J., Xiao Z., Sun R., et al. 2023. **A method to estimate leaf area index from VIIRS surface reflectance using deep transfer learning.** *ISPRS Journal of Photogrammetry and Remote Sensing* 202:12-527.

Lin W., Yuan H., Dong W., et al. 2023. **Reprocessed MODIS Version 6.1 leaf area index dataset and its evaluation for land surface and climate modeling.** *Remote Sensing* 15(7):1780.

Lombardozzi D.L., Wieder W.R., Sobhani N., et al. 2023. **Overcoming barriers to enable convergence research by integrating ecological and climate sciences: the NCAR-NEON system Version 1.** *Geoscientific Model Development* 16(20):5979-6000.

McNicol G., Fluet-Chouinard E., Ouyang Z., et al. 2023. **Upscaling wetland methane emissions from the FLUXNET-CH4 eddy covariance network (UpCH4 v1. 0): Model development, network assessment, and budget comparison.** *AGU Advances* 4(5):e2023AV000956.

Parsons A.W., Clark J.S., and Kays R. 2023. **Monitoring small mammal abundance using NEON data: are calibrated indices useful?** *Journal of Mammalogy* 104(2):292-302.

Ping J., Henglei X., Hongchun W., et al. 2023. **On the seismic source of function of an underwater explosion.** *Geophysical Journal International* 232:485-503.

Qin C., Pellitier P.T., Van Nuland M.E., et al. 2023. **Niche modelling predicts that soil fungi occupy a precarious climate in boreal forests.** *Global Ecology and Biogeography* 32(7):1127-1139.

Qiu T., Bell A.J., Swenson J.J., et al. 2023. **Habitat-trait interactions that control response to climate change: North American ground beetles (Carabidae).** *Global Ecology and Biogeography* 2023:1-15.

Qiu, T., Aravena Acuña M.-C., Ascoli D., et al. 2023. **Masting is uncommon in trees that depend on mutualist dispersers in the context of global climate and fertility gradients.** *Nature Communications* 14:7998.

Richardson A.D. 2023. **PhenoCam: An evolving, open-source tool to study the temporal and spatial variability of ecosystem-scale phenology.** *Agricultural and Forest Meteorology* 342:109751.

Robertson K., Simonson E.M., Ramirez-Bullon N.R., et al. 2023. **Effects of spatial resolution, mapping window size, and spectral species clustering on remote sensing of plant beta diversity using biodivMapR and hyperspectral imagery.** Journal of Geophysical Research: Biogeosciences 128(7):e2022JG007350.

Sanchez-Zapero J., Camacho F., Martinez-Sanchez E., et al. 2023. **Global estimates of surface albedo from Sentinel-3 OLCI and SLSTR data for Copernicus Climate Change Service: Algorithm and preliminary validation.** Remote Sensing of Environment 287:113460.

Sanchez-Zapero J., Martinez-Sanchez E., Camacho F., et al. 2023. **Surface ALbedo VALedation (SALVAL) platform: Towards CEOS LPV Validation Stage 4 – Application to three global albedo climate data records.** Remote Sensing 15:1081.

Santos F. and Herndon E. 2023. **Plant-soil relationships influence observed trends between manganese and carbon across biomes.** Global Biogeochemical Cycles 37(1):e2022GB007412.

Scott N. 2023. **Relationships between vector mosquitoes and climate change derived from Long Term Ecological Data in the United States.** In BSU Honors Program Theses and Projects. Item 632. Bridgewater State University, Bridgewater, Massachusetts.

Sipps J. and Magruder L.A. 2023. **Modeling uncertainty of GEDI clear-sky terrain height retrievals using a mixture density network.** Remote Sensing 15(23):5594.

Wang C., Jia D., Lei S., et al. 2023a. **Accuracy assessment and impact factor analysis of GEDI leaf area index product in temperate forest.** Remote Sensing 15:535.

Wang J., Yan K., Gao S., et al. 2023b. **Improving the quality of MODIS LAI products by exploiting spatiotemporal correlation information.** IEEE Transactions on Geoscience and Remote Sensing 61:1-19.

Weakley A.S., Kees J.C., Sorrie B.A., et al. 2023. **Studies in the vascular flora of the southeastern United States.** Journal of the Botanical Research Institute of Texas, 17(1):191-257.

Weintraub-Leff S.R., Hall S.J., Craig M.E., et al. 2023. **Standardized data to improve understanding and modeling of soil nitrogen at continental scale.** Earth's Future 11(5):e2022EF003224.

Xu Y., Ding S., Chen P., et al. 2023. **Horizontal geolocation error evaluation and correction on full-waveform LiDAR footprints via waveform matching.** Remote Sensing 15(3):778.

- Yi B., Lu C., Huang W., et al. 2023. **Resolving the influence of lignin on soil organic matter decomposition with mechanistic models and continental-scale data.** *Global Change Biology* 29(20):5968-5980.
- Armstrong S., Khandelwal P., Padalia D., et al. 2022. **Attention-based convolutional capsules for evapotranspiration estimation at scale.** *Environmental Modelling & Software* 152:105366.
- Atkins J.W., Stovall A.E.L., and Silva C.A. 2022. **Open-source tools in R for forestry and forest ecology.** *Forest Ecology and Management* 503:119813.
- Atkins J.W., Walter J.A., Stovall A.E.L., et al. 2022. **Power law scaling relationships link canopy structural complexity and height across forest types.** *Functional Ecology* 36:713–726.
- Babaeian E., Paheding S., Siddique, et al. 2022. **Short- and mid-term forecasts of actual evapotranspiration with deep learning.** *Journal of Hydrology* 612, Part A: 128078.
- Biazzo I. 2022. **Treefrog responses to prescribed fire in a central Florida pine flatwoods-marsh complex.** Project update report to The Nature Conservancy, Kissimmee, FL.
- Biazzo I.N. and Quintana-Ascencio P.F. 2022a. **Canopies, the final frog-tier: exploring responses of a specialist treefrog to prescribed fire in a pyrogenic ecosystem.** *Fire Ecology* 18:24.
- Biazzo I. and Quintana-Ascencio P.F. 2022b. **Potential mechanisms of population decline: Anuran responses to prescribed fire.** Final Report to the Joint Fire Science Program. JFSP Project ID: 19-1-01-27.
- Doby J.R., Daijang L., Folk R.A., et al. 2022. **Aridity drives phylogenetic diversity and species richness patterns of nitrogen-fixing plants in North America.** *Global Ecology and Biogeography* 31:1630–1642.
- Donnelly A., Yu R., Jones K., et al. 2022. **Exploring discrepancies between in situ phenology and remotely derived phenometrics at NEON sites.** *Ecosphere* 22(23):e3912.
- Gallo A.C. 2022. **Tracing sources of soil organic matter through time, across ecosystems, and down soil profiles.** Dissertation, Oregon State University, Corvallis, OR.
- Gobron N., Morgan O., Adams J., et al. 2022. **Evaluation of Sentinel-3A and Sentinel-3B ocean land colour instrument green instantaneous fraction of absorbed photosynthetically active radiation.** *Remote Sensing of Environment* 270:112850.
- Guimaraes M.F.S.B. 2022. **Environmental noise tomography: A contribution to the estimation of the crustal structure under the Pantanal Basin.** Final Paper (Bachelor's Degree in Geophysics), Federal University of Pampa, Caçapava do Sul, Brazil.

Hall S.J and Thompson A. 2022. **What do relationships between extractable metals and soil organic carbon concentrations mean?** Soil Science Society of America Journal 86:195-208.B

Hill J.G. 2022. **Revision of *Gymnoscirtetes* (Orthoptera, Acrididae, Melanoplinae): A genus endemic to the grasslands of the southeastern North American Coastal Plain.** ZooKeys 1134:101.

Jones A.B. 2022. **Utilization of blow files (*Phormia regina*) as vertebrate resource diversity indicators.** Thesis, Purdue University, West Lafayette, LA.

Journe V., Andrus R., Aravena M.-C., et al. 2022. **Globally, tree fecundity exceeds productivity gradients.** Ecology Letters 2022(00):1-12.

Khan H. 2022. **Investigating depressional features associated with sinkholes in deep-seated interstratal karst using near-surface seismic reflection techniques in central Florida.** Thesis, Florida Atlantic University, Boca Raton, FL.

Li S., Fang H., Zhang Y., et al. 2022. **Comprehensive evaluation of global CI, FVC, and LAI products and their relationships using high-resolution reference data.** Science of Remote Sensing 2022:1000066.

Marconi S., Weinstein B.G., Zou S., et al. 2022. **Continental-scale hyperspectral tree species classification in the National Ecological Observatory Network.** Remote Sensing of Environment 282(1):113264.

Musinsky J., Goulden T., Wirth G., et al. 2022. **Spanning scales: The airborne spatial and temporal sampling design of the National Ecological Observatory Network.** Methods in Ecology and Evolution 13:1866-1884.

Moon M., Richardson A.D., Milliman T., et al. 2022. **A high spatial resolution land surface phenology dataset for AmeriFlux and NEON sites.** Scientific Data 9:448.

Paull S.H. 2022. **Tick abundance, diversity and pathogen data collected by the National Ecological Observatory Network.** Gigabyte 2022:1-11.

Possinger A.R., Heckman K.A., Bowman M.M., et al. 2022. **Lignin and fungal abundance modify manganese effects on soil organic carbon persistence at the continental scale.** Geoderma 425:116070.

Qiu, T., Andrus, R., Aravena, MC., et al. 2022. **Limits to reproduction and seed size-number trade-offs that shape forest dominance and future recovery.** Nature Communications 13:2381.

Rishmawi K., Huang C., Schleeweis K., et al. 2022. **Integration of VIIRS observations with GEDI-Lidar measurements to monitor forest structure dynamics from 2013 to 2020 across the conterminous United States.** Remote Sensing 14:2320.

Robertson K. 2022. **Linking fire and biodiversity – Development of SBG remote sensing applications. Interim report for NASA grant 80NSSC21K1956.** Tall Timbers Research Station, Tallahassee, FL.

Schweiger A. and Laliberte E. 2022. **Plant beta-diversity across biomes captured by imaging spectroscopy.** Nature Communications 13:2767.

Sharma S., Andrus R., Bergeron Y., et al. 2022. **North American tree migration paced by contrasting east-west mechanisms.** Proceedings of the National Academy of Sciences 119(3):e2116691118.

Tang W., Qin J., Yang K., et al. 2022. **Mapping long-term and high-resolution global gridded photosynthetically active radiation using the ISCCP H-series cloud product and reanalysis data.** Earth System Science Data 14:2007–2019.

Ten Caten C., Holian L., and Dallas T. 2022. **Weak but consistent abundance-occupancy relationships across taxa, space and time.** Global Ecology and Biogeography 31(5):968-977.

Waterman T., Bragg A.D., Katul G., et al. 2022. **Examining parameterizations of potential temperature variance across varied landscapes for use in earth system models.** Journal of Geophysical Research: Atmosphere 127:e2021JD036236.

Ye C., Huang W., Hall S.J., et al. 2022. **Association of organic carbon with reactive iron oxides driven by soil pH at the global scale.** Global Biogeochemical Cycles 36(1):e2021GB007128.

Yu W. 2022. **Controls over soil carbon concentration, physical fractions, and decomposition at the continental scale.** Dissertation, Iowa State University, Ames, IA.

Yu W., Huang W., Weintraub-Leff S., et al. 2022. **Where and why do particulate organic matter (POM) and mineral-associated organic matter (MAOM) differ among diverse soils.** Soil Biology and Biochemistry 172:108756.

Yuan K., Zhu Q., Li F., et al. 2022. **Causality guided machine learning model on wetland CH<sub>4</sub> emissions across global wetlands.** Agricultural and Forest Meteorology 324:109-115.

Zhang Y., Freedman Z.B., Hartemink A.E., et al. 2022. **Characterizing soil microbial properties using MIR spectra across 12 ecoclimatic zones.** Geoderma 409(1):115647.

Ayres E., Colliander A., Cosh M.H., et al. 2021. **Validation of SMAP soil moisture at terrestrial National Ecological Observatory Network (NEON) sites show potential for soil moisture retrieval in forested areas.** IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing 14:10903-10918.

Brown L.A., Fernandes R., Djamai N., et al. 2021. **Validation of baseline and modified Sentinel-2 Level 2 Prototype Processor leaf area index retrievals over the United States.** ISPRS Journal of Photogrammetry and Remote Sensing 175:71-87.

Clark J.S., Andrus R., Aubry-Kientz M., et al. 2021. **Continent-wide tree fecundity driven by indirect climate effects.** Nature Communications 12:1242.

Davila A. and Bohlen P.J. 2021. **Hydro-ecological controls on soil carbon storage in subtropical freshwater depressional wetlands.** Wetlands 41:66.

De Jesus C. 2021. **Surveillance and ecology of tick-borne pathogens and tick-host associations of reptiles and amphibians in Florida.** Doctoral dissertation, University of Florida, Gainesville, FL.

De Jesus C., Bhosale C., Wilson K., et al. 2021. **Reptile host associations of *Ixodes scapularis* in Florida and implications for *Borrelia* spp. ecology.** Pathogens 10:999.

Delwiche K.B., Knox S.H., Malhotra A., et al. 2021. **FLUXNET-CH4: A global, multi-ecosystem dataset and analysis of methane seasonality from freshwater wetlands.** Earth System Science Data, 13:3607–3689.

Fiorella R.P., Good S.P., Allen S.T., et al. 2021. **Calibration strategies for detecting macroscale patterns in NEON atmospheric carbon isotope observations.** JGR Biogeosciences 126(33):e2020JG005862.

Gualtieri L., Bachmann E., Simons F.J., et al. 2021. **Generation of secondary microseism Love waves: Effects of bathymetry, 3-D structure and source seasonality.** Geophysical Journal International 226(1):192-219.

Hantak M.M., McLean B.S., Li D., et al. 2021. **Mammalian body size is determined by interactions between climate, urbanization, and ecological traits.** Communications Biology 4:972.

Kang Y., Oz Dogan M., Gao F., et al. 2021. **A data-driven approach to estimate leaf area index for Landsat images over the contiguous US.** Remote Sensing 258:112383.

Liu A., Cheng X., and Chen Z. 2021. **Performance evaluation of GEDO and ICESat-2 laser altimeter data for terrain and canopy height retrievals.** Remote Sensing of Environment 264:e112571.

Messer P.W. and Raber B.T. 2021. **A review of Nearctic *Selenophorus* Dejean (Coleoptera: Carabidae: Harpalini) north of Mexico with new species, new synonyms, range extensions, and a key.** Coleopterists Bulletin 75(1):9-55.

Parker S. 2021. **Monitoring landscape and spectral dynamics of subtropical freshwater wetlands that have undergone hydrological restoration.** Thesis, University of Central Florida, Orlando, FL.

Parra A.S. 2021. **Quantifying and understanding vegetation change in the conterminous United States using geospatial data.** Dissertation, University of Nevada, Reno, NV.

Patel K.F., Fansler S.J., Campbell T.P., et al. 2021. **Soil texture and environmental conditions influence the biogeochemical responses of soils to drought and flooding.** Communications Earth & Environment 2:127.

Patel K.F., Smith A.P., Bond-Lamberty B., et al. 2021. **Spatial access and resource limitations control carbon mineralization in soils.** Soil Biology and Biochemistry 162:108427.

Pinto J.N. and Cavender-Bares J. 2021. **Predicting species distributions and community composition using satellite remote-sensing predictors.** Scientific Reports 11:16448.

Qiu T., Sharma S., Woodall C.W., et al. 2021. **Niche shifts from trees to fecundity to recruitment that determine species response to climate change.** Frontiers in Ecology and Evolution 9:863.

Qiu T., Aravena M.-C., Andrus R., et al. 2021. **Is there tree senescence? The fecundity evidence.** Proceedings of the National Academy of Sciences 118:e2106130118.

Ringler A.T., Mason D.B., Laske G., et al. 2021. **Why do my squiggles look funny? A gallery of compromised seismic signals.** Seismological Research Letters 92(6):3873-3886.

Stachewicz J.D., Fountain-Jones N.M., Koontz A., et al. 2021. **Strong trait correlation and phylogenetic signal in North American ground beetle (Carabidae) morphology.** Ecosphere 21(11):e03832.

Weinstein B.G., Graves S.J., Marconi S., et al. 2021. **A benchmark dataset for canopy crown detection and delineation in co-registered airborne RGB, LiDAR and hyperspectral imagery from the National Ecological Observation Network.** PLoS Computational Biology 17(7):e1009180.

Weinstein B.G., Marconi S., Bohlman S.A., et al. 2021. **A remote sensing derived data set of 100 million individual tree crowns for the National Ecological Observatory Network.** eLife 10:e62922.

Yang X., Sun H., Yang Y., et al. 2021. **Recent progress in multi-scaling modeling and simulation of flow and solute transport in porous media.** WIREs Water 2021:e1561.

Yu W., Weintraub S.R., and Hall S.J. 2021. **Climatic and geochemical controls on soil carbon at the continental scale: Interactions and thresholds.** Global Biogeochemical Cycles 35(3):e2020GB006781.

Zhang H., Dong X., Baike X., et al. 2021. **Retrieving high-resolution surface photosynthetically active radiation from the MODIS and GOES-16 ABI data.** Remote Sensing of Environment 260:112436.

Baer A.M. 2020. **Improvements in data quality in LIGO.** Thesis, Christopher Newport University, Newport News, VA.

Brown L.A., Meier C., Morris H., et al. 2020. **Evaluation of global leaf area index and fraction of absorbed photosynthetically active radiation products over North America using Copernicus axonomic error rates affect interpretations of a national-scale ground beetle monitoring program at National Ecological Observatory Network sites. Ground Based Observations for Validation data.** Remote Sensing of Environment 247:111935.

Egli L., LeVan K.E., and Work T.T. 2020. **Taxonomic error rates affect interpretations of a national-scale ground beetle monitoring program at National Ecological Observatory Network sites.** Ecosphere 11(4):e03035.

Farella M. 2020. **Evaluating soil microbial communities and foliar nitrogen across complex landscapes: Insights into terrestrial biogeochemical cycles.** Dissertation, University of Arizona, Tucson, AZ.

Fisher J.B., Lee B., Purdy A.J., et al. 2020. **ECOSTRESS: NASA's next generation mission to measure evapotranspiration from the International Space Station.** Water Resources Research 56(4).

Hall S.J., Ye C., Weintraub S.R. et al. 2020. **Molecular trade-offs in soil organic carbon composition at continental scale.** Natural Geosciences 13:687–692.

Lucardi R.D., Wallace L.E., and Ervin G.N. 2020. **Patterns of genetic diversity in a highly invasive species: Cogongrass (*Imperata cylindrica*) expansion in the invaded range of the southern United States (US).** Plants 9(4):423.

- Luna Diaz N. 2020. **Determination of the seismic moment and dimensions of the seismic source by spectral analysis, applied to large earthquakes in Peru from 1997-2018.** Thesis, Universidad Nacional Mayor de San Marcos, Peru.
- Onisko A.L. 2020. **Biology and management of two invasive *Scleria* species: *Scleria lacustris* and *Scleria macrocarpa*.** Thesis, University of Florida, Gainesville, FL.
- Ringler A.T., Steim J., Wilson D.C., et al. 2020. **Improvements in seismic resolution and current limitations in the Global Seismographic Network.** Geophysical Journal International 220(1):508-521.
- Ritter F. 2020. **The ecohydrological impacts of secondary precipitation processes.** Thesis, University of Illinois at Chicago, IL.
- Shu S., Jain A.K., and Khesghi H.S. 2020. **Investigating wetland and nonwetland soil methane emissions and sinks across the contiguous United States using a land surface model.** Global Biogeochemical Cycles 34(7).
- Smith L.M., Oxenrider K.J., Hayman R.B., et al. 2020. **Refining the distribution of Rafinesque's big-eared bat in Florida.** Southeastern Naturalist 19(3):38-44.
- Sobolev G.A., Zahrzhevskaya N.A., Migunov I.N., et al. 2020. **Effect of magnetic storms on low-frequency seismic noise.** Physics of the Solid Earth 56(3):291-315.
- Wang Z., Chlus A., Geygan R., et al. 2020. **Foliar functional traits from imaging spectroscopy across biomes in eastern North America.** New Phytologist 228:494-511.
- Weinstein B.G., Marconi S., Aubry-Kientz M., et al. 2020. **DeepForest: A Python package for RGB deep learning tree crown delineation.** Methods in Ecology and Evolution 11:1743–1751.
- Yeapaneshnikov V.D. and Yeapaneshnikova I.V. 2020. **Method of early prediction of the moment of earthquake according to the noise of seismic stations.** IOP Conference Series: Earth and Environmental Science 459(3):032010.
- Ayres E. 2019. **Quantitative guidelines for establishing and operating soil archives.** Soil Science Society of America 83:973-981.
- Braunmiller J., Thompson G., and McNutt S.R. 2019. **The January 2014 northern Cuba earthquake sequence: Unusual location and unexpected source mechanism variability.** Bulletin of the Seismological Society of America 109(3):919-928.

- Hinkle R., Benscoter B., Comas X., et al. 2019. **Carbon dynamics of the Greater Everglades watershed and implications of climate change. Final Project Report (7/1/2012-6/30/2019).** USDOE Office of Science, Biological and Environmental Research (SC-23).
- Kim D. and Lekic V. 2019. **Groundwater variations from autocorrelation and receiver functions.** *Geophysical Research Letters* 46:13722–13729.
- McClellan M.D. 2019. **Using hydrogeophysical methods for investigating carbon dynamics in the Greater Everglades watershed: Implications for the spatial and temporal variability in carbon stocks and biogenic gas fluxes.** Dissertation, Florida Atlantic University, Boca Raton, FL.
- Nave L.E., Covarrubias Ornelas A., Drevnick P.E., et al. 2019. **Carbon-mercury interactions in spodosols assessed through density fractionation, radiocarbon analysis, and soil survey information.** *Soil Science Society of America Journal* 83(1):190-202.
- Ritter F., Berkelhammer M., and Beysens D. 2019. **Dew frequency across the US from a network of *in situ* radiometers.** *Hydrology and Earth System Sciences* 23(2):1179-1197.
- Sorensen J.W. 2019. **Disturbance ecology of soil microbial communities in response to the Centralia, PA coal fire.** Dissertation, Michigan State University, East Lansing, MI.
- Ritzwoller M.H. and Feng L.I. 2019. **Overview of pre-and post-processing of ambient noise correlations.** In Nakata N., Gaultieri L. and Fichtner A. (eds): *Seismic Ambient Noise*, pp.144-187. Cambridge University Press.
- Sorensen J.W. 2019. **Disturbance ecology of soil microbial communities in response to the Centralia, PA coal fire.** Dissertation, Michigan State University, East Lansing, MI.
- Weiglein T.L. 2019. **A continental-scale investigation of factors controlling the vulnerability of soil organic matter in mineral horizons to decomposition.** Thesis, Virginia Polytechnic Institute and State University, Blacksburg, VA.
- Frietsch M., Ferreira A.M.G., Vales D., et al. 2018. **On the robustness of seismic moment tensor inversions for mid-ocean earthquakes: The Azores archipelago.** *Geophysical Journal International* 215(1):564-584.
- Gaynor M.L., Ng J., and Laport R.G. 2018. **Phylogenetic structure of plant communities: Are polyploids distantly related to co-occurring diploids.** *Frontiers in Ecology and Evolution* 6:52.
- Hernandez F.A., Parker B.M., Pylant C.L., et al. 2018. **Invasion ecology of wild pigs (*Sus scrofa*) in Florida, USA: The role of humans in the expansion and colonization of an invasive wild ungulate.** *Biological Invasions* 20:1865-1880.

Heyburn R., Nippres S.E.J., and Bowers D. 2018. **Seismic and hydroacoustic observations from underwater explosions off the east coast of Florida.** Bulletin of the Seismological Society of America 108(6):3612-3624.

Kramer M.G. and Chadwick O.A. 2018. **Climate-driven thresholds in reactive mineral retention of soil carbon at the global scale.** Natural Climate Change 8:1104-1108.

Tary J.B., Herrera R.H., and van der Baan M. 2018. **Analysis of time-varying signals using continuous wavelet and synchrosqueezed transforms.** Philosophical Transactions of the Royal Society A: Mathematical, Physical, and Engineering Sciences 376(2126):20170254.

Wilson J.D. 2018. **Modeling microseism generation by inhomogeneous ocean surface waves in Hurricane Bonnie using non-linear wave equation.** Remote Sensing 10(10):1624.

Yan Z., Wang T., Wang L., et al. 2018. **Microscale water distribution and its effects on organic carbon decomposition in unsaturated soils.** Science of the Total Environment 644:1036-1043.

Bailey V.L., Smith A.P., Tfaily M., et al. 2017. **Differences in soluble organic carbon chemistry in pore waters sampled from different pore size domains.** Soil Biology & Biochemistry 107:133-143.

Hoekman D., LeVan K.E., Ball G.E., et al. 2017. **Design for ground beetle abundance and diversity sampling within the National Ecological Observatory Network.** Ecosphere 8(4):e01744.

Huber A. 2017. **Mucking about: Hydrologic regime and soil carbon storage in restored subtropical wetlands.** Thesis, University of Central Florida, Orlando, FL.

McClellan M., Comas X., Benschoter B., et al. 2017. **Estimating belowground carbon stocks in isolated wetlands of the Northern Everglades watershed, central Florida, using ground penetrating radar and aerial imagery.** Journal of Geophysical Research: Biogeosciences 122(11):2804-2816.

Smith A.P., Bond-Lamberty B., Benschoter B.W., et al. 2017. **Shifts in pore connectivity from precipitation versus groundwater rewetting increases soil carbon loss after drought.** Nature Communications 8(1):1335.

Stone D. and Andreu M. 2017. **Direct application of invasive species prioritization: The spatial invasive infestation and priority analysis model.** Ecological Restoration 35(3):255-265.

Bain J.C. 2016. **Coarse root biomass and architecture: Applications of ground penetrating radar.** Dissertation, Old Dominion University, Norfolk, VA.

Mancinelli N.J. 2016. **Constraints on heterogeneity throughout the Earth's mantle from observations of scattered seismic waves.** Dissertation, University of California, San Diego, CA.

Sobolev G.A., Zakrzhevskaya N.A., and Sobolev D.G. 2016. **Triggering of repeated earthquakes.** *Izvestiya, Physics of the Solid Earth* 52:155-172.

Ye L., Lay T., Kanamori H., and Koper K.D. 2016. **Rapidly estimated seismic source parameters for the 16 September 2015 Illapel, Chile  $M_w$  8.3 earthquake.** *Pure and Applied Geophysics* 173:321-332.

Day F.P. 2015. **Advancing understanding of the role of below ground processes in terrestrial carbon sinks through ground-penetrating radar.** Final Report. US Department of Energy Grant SC0008099.

Gardner A.G. and Williges K.A. 2015. ***Praxelis clematidea* (Asteraceae): A new plant invader of Florida.** *Southeastern Naturalist* 14(1).

Geddes E. 2015. **Aquifer performance testing: The Nature Conservancy, Disney Wilderness Preserve, Polk County, FL.** South Florida Water Management District. Technical Publication WS-36.

Ghabbour E.A., Davies G., Sayeed A.A., et al. 2015. **Measuring the total and sequestered organic matter contents of grassland and forest soil profiles in the National Ecological Observatory Network initiative.** *Soil Horizons* 56(6).

Hinkle R., Benschoter B., Comas X., et al. 2015. **Project summary (2012-2015) - carbon dynamics of the Greater Everglades watershed and implications of climate change.** USDOE Office of Science, Biological and Environmental Research (SC-23).

McNamara D.E., Stephenson W.J., Odum J.K., et al. 2015. **Site response in the eastern United States: A comparison of VS30 measurements with estimates from horizontal:vertical spectral ratios.** *Geological Society of America Special Paper* 509:67-79.

Ringler A.T., Hagerty M.T., Holland J., et al. 2015a. **The data quality analyzer: A quality control program for seismic data.** *Computers & Geosciences* 76:96-111.

Ringler A.T., Storm T., Gee L.S., et al. 2015b. **Uncertainty estimates in broadband seismometer sensitivities using microseisms.** *Journal of Seismology* 19:317-327.

van Driel M., Krischer L., Stähler S.C., et al. 2015. **Instaseis: Instant global seismograms based on a broadband waveform database.** *Solid Earth* 6(2):701-717.

Yang X., Liu C., Fang Y., et al. 2015. **Simulations of ecosystem hydrological processes using a unified multi-scale model.** Ecological Modeling 296:93-101.

Enge K.M., Farmer A.L., Mays J.D., et al. 2014. **Survey of winter-breeding amphibian species.** Final report, Florida State Wildlife Grants Project No. 92412216399, Florida Fish and Wildlife Conservation Commission, Gainesville, FL.

Evans A.H. 2014. **Remote sensing of evapotranspiration using automated calibration: Development and testing in the state of Florida.** Dissertation, Florida Atlantic University, Boca Raton, FL.

Loescher H., Ayres E., Duffy P., et al. 2014. **Spatial variation in soil properties among North American ecosystems and guidelines for sampling designs.** PLoS ONE 9(1):e83216.

Lucardi, R.D., Wallace, L.E., and Ervin, G.N. 2014. **Evaluating hybridization as a potential facilitator of successful cogongrass (*Imperata cylindrica*) invasion in Florida, USA.** Biological Invasions 16:2147-2161.

Duever M.J. and Roberts R.E. 2013. **Successional and transitional models of natural South Florida, USA, plant communities.** Fire Ecology 9:110-123.

Lou X. 2013. **Inferred and predicted seismic velocities of the North American mantle.** Dissertation, Northwestern University, Evanston, IL.

Obrebski M., Arduin F., Stutzmann E., et al. 2013. **Detection of microseismic compressional (P) body waves aided by numerical modeling of oceanic noise sources.** Journal of Geophysical Research: Solid Earth 118(8):4312-4324.

Ottmöller L. and Bormann P. 2013. **Examples of interactive data analysis of seismic records using the SEISAN software.** In New Manual of Seismological Observatory Practice 2 (NMSOP-2) (pp. 1-5). Deutsches GeoForschungsZentrum GFZ.

Yuan D., 2013. **Building 3-D crustal model with radial anisotropy in Iceland from ambient seismic noise tomography.** Thesis, University of Houston, Houston, TX.

de Azevedo L.C.B.C. 2012. **Mapping Iceland's crustal structure using ambient seismic noise.** Thesis, University of Houston, Houston, TX.

Bogue R. 2012. **Monitoring and predicting natural hazards in the environment.** Sensor Review 32(1):4-11.

Gonzalez O.F., Alvarez J.L., Moreno B., et al. 2012. **S-wave velocities of the lithosphere-asthenosphere system in the Caribbean region.** Pure and Applied Geophysics 169:101-122.

- Groos J.C., Bussat S., and Ritter J.R.R. 2012. **Performance of different processing schemes in seismic noise cross-correlations.** *Geophysical Journal International* 188(2):498-512.
- Ringler A.T., Edwards J.D., Hutt C.R., et al. 2012. **Relative azimuth inversion by way of damped maximum correlation estimates.** *Computers & Geosciences* 43:1-6.
- Trnkoczy A., Bormann P., Hanka W., et al. 2012. **Site selection, preparation and installation of seismic stations.** In *New Manual of Seismological Observatory Practice 2 (NMSOP-2)* (pp. 1-139). Deutsches GeoForschungsZentrum GFZ.
- Yano T.E. 2012. **Kinematic Earthquake Sources of High and Low Frequencies and Their Relation to Earth Structure.** Dissertation, University of California, Santa Barbara, CA.
- Becker K.E. 2011. **Variability of carbon stock in Florida flatwoods ecosystems undergoing restoration and management.** Thesis, University of Central Florida, Orlando, FL.
- Boughton R.K. and Bowman R. 2011. **Statewide assessment of Florida Scrub-jays on managed areas: A comparison of current populations to the results of the 1992-1993 survey.** A report submitted to the US Fish and Wildlife Service.
- Gonzalez O.F., Alvarez J.L., Moreno B., and Panza G.F. 2011. **S-wave velocities of the lithosphere-asthenosphere system in the Caribbean region.** *Pure and Applied Geophysics* 169:101-122.
- Jacono C.C., Langeland K.A., and Hutchinson J. 2011. **Wright's nutrush: An invader of seasonal wetlands in Florida.** SS-AGR-342. University of Florida, IFAS, Gainesville, FL.
- Molodenskii D.S. 2011. **Changes in the tidal response of the medium before strong earthquakes.** *Seismic Instruments* 47:289-293.
- Trusty J.L. and Ober H.K. 2011. **Determinants of successful groundcover restoration in forests of the Southeastern United States.** *Journal for Nature Conservation* 19(1):34-42.
- Abt D.L., Fischer K.M., French S.W., et al. 2010. **North American lithospheric discontinuity structure imaged by Ps and Sp receiver functions.** *Journal of Geophysical Research: Solid Earth* 115:B09301.
- Chin D.A. 2010. **Thermodynamic consistency of potential evapotranspiration estimates in Florida.** *Hydrological Processes* 25(2):288-301.
- Groos J. 2010. **Broadband seismic noise: Classification and Green's function estimation.** Dissertation, Karlsruhe Institute of Technology, Karlsruhe, Germany.

- Ringler A.T., Gee L.S., Hutt C.R., et al. 2010. **Temporal variations in global seismic station ambient noise power levels.** *Seismological Research Letters* 81(4):605.
- Baba T., Cummins P.R., Thio H.K., et al. 2009. **Validation and joint inversion of teleseismic waveforms for earthquake source models using deep ocean bottom pressure records: A case study of the 2006 Kuril megathrust earthquake.** *Pure and Applied Geophysics* 166:55-76.
- French S.W., Fischer K.M., Syracuse E.M., et al. 2009. **Crustal structure beneath the Florida-to-Edmonton broadband seismometer array.** *Geophysical Research Letters* 36(8).
- Raper D. and Bush M. 2009. **A test of Sporormiella representation as a predictor of megaherbivore presence and abundance.** *Quaternary Research* 71(3):490-496.
- Spalding M.G., Folk M.J., Nesbitt S.A., et al. 2009. **Environmental correlates of reproductive success for introduced resident whooping cranes in Florida.** *Waterbirds* 32(4):538-547.
- Tsai V.C. 2009. **The use of simple physical models in seismology and glaciology.** Dissertation, Harvard University, Cambridge, MA.
- Bensen G.D., Ritzwoller M.H., and Shapiro N.M. 2008. **Broadband ambient noise surface wave tomography across the United States.** *Journal of Geophysical Research* 113:B05306.
- Dewey J.W. and Dellinger J.A. 2008. **Location of the Green Canyon (offshore southern Louisiana) seismic event of February 10, 2006.** U.S. Geological Survey Open-File Report 2008-1184.
- Feldman T. S. 2008. **The plot thickens: Does low density affect visitation and reproductive success in a perennial herb, and are these effects altered in the presence of a co-flowering species?** *Oecologia* 156(4):807-817.
- Jacono CC. 2008. **Seed bank and regeneration ecology of an annual invasive sedge (Scleria lacustris) in Florida seasonal wetlands.** Dissertation, University of Florida, Gainesville, FL.
- Liang C. and Langston C.A. 2008. **Ambient seismic noise tomography and structure of eastern North America.** *Journal of Geophysical Research* 113:B03309.
- Rizou M. 2008. **Evaluation of climactic and ecohydrological effects on longwave radiation and evapotranspiration.** Dissertation, University of Central Florida, Orlando, FL.
- Tauzin B., Debayle E., and Wittlinger G. 2008. **The mantle transition zone as seen by global Pds phases: No clear evidence for a thin transition zone beneath hotspots.** *Journal of Geophysical Research* 113:B08309.

- Bensen G.D. 2007. **Broad-band ambient noise surface wave tomography: Technique development and application across the United States.** Dissertation, University of Colorado, Boulder, CO.
- Bensen G.D., Ritzwoller M.P., Levshin A.L., et al. 2007. **Processing seismic ambient noise data to obtain reliable broad-band surface wave dispersion measurements.** *Geophysical Journal International* 169(3):1239-1260.
- Gonzalez O., Alvarez L., Guidarelli M., et al. 2007. **Crust and upper mantle structure in the Caribbean region by group velocity tomography and regionalization.** *Pure and Applied Geophysics* 164(10):1985-2007.
- Ichinose G.A. and Goldstein P. 2007. **Inversion of far-regional broadband P waves for the estimation of source parameters from shallow depth earthquakes.** *Journal of Geophysical Research* 112:B02304.
- Ishii M. 2007. **Seismological Constraints on the Structure of the Earth's Core.** In D.A. Yuen, S. Maruyama, S. Karato, and B.F. Windley (editors), *Superplumes: Beyond Plate Tectonics*, pp. 31-68. Dordrecht: Springer Netherlands.
- Main M.B., Ceilley D.W., and Stansly P. 2007. **Freshwater fish assemblages in isolated South Florida wetlands.** *Southeastern Naturalist* 6(2):343-350.
- O'Reilly A.M. 2007. **Effects of the temporal variability of evapotranspiration on hydrologic simulation in central Florida.** U.S. Geological Survey Scientific Investigations Report 2007-5100.
- Rosen B.H. and Mortellaro S. 2007. ***Microspora (Chlorophyta)* as a potential indicator of wetland hydrology.** *Florida Scientist* 70(30):209-218.
- Tsai V.C. and Ekström G. 2007. **Analysis of glacial earthquakes.** *Journal of Geophysical Research* 112(F03S22).
- Bissett N. J. 2006. **Restoration of dry prairie by direct seeding: Methods and examples.** Pages 231-237 in Noss R.F., editor. *Land of Fire and Water: The Florida Dry Prairie Ecosystem.* Proceedings of the Florida Dry Prairie Conference.
- Henson I., Gupta I., and Wagner R. 2006. **Formation of ground truth databases and related studies and regional seismic monitoring research.** Technical Report DTRA-TR-03-21, Defense Threat Reduction Agency, Fort Belvoir, VA.
- Minnow M.C. and Minno M. 2006. **Conservation of the Arogos skipper, *Atrytone arogos arogos* (Lepidoptera: Hesperiiidae) in Florida.** Pages 219-222 in Noss R.F., editor. Proceedings of the Florida Dry Prairie Conference.

- Spechler R.M. and Kroening S.E. 2006. **Hydrology of Polk County, Florida**. U.S. Geological Survey.
- Wilson J.D. 2006. **Quantifying hurricane wind speed with undersea sound**. Dissertation, Massachusetts Institute of Technology, Cambridge, MA.
- Dusek R.J., Spalding M.G., Forrester D.J., et al. 2005. **Morbidity and mortality factors in pre-fledged Florida sandhill crane (*Grus canadensis pratensis*) chicks**. In Chavez-Ramirez F, ed. 2. Proceedings of the Ninth North American Crane Workshop, Jan 17-20, 2003. Sacramento, California: North American Crane Working Group, pp. 7-14.
- Kosel K.J. 2005. **Site preparation methods for restoration of non-native pasturelands to native upland habitat**. Thesis, University of Central Florida, Orlando, FL.
- Liu R.F., Chen Y.T., Ren X., et al. 2005. **The November 14, 2001 west of Kunlun Mountain Pass earthquake: An earthquake with unsaturated surface wave magnitude**. Acta Seismologica Sinica 18(5):499-509.
- McNamara D.E., Buland R.P., and Benz H.M. 2005a. **An assessment of the high-gain streckeisen STS2 seismometer for routine earthquake monitoring in the United States**. USGS Open File Report 2005-1437.
- McNamara D.E., Buland R.P., Benz H.M., et al. 2005b. **An assessment of seismic noise levels for the Advanced National Seismic System backbone network and selected regional broadband stations**. USGS Open File Report 2005-1077.
- Baptiste J.K. 2004. **Development of an iterative method of station average receiver function production with application to Russia and the Caribbean region**. Dissertation, Texas Tech University, Lubbock, TX.
- Dusek R.J., Spalding M.G., Forrester D.J., et al. 2004. ***Haemoproteus balearicae* and other blood parasites of free-ranging Florida sandhill crane**. Journal of Wildlife Diseases 40(4):682-687.
- Fnais M.S. 2004. **The crustal and upper mantle shear velocity structure of eastern North America from the joint inversion of receiver function and surface-wave dispersion**. Dissertation, Saint Louis University, St. Louis, MO.
- Jenkins A., Gordon D.R., and Kitajima K. 2004. **Additional mycorrhizae inoculum unnecessary in pastures restored to longleaf pine flatwoods**. Ecological Restoration 22:226.
- Jenkins A., Gordon D.R., and Kitajima K. 2004. **Restoration of planted pasture to pine flatwoods: I. contribution of soil seed banks**. The Nature Conservancy, Maitland, FL.

Jenkins A., Gordon D.R., and Renda M. 2004. **Native alternatives for non-native turfgrasses in central Florida: Germination and responses to cultural treatments.** Restoration Ecology 12(2):190-199.

McNamara D.E. and Buland R.P. 2004. **Ambient noise levels in the continental United States.** Bulletin of the seismological society of America 94(4):1517-1527.

O'Leary G., Alvarez L., Chimera G., et al. 2004. **Crust and upper mantle structure in the Caribbean region by group velocity tomography and regionalization.** Technical Report. Abdus Salam International Centre for Theoretical Physics, Trieste, Italy.

Miller-Jenkins A. 2003. **Seed banking and vesicular-arbuscular mycorrhizae in pasture restoration in Central Florida.** Thesis, University of Florida, Gainesville, FL.

Walker J., Krantz S., Mayfield B., et al. 2003. **Exotic bark beetle survey 2003.** Report #2003-07-EBBS-01. Florida Department of Agriculture and Consumer Services, Division of Plant Industry, Gainesville, FL.

Benetatos C., Roumelioti Z., Kiratzi A., et al. 2002. **Source parameters of the M 6.5 Skyros Island (North Aegean Sea) earthquake of July 26, 2001.** Annals of Geophysics 45(3/4):513-526.

Crumpacker, D.W., Box, E.O., and Hardin, E.D. 2002. **Use of plant climatic envelopes to design a monitoring system for early biotic effects of climatic warming.** Florida Scientist 65(3):159-184.

Orzell S.L. and Bridges E.L. 2002. **Notes on *Carphephorus odoratissimus* (Asteraceae) in peninsular Florida U.S.A.** SIDA, Contributions to Botany 20(2):559-569.

Drake J.B. and Weishampel J.F. 2001. **Simulating vertical and horizontal multifractal patterns of a longleaf pine savannah.** Ecological Modeling 145(2-3):129-142.

Gordon D.R., Miller A., Renda M., et al. 2001. **Florida native turfgrass investigation.** The Nature Conservancy, University of Florida, Gainesville, FL.

Jacono C.C. 2001. ***Scleria lacustris* (Cyperaceae), an aquatic and wetland sedge introduced to Florida.** SIDA 19(4):1163-1170.

Drake J. and Weishampel J. 2000. **Multifractal analysis of canopy height measures in a longleaf pine savanna.** Forest Ecology and Management 28:121-127.

McLaughlin K.L., Gault A., and Brown D.J. 2000. **Infrasound detection of rocket launches.** In Proceedings of the 22nd Annual Seismic Research Symposium: Technology for Monitoring the Comprehensive Nuclear Test-Ban Treaty, pp. 219-230.

The Nature Conservancy. 2000. **Proceedings of the Upland Restoration Workshop**. The Nature Conservancy, Kissimmee, FL.

Vines H.L. 1999. **Vegetation dynamics associated with wetland restoration at the Disney Wilderness Preserve, FL**. Thesis, University of Central Florida, Orlando, FL.

Finn L.S. 1998. **Environmental parameters and use of abandoned trailer and 'bat-condo' by the Southeastern big-eared bat**. Final report to The Nature Conservancy, Kissimmee, FL.

Houston P. 1998. **Development of an optimal water table well monitoring network using kriged water level contour maps at Disney Wilderness Preserve**. The Nature Conservancy, Kissimmee, FL.

Leonard M. 1998. **The Florida scrub-jay at the Disney Wilderness Preserve**. Thesis, University of Central Florida, Orlando, FL.

Reed K.L. 1998. **Status of the gopher tortoise, *Gopherus polyphemus*, at the Disney Wilderness Preserve**. Thesis, University of Central Florida, Orlando, FL.

Akers E.C. 1997. **Aquatic faunal composition of isolated wetlands altered by cattle water holes**. The Nature Conservancy, Kissimmee, FL.

Finn L.S. 1997. **Environmental parameters and use of abandoned trailer and 'bat-condo' by the southeastern big-eared bat *Corynorhinus rafinesquii macrotis* on the Disney Wilderness Preserve**. Interim report to The Nature Conservancy, Kissimmee, FL.

Leonard M. and Stout I.J. 1997. **Xeric upland monitoring of the Disney Wilderness Preserve: Status of the Florida Scrub-jay**. The Nature Conservancy, Kissimmee, FL.

Weishampel J.F., Harding D.J., Boutet J.C., et al. 1997. **Analysis of laser altimeter waveforms for forested ecosystems of central Florida**. Proc. SPIE 3059. Advances in Laser Remote Sensing for Terrestrial and Oceanographic Applications.

Finn L.S. 1996. **Roosting and foraging ecology of a southeastern big-eared bat (*Corynorhinus rafinesquii macrotis*) maternity colony in central Florida**. Final report to The Nature Conservancy, Kissimmee, FL.

Richardson J., Williams D., Folk M., et al. 1996. **Reedy Creek/Lake Marion Creek watershed conservation analysis project**. Greater Orlando Aviation Authority, Orlando, FL.

Wertschnig B. and Duever M. 1996. **Restoration of improved pastures in central Florida pine flatwoods communities**. Proceedings of the Annual Conference on Ecosystems Restoration and Creation. Vol. 23. Hillsborough Community College, 1996.

Causey P.D. 1995. **Development of a cultural resource management plan for the Disney Wilderness Preserve, Kissimmee, Florida.** Thesis, University of South Florida, Tampa, FL.

Finn L.S. 1995. **Roosting and foraging ecology of a southeastern big-eared bat (*Corynorhinus rafinesquii macrotis*) maternity colony in central Florida.** Report to The Nature Conservancy, Kissimmee, FL.

Ecotech Consultants Inc. 1994. **Comprehensive vegetation community analysis for the Walker Tract of the Disney Wilderness Preserve.** The Nature Conservancy, Kissimmee, FL.

### Flint Rock Preserve

Anderson C.T., Dietz S.L., Pokswinski S.M., et al. 2021. **Traditional field metrics and terrestrial LiDAR predict plant richness in southern pine forests.** Forest Ecology and Management 491:119118.

Minogue P., Sharma A., McKeithen J., et al. 2021a. **Management of titi (*Cyrilla racemiflora* L.) in restoration of ephemeral wetlands.** Final report for FWC Contract No. 13416 TA 21A05, FY 2020-2021. Florida Fish and Wildlife Commission, Tallahassee, FL.

Minogue P., Sharma A., McKeithen J., et al. 2021b. **Management of titi (*Cyrilla racemiflora* L.) in restoration of ephemeral wetlands.** Mid-term report for FWC Contract No. 13416 TA 21A05, FY 2020-2021. Florida Fish and Wildlife Commission, Tallahassee, FL.

Minogue P., Sharma A., McKeithen J., et al. 2020. **Management of titi (*Cyrilla racemiflora* L.) in restoration of ephemeral wetlands.** Midterm report for FWC Contract No. 13416, FY 2019-2020. Florida Fish and Wildlife Commission, Tallahassee, FL.

### Jeff Lewis Wilderness Preserve

Barnes D.K. and Burgess S.C. 2025. **Fitness consequences of marine larval dispersal: the role of neighborhood density, arrangement, and genetic relatedness on survival, growth, reproduction, and paternity in a sessile invertebrate.** Journal of Evolutionary Biology 38:28-40.

Gupta A., Bilskie M.V., and Woodson C.B. 2025. **The potential of wetlands and barrier islands as a coastal defense in mitigating the storm surge.** Frontiers in Ecology and Evolution 13:1524570.

Kang Y., Kaplan D.A., and Osland M.J. 2025. **Mangrove freeze resistance and resilience across a tropical=temperate transitional zone.** *Journal of Ecology* 113:94-111.

Biton R. 2024. **Investigating regional-scale differences in the physical structure of *Rhizophora mangle* and *Avicennia germinans* at an expanding range limit in northern Florida.** Thesis, Florida State University, Tallahassee, FL.

Burgess S.C., Powell J., and Bueno M. 2023. **Dispersal, kin aggregation, and the fitness consequences of not spreading sibling larvae.** *Ecology* 2022:e3858.

Koen E.L., Barichivich W.J., and Walls S.C. 2023. **The sands of time: Predicting sea level rise impacts to barrier island habitats.** *Global Ecology and Conservation* 47:e02643.

Breithaupt J.L. 2022. **Annual report - Research in Jeff Lewis Wilderness.** A report to The Nature Conservancy, Kissimmee FL.

Koen E.L., Barichivich W.J., and Walls S.C. 2023. **The sands of time: Predicting sea level rise impacts to barrier island habitats.** *Global Ecology and Conservation* 47:e02643.

Kratzmann M.G. 2022. **U.S. Geological Survey national shoreline change – Summary statistics for updated vector shorelines (1800s-2010s) and associated shoreline change data for the Georgia and Florida coasts.** U.S. Geological Survey Data Report 1156.

Scherer B. and Mast A. 2022. **Red mangrove propagule bacterial communities vary with geographic, but not genetic distance.** *Microbial Ecology* 2022.

Scherer B., Mason O.U., and Mast A.R. 2022. **Bacterial communities vary across populations and tissue type in red mangroves (*Rhizophora mangle*, Rhizophoraceae) along an expanding front.** *FEMS Microbiology Ecology* 98(12):fiac139.

Snyder C.M., Feher L.C., Osland M.J., et al. 2022. **The distribution and structure of mangroves (*Avicennia germinans* and *Rhizophora mangle*) near a rapidly changing range limit in the northeastern Gulf of Mexico.** *Estuaries and Coasts* 45:181-195.

Steinmuller H.E., Breithaupt J.L., Engelbert K.M., et al. 2022. **Coastal wetland soil carbon storage at mangrove range limits in Apalachicola Bay, FL: Observations and expectations.** *Frontiers in Forests and Global Change* 5:852910.

- Yao Q., Cohen M., Liu K., et al. 2022. **Mangrove expansion at poleward range limits in North and South America: Late-Holocene climate variability or Anthropocene global warming?** *Catena* 216:106413.
- Burgess S.C. and Bueno M. 2021. **When does growth rate influence fitness in a colonial marine invertebrate?** *Marine Biology* 168:5.
- Enge K.M., Smith B.S., Talley B.L., et al. 2021. **Coastal observations of alligator snapping turtles in the Florida Panhandle.** *Florida Field Naturalist* 49(3):138-147.
- Godwin R.L. and Bond J.E. 2021. **Taxonomic revision of the New World members of the trapdoor spider genus *Ummidia* Thorell (Araneae, Mygalomorphae, Halonoproctidae).** *ZooKeys* 1027:1-165.
- Peterson C. 2021. **Migration, habitat use, and predator-prey dynamics of coastal sharks in the northeast Gulf of Mexico.** Dissertation, Florida State University, Tallahassee, FL.
- Ware M., Ceriani S.A., Long J.W., et al. 2021. **Exposure of loggerhead sea turtle nests to waves in the Florida Panhandle.** *Remote Sensing* 13:2654.
- Wang P., Adam J.D., Cheng J., et al. 2020. **Morphological and sedimentological impacts of Hurricane Michael along the northwest Florida coast.** *Journal of Coastal Research* 36(5):932-950.
- Burgess S.C., Sander L., and Bueno M. 2019. **How relatedness between mates influences reproductive success: An experimental analysis of self-fertilization and biparental inbreeding in a marine bryozoan.** *Ecology and Evolution* 9:11353-11366.
- Garrison S.R. and Fuentes M.M. 2019. **Marine debris at nesting grounds used by the Northern Gulf of Mexico loggerhead recovery unit.** *Marine pollution bulletin* 139:59-64.
- Beckwith V.K. and Fuentes M.M.P.B. 2018. **Microplastic at nesting grounds used by the northern Gulf of Mexico loggerhead recovery unit.** *Marine Pollution Bulletin* 131, Part A:32-37.
- Amend M.E. 2017. **Applying ecological gap analysis as a tool for restoration planning.** Thesis. Harvard University, Cambridge, MA.
- Hadden C.S. and Cherkinsky A. 2017. **Carbon reservoir effects in eastern oyster from Apalachicola Bay, USA.** *Radiocarbon* 2017:1-20.

Smith B.S. 2010. **Patterns of nonbreeding snowy plover (*Charadrius alexandrinus*), piping plover (*C. melodus*), and red knot (*Calidris canutus*) distribution in northwest Florida.** Florida Field Naturalist 38(2):43-91.

Elliott-Smith E., Haig S.M., and Powers B.M. 2009. **Data from the 2006 International Piping Plover Census.** U.S. Geological Survey Data Series 426.

Lott C.A. 2009. **Distribution and abundance of piping plovers (*Charadrius alexandrinus*) on the west coast of Florida before and after the 2004/2005 hurricane seasons.** Final Report to the US Army Corps of Engineers, ERDC/FL TR-09-13.

Wang S.Y., Manausa M., Dean R.G., et al. 2007. **Combined total storm tide frequency restudy for Dog Island in Franklin County, Florida.** Beaches and Shores Resource Center, Institute of Science and Public Affairs, Florida State University, Tallahassee, FL.

Johnson A.F. and Gulledge K. 2005. **Update to a 1992 assessment of Florida's remaining coastal upland natural communities.** Florida Natural Areas Inventory, Tallahassee, FL.

Schneider J.C. and Kruse S.E. 2006. **Assessing selected natural and anthropogenic impacts on freshwater lens morphology on small barrier islands: Dog Island and St. George Island, Florida, USA.** Hydrogeology Journal 14:131-145.

Johnson A.F. and Gulledge K. 2005. **Update to a 1992 assessment of Florida's remaining coastal upland natural communities.** Florida Natural Areas Inventory, Tallahassee, FL.

Sandford F. 2003. **Physical and chemical analysis of the siliceous skeletons in six sponges of two groups (*Demospongiae* and *Hexactinellida*).** Microscopy Research and Technique 62:336-355.

Sanford F. 2003. **Population dynamics and epibiont associations of hermit crabs (*Crustacea: Decapoda: Paguriodea*) on Dog Island, Florida.** Memoirs of Museum Victoria 60(1):45-52.

Schneider J.C. and Kruse S.E. 2003. **A comparison of controls on freshwater lens morphology of small carbonite and siliciclastic islands: Examples from barrier islands in Florida.** Journal of Hydrology 284(1-4):253-269.

Schneider J.C. 2003. **Hydrogeology and submarine groundwater discharge on sandy barrier islands: Dog Island and St. George Island, Florida.** Dissertation, University of South Florida, Tampa, FL.

Huang W., Jones W.K., and Wu T.S. 2002. **Modelling wind effects on subtidal salinity in Apalachicola Bay, Florida.** Estuarine, Coastal and Shelf Science 55(1):33-46.

- Schneider J.C. and Kruse S.E. 2001. **Characterization of freshwater lenses for construction of groundwater flow models on two sandy barrier islands, Florida, USA.** First International Conference on Saltwater Intrusion and Coastal Aquifers – Monitoring, Modeling, and Management. Essaouira, Morocco, April 23-25, 2001.
- Buerkle A. 2000. **Morphological variation among migratory and non-migratory populations of Prairie Warblers.** The Wilson Bulletin 112(1):99-107.
- Kinsella J.M. and Forrester D.J. 1999. **Parasitic helminths of the common loon, *Gavia immer*, on its wintering grounds in Florida.** Journal of the Helminthological Society of Washington 66(1):1-6.
- Forrester D.J., Davidson, W.R., Lange R.E., et al. 1997. **Winter mortality of Common Loons in Florida coastal waters.** Journal of Wildlife Diseases 33(4):833-847.
- Sandford F. and Brown C. 1997. **Gastropod shell substrates of the Florida hermit-crab sponge, *Spongosorites suberitoides*, from the Gulf of Mexico.** Bulletin of Marine Science 61(2):215-223.
- Stone G.W. and Stapor F.W. 1996. **A nearshore sediment transport model for the northeast Gulf of Mexico coast, USA.** Journal of Coastal Research 12(3):786-793.
- Sandford F. 1995. **Sponge/shell switching by hermit crabs, *Pagurus impressus*.** Invertebrate Biology 114(1):73-78.
- Tanner W.F. 1992. **Late Holocene sea-level changes from grain-size data: Evidence from the Gulf of Mexico.** The Holocene (2,3):249-254.
- Alexander L.L. 1991. **Patterns of mortality among Common Loons wintering in the northeastern Gulf of Mexico.** Florida Field Naturalist 19(3):73-79.
- Livingston R.J. 1991. **Dog Island, a barrier island ecosystem.** Center for Aquatic Research and Resource Management, Florida State University, Tallahassee, FL.
- Tanner W.F. 1991. **The “Gulf of Mexico” late Halocene sea level curve and river delta history.** Gulf Coast Association of Geological Societies Transactions 41:583-589.
- Rudlow A. 1988. **Habitat preferences, movement, size frequency patterns and reproductive seasonality of the lesser electric ray, *Narcine brasiliensis*.** Gulf of Mexico Science 10(2).
- Edmiston H.L. and Tuck H.A. 1987. **Resource inventory of the Apalachicola River and Bay drainage basin.** Office of Environmental Services, Florida Game and Fresh Water Fish Commission, Apalachicola, FL.

Anderson L.C. 1986. **Noteworthy plants from North Florida. II.** SIDA, Contributions to Botany 11(4):379-384.

Anderson L.C. and Alexander L.L. 1985. **The vegetation of Dog Island, Florida.** Florida Scientist 48(4):232-251.

Otvos E.G. 1985. **Barrier island genesis – questions of alternatives for the Apalachicola coast, northeastern Gulf of Mexico.** Journal of Coastal Research 1(3):267-291.

Trexler J.C. 1985. **Variation in the degree of viviparity in the sailfin molly, *Poecilia latipinna*.** Copeia 1985(4):999-1004.

Livingston R.J. 1984. **The ecology of the Apalachicola Bay system: An estuarine profile.** Report No. FWS/OBS 82.05, US Fish & Wildlife Service, Slidell, LA.

Milon J.W. 1984. **Hedonic amenity valuation and functional form specification.** Land Economics 60(4):378-387.

Otvos E.G. 1984. **Alternate interpretations of barrier island evolution: Apalachicola coast, northwest Florida.** Litoralia 1(1):9-21.

Spicola J.J. 1984. **Asymmetry of the “a-b-c” model with regard to the evolution of Dog Island, Florida.** Thesis, Florida State University, Tallahassee, FL.

Johnston S.A. Jr. 1983. **Preliminary report on *Avicennia germinans* on Isle de Chien (Dog Island), Franklin County, Florida.** Tropical Ecology 24:13-18.

### John J. Pescatello Torchwood Hammock Preserve

Stalter R., Lynch P., Franxhi E., et al. 2021. **The vascular flora of the John J. Pescatello Torchwood Hammock Preserve, Little Torch Key, Florida.** Bios 91(4):197-202.

Stalter R. 2020. **Some observations on invasive vascular plant species of the eastern United States, New York to the Florida Keys.** International Journal on Agriculture Research and Environmental Sciences 1(1).

Roberts R., Richardson D., Roberts L., et al. 2017. **Tropical hammocks of Florida: A historical and contemporary perspective.** Florida Scientist 80(2/3):77-116.

Wetterer J.K. 2017. **Geographic distribution of *Temnothorax allardycei* (Hymenoptera: Formicidae).** Transactions of the American Entomological Society 143(1):73-77.

- Stiling P. 2010. **Death and decline of a rare cactus in Florida.** *Castanea* 75(2):190-197.
- Reardon B.J. and Brooks W.R. 2009. **Vegetative community compositional gradients of tropical hardwood hammocks along the Florida Keys.** *Biotropica* 41(1):27-36.
- Meadows D.G., Caballero J.P., Kruse S.E., et al. 2004. **Variation of salinity in brackish-water lenses of two Florida Keys.** *Journal of Coastal Research* 20(2):386-400.
- Negron-Ortiz V. and Strittmatter L.I. 2004. **Embryology of floral dimorphism and gender system in *Consolea corallicola* (Cactaceae), a rare species of the Florida Keys.** *Haseltonia* 10:16-25.
- Stiling P., Moon D., and Gordon D.R. 2004. **Endangered cactus restoration: Mitigating the non-target effects of a biological control agent (*Cactoblastis cactorum*) in Florida.** *Restoration Ecology* 12(4):605-610.
- Sklad E., Bartuska A., Randall J., et al. 2003. **The Nature Conservancy's conservation accomplishments at risk - Abating the threat of invasive species.** Proceedings, Caribbean Food Crops Society's Invasive Species Symposium, Grenada.
- Stiling P., Rossi A., and Gordon D. 2000. **The difficulties of single factor thinking in restoration: Replanting a rare cactus in the Florida Keys.** *Biological Conservation* 94:327-333.
- Bradley K.A. and Gann GD. 1999. **Status summaries of 12 rockland plant taxa in southern Florida.** Report submitted to the US Fish and Wildlife Service, Vero Beach, FL.
- Gordon D.R. and Kubisiak T. 1998. **RAPD analysis of the last population of a likely Florida Keys endemic cactus.** *Florida Scientist* 61:203-210.
- Johnson D.M. and Stiling P.D. 1998. **Distribution and dispersal of *Cactoblastis cactorum* (Lepidoptera: Pyralidae), an exotic *Opuntia*-feeding moth, in Florida.** *Florida Entomologist* 81(1):12-22.
- Negron-Ortiz V. 1998. **Reproductive biology of a rare cactus, *Opuntia spinosissima* (Cactaceae), in the Florida Keys: Why is seed set very low?** *Sexual Plant Reproduction* 11(4):208-212.
- Johnson D.M. and Stiling P.D. 1996. **Host specificity of *Cactoblastis cactorum* (Lepidoptera: Pyralidae), an exotic *Opuntia*-feeding moth in Florida.** *Environmental Entomology* 25(4):743-748.
- Kass H. 1990. **Once a savior, moth is now a scourge.** *Plant Conservation* 5:3.

Snyder C.M., Feher L.C., Osland M.J., et al. 2022. **The distribution and structure of mangroves (*Avicennia germinans* and *Rhizophora mangle*) near a rapidly changing range limit in the northeastern Gulf of Mexico.** *Estuaries and Coasts* 45:181-195.

Ware M., Ceriani S.A., Long J.W., et al. 2021. **Exposure of loggerhead sea turtle nests to waves in the Florida Panhandle.** *Remote Sensing* 13:2654.

Amend M.E. 2017. **Applying ecological gap analysis as a tool for restoration planning.** Thesis. Harvard University, Cambridge, MA.

Cohen J.B., Durkin M.M., and Zdravkovic M. 2014. **Human disturbance of snowy plovers (*Charadrius nivosus*) in northwest Florida during the breeding season.** *Florida Field Naturalist* 42(1):1-44

Slapcinsky J.L., Gordon D.R., and Menges E. 2010. **Responses of rare plant species to fire across Florida's pyrogenic communities.** *Natural Areas Journal* 30(1):4-19.

Smith B.S. 2010. **Patterns of nonbreeding snowy plover (*Charadrius alexandrinus*), piping plover (*C. melodus*), and red knot (*Calidris canutus*) distribution in northwest Florida.** *Florida Field Naturalist* 38(2):43-91.

Lott C.A. 2009. **Distribution and abundance of piping plovers (*Charadrius alexandrinus*) on the west coast of Florida before and after the 2004/2005 hurricane seasons.** Final Report to the US Army Corps of Engineers, ERDC/FL TR-09-13.

Elliott-Smith E., Haig S.M., and Powers B.M. 2009. **Data from the 2006 International Piping Plover Census.** U.S. Geological Survey Data Series 426.

Smith B.S. 2007. **2006-2007 nonbreeding shorebird survey, Franklin and Wakulla counties, Florida.** Final report to the US Fish and Wildlife Service in fulfillment of Grant # 40181-7-J008. Apalachicola Riverkeeper, Apalachicola, FL.

Gunnels C.M. 1999. **Survey and home range analyses of wintering shorebirds using the Lanark Reef Shorebird Complex, Franklin County, Florida.** Thesis, West Virginia University, Morgantown, VA.

Sprandel G.L., Gore J.A., and Cobb D.T. 1997. **Winter shorebird survey. Final performance report.** Florida Fish and Wildlife Conservation Commission, Tallahassee, FL.

Florida Natural Areas Inventory (FNAI). 2023a. **Gentian Pinkroot (*Spigelia gentianoides*) Monitoring Report**. Report to the US Fish and Wildlife Service, Tallahassee, FL.

Zampieri N.E. 2023. **Longleaf Pine (*Pinus palustris*) growth and population dynamics under climate change: A dendroecological investigation across unique natural communities in FL, USA**. Dissertation, Florida State University, Tallahassee, FL.

Zampieri N.E. and Pau S. 2022. **The effects of fire, climate, and species composition on longleaf pine stand structure and growth rates across diverse natural communities in Florida**. *Forest Ecology and Management* 526:120568.

Florida Natural Areas Inventory (FNAI). 2021b. **Gentian Pinkroot (*Spigelia gentianoides*) Monitoring Report**. Report to the US Fish and Wildlife Service, Tallahassee, FL.

Florida Natural Areas Inventory (FNAI). 2021d. **Status survey of Boykin's lobelia (*Lobelia boykinii*)**. Final Report to the Florida Department of Agriculture and Consumer Services, Tallahassee, FL

Florida Natural Areas Inventory (FNAI). 2021c. **Status survey of gentian pinkroot (*Spigelia gentianoides*) and damage assessment following Hurricane Michael; Jackson, Washington, and Calhoun Counties, Florida – Annual Report**. Report submitted to the Florida Forest Service, Tallahassee, FL.

Durden L.A., Vargo J.T., Hayden J.E., et al. 2017. **Moth bioblitz inventory for Rock Hill Preserve and Apalachee Wildlife Management Area in northwestern Florida**. *Southern Lepidopterists' News* 39(3):242-257.

Froede C.R. and Rucker B.R. 2016. **Unexpected massive kaolinitic sand outcrop at Rock Hill, Washington County, Florida (U.S.A.)**. *Southeastern Geology* 52(1):21-32.

Campbell C. and Peterson C. 2011. **Nuttall's rayless goldenrod**. The Nature Conservancy, Bristol, FL.

Peterson C. and Campbell C. 2011. ***Bigelowia nuttallii* project update**. The Nature Conservancy, Bristol, FL.

Slapcinsky J.L., Gordon D.R., and Menges E. 2010. **Responses of rare plant species to fire in Florida's pyrogenic communities**. *Natural Areas Journal* 30(1):4-19.

Griffin D., Harris R., and Buck W. 1995. **The bryophytes and lichens of Rock Hill Preserve, Florida**. *Evansia* 12(1):31-39.

Anderson L.C. 1986. **Noteworthy plants from North Florida. II.** SIDA, Contributions to Botany 11(4):379-384.

### Saddle Blanket Scrub Preserve

Florida Natural Areas Inventory (FNAI). 2023b. **Florida Statewide Multi-species Rapid Assessment. Annual Progress Report for USFWS Cooperative Agreement Award No. F20AC00028.** Report to the U.S. Fish and Wildlife Service.

Schenk J.J. and Appleton A.D. 2023. **Development differs between independently evolved staminode whorls in the same flower.** American Journal of Botany 110(5):e16171.

Naranjo A.A, Melton A.E, Soltis D., et al. 2022. **Endemism, projected climate change, and identifying species of critical concern in the Scrub Mint clade (Lamiaceae).** Conservation Science and Practice 4(3):e621.

Orzell S.L. and Bridges E.L. 2022. ***Sporobolus osceolensis* (Poaceae), a new species from peninsular Florida.** Phytoneuron 20:1-12.

Schenk J.J., and Appleton A.D. 2021. **Phylogenetic, biogeographical, and morphological diversity of the *Paronychia chartacea* (Caryophyllaceae) clade from the Coastal Plain Floristic Province of North America.** Brittonia 73:383-392.

Weakley A.S., Poindexter D.B., Medford H.C., et al. 2020. **Studies in the vascular flora of the southeastern United States: VI.** Journal of the Botanical Research Institute of Texas 14(2):199-239.

Brewer M.S., Lamb T. and Justice T.C. 2018. **A biogeographical profile of the sand cockroach *Arenivaga floridensis* and its bearing on origin hypotheses for Florida scrub biota.** Ecology and Evolution 8:5254–5266.

Barney R.J. 2016. ***Pachybrachis* Chevrolat (Coleoptera: Chrysomelidae: Cryptocephalinae) endemic to Florida, including descriptions of four new species.** The Coleopterists Bulletin 70(1):31-52.

Germain-Aubrey C.C., Nelson C., Soltis D.E, et al. 2016. **Are microsatellite fragment lengths useful for population-level studies? The case of *Polygala lewtonii* (Polygalaceae).** Applications in Plant Sciences 4(2):1500115.

Menges E.S., Pace-Aldana B., Haller S.J., et al. 2016. **Ecology and conservation of the endangered legume *Crotalaria avonensis* in Florida scrub.** Southeastern Naturalist 15(3):549-574.

Corogin P.T. 2015. ***Sideroxylon* section *Frigoricola* (Sapotaceae): A clade endemic to temperate North America.** Dissertation, University of Florida, Gainesville, FL.

Rosenberry D.O., Lewandowski J., Meinikmann K., et al. 2015. **Groundwater - the disregarded component in lake water and nutrient budgets. Part 1: Effects of groundwater on hydrology.** Hydrological Processes 29:2895-2921.

Bayer A.L. and Stewart J.R. 2011. **Prospects for conservation of an endemic woody species native to Florida *Chionanthus pygmaeus* (pygmy fringetree) through seed and vegetative propagation.** Native Plants Journal 12(1):62-69.

Boughton R.K. and Bowman R. 2011. **Statewide assessment of Florida Scrub-jays on managed areas: A comparison of current populations to the results of the 1992-1993 survey.** A report submitted to the US Fish and Wildlife Service.

Deyrup M. 2011. **Lake Wales Ridge scrub arthropods (FFWCC Project T-15-D).** Florida Fish and Wildlife Conservation Commission, Tallahassee, FL.

Franck A.R. 2011. **Vascular flora of two conservation lands in Charlotte and Desoto Counties, Florida and notes on the flora of Florida.** Journal of the Botanical Research Institute of Texas 5(2):815-835.

Eads A.L. 2010. **Seed and vegetative propagation methods for the rare Florida native species *Chionanthus pygmaeus* (Pygmy fringetree).** Thesis, University of Illinois at Urbana-Champaign, Urbana, IL.

Slapcinsky J.L., Gordon D.R., and Menges E. 2010. **Responses of rare plant species to fire in Florida's pyrogenic communities.** Natural Areas Journal 30(1):4-19.

Corogin P.T. and Judd W.S. 2009. **Floristic inventory of Tiger Creek Preserve and Saddle Blanket Scrub Preserve, Polk County, Florida.** Rhodora 111(9):448-502.

Corogin P.T. 2008. **Floristic inventory of Tiger Creek Preserve and Saddle Blanket Scrub Preserve, Polk County, Florida.** Thesis, University of Florida, Gainesville, FL.

Drewa P.B., Platt W.J., Kwitt C., et al. 2008. **Stand structure and dynamics of sand pine differ between the Florida panhandle and peninsula.** Plant Ecology 196:15-25.

- Spechler R.M. and Kroening S.E. 2007. **Hydrology of Polk County, Florida**. U.S. Geological Survey Scientific Investigations Report 2006-5320.
- Lamb T., Justice T.C., and Justice M. 2006. **Distribution and status of the cockroach *Arenivaga floridensis* Caudell, a Florida sand ridge endemic**. Southeastern Naturalist 5(4):587-598.
- Turner W.R., Wilcove D.S., and Swain H.M. 2006. **State of the scrub: Conservation progress, management responsibilities, and land acquisition priorities for imperiled species of Florida's Lake Wales Ridge**. Archbold Biological Station, Lake Placid, FL.
- McCoy E.D., Hartmann P.P., and Mushinsky H.R. 2004. **Population biology of the rare Florida scrub lizard in fragmented habitat**. Herpetologica 60(1):54-61.
- Diederich P. 2003. **New species and new records of American lichenicolous fungi**. Herzogia 16:41-90.
- Lee T.M. 2002. **Factors affecting ground-water exchange and catchment size for Florida lakes in mantled karst terrain**. Water-Resources Investigations Report 02-4033. U.S. Geological Survey, Tallahassee, FL.
- Hawkes C.V. 2000. **Biological soil crusts and their interactions with vascular plants in a xeric Florida shrubland**. Dissertation, University of Pennsylvania, Philadelphia, PA.
- Marshall S.D., Hoeh W.R., and Deyrup M.A. 2000. **Biogeography and conservation biology of Florida's *Geolycosa* wolf spiders: Threatened spiders in endangered ecosystems**. Journal of Insect Conservation 4:11-21.
- Carrington M.E. and Keeley J.E. 1999. **Comparison of post-fire seedling establishment between scrub communities in Mediterranean and non-Mediterranean climate ecosystems**. Journal of Ecology 87:1025-1036.
- Dolan R.W., Yahr R., and Menges E. 1999. **Three rare, perennial plants endemic to Florida rosemary scrub with different patterns of genetic organization**. American Journal of Botany 86(11):1556-1562.
- Romano G.B. 1999. **Reproductive biology and population molecular genetics of the scrub morning glory *Bonamia grandiflora***. Dissertation, University of Florida, Gainesville, FL.
- Crook R.W. 1998. **Systematics of *Conradina* (Lamiaceae)**. Dissertation, University of Georgia, Athens, GA.

Sacks L.A., Swancar A., and Lee T.M. 1998. **Estimating ground-water exchange with lakes using water-budget and chemical mass-balance approaches for ten lakes in ridge areas of Polk and Highlands Counties, Florida.** USGS Water-Resources Investigations Report 98-4133. Tallahassee, FL.

Carrington M.E. 1997. **Soil seed bank structure and composition in Florida sand pine scrub.** American Midland Naturalist 137(1):39-47.

Namm, L.A. 1997. **Environmental interpretation for Saddle Blanket Lakes Preserve, The Nature Conservancy.** Dissertation, University of Florida, Gainesville, FL.

Parker K.C., Parker A.J., Beaty R.M., et al. 1997. **Population structure and spatial pattern of two coastal populations of Ocala sand pine (*Pinus clausa* (Chapm. ex Engelm.) Vasey ex Sarg. var. *clausa* D.B. Ward).** Journal of the Torrey Botanical Society 124:22-33.

Parker K.C., Parker A.J., Hamrick J.L., et al. 1997. **Allozyme diversity in *Pinus virginiana* (Pinaceae): Intraspecific and interspecific comparisons.** American Journal of Botany 84(10):1372-1382.

Tihansky A.B. and Sacks L.A. 1997. **Evaluation of nitrate sources using nitrogen-isotope techniques in shallow ground water within selected lake basins in the central lakes district, Polk and Highlands Counties, Florida.** USGS Water-Resources Investigations Report 97-4207. Tallahassee, FL.

Carrington M.E. 1996. **Postfire recruitment in Florida sand pine scrub in comparison with California chaparral.** Dissertation, University of Florida, Gainesville, FL.

Evans J.K., Parker A.J., Parker K.C., et al. 1996. **Edaphic properties and foliar elemental concentrations from sand pine (*Pinus clausa*) populations throughout Florida.** Physical Geography 17(3):219-241.

Parker K.C. and Hamrick J.L. 1996. **Genetic variation in sand pine (*Pinus clausa*).** Canadian Journal of Forest Research 26:244-254.

Christman S.P. and Judd W.S. 1990. **Notes on plants endemic to Florida scrub.** Florida Scientist 53(1):52-73.

Bridges E.L. and Orzell S.L. 2024. **Systematics of the unifoliate Floridian *Lupinus* clade (Leguminosae: Papilionoideae)**. *Phytoneuron* 4:1-61.

Florida Natural Areas Inventory (FNAI). 2023b. **Florida Statewide Multi-species Rapid Assessment. Annual Progress Report for USFWS Cooperative Agreement Award No. F20AC00028**. Report to the U.S. Fish and Wildlife Service.

Edmonds W.D. 2022. **Taxonomic review of the North American dung beetle genus *Boreocanthon* Halffter, 1958 (Coleoptera: Scarabaeidae: Scarabaeinae: Deltochilini)**. *Insecta Mundi* 0952:1-65.

Schenk J.J. and Appleton A.D. 2023. **Development differs between independently evolved staminode whorls in the same flower**. *American Journal of Botany* 110(5):e16171.

Zampieri N.E. 2023. **Longleaf Pine (*Pinus palustris*) growth and population dynamics under climate change: A dendroecological investigation across unique natural communities in FL, USA**. Dissertation, Florida State University, Tallahassee, FL.

Lingafelter S.W. 2022. **Revision of *Aneflomorpha* Casey and *Neaneflus* Linsley (Coleoptera: Cerambycidae) of the United States with an illustrated key to species**. *Insecta Mundi* 0954:1-59.

Zampieri N.E. and Pau S. 2022. **The effects of fire, climate, and species composition on longleaf pine stand structure and growth rates across diverse natural communities in Florida**. *Forest Ecology and Management* 526:120568.

Schenk J.J. and Appleton A.D. 2021. **Phylogenetic, biogeographical, and morphological diversity of the *Paronychia chartacea* (Caryophyllaceae) clade from the Coastal Plain Floristic Province of North America**. *Brittonia* 73:383-392.

Williams B.R. 2021. **Population epigenomics and implications for conservation in three plant taxa with limited genetic diversity**. Dissertation, Saint Louis University, St. Louis, MO.

Woo B. 2021. **A new species of pygmy mole cricket (Orthoptera: Tridactylidae) from the Lakes Wales ridge of Florida and new records of *Ellipes eisneri* from the northern Brooksville ridge**. *Journal of Orthoptera Research* 30(2):131-143.

LaGreca S. 2020. ***Chrysothrix bergeri* (Ascomycota: Arthoniales: Chrysothricaceae), a new lichen species from the southeastern United States, the Caribbean, and Bermuda**. *Plant and Fungal Systematics* 65(2):509-514.

- Murphy T.H. 2020. **Taxonomic study of the *Clematis reticulata* species complex (Ranunculaceae: Subgenus *Viorna*)**. Thesis, Austin Peay State University, Clarksville, TN.
- Riley E.G. 2020. **A review of the *Colaspis suilla* species group, with description of three new species from Florida (Coleoptera: Chrysomelidae: Eumolpinae)**. *Insecta Mundi* 0830:1-21.
- Koontz S.M. and Menges E.S. 2019. **Demographics and element occurrences of *Hartwrightia floridana***. A report to the Jacksonville Zoo and Garden, Jacksonville, FL.
- Koontz S.M., Menges E.S., Smith S.A., et al. 2018. **Florida Ziziphus recovery final report November 2018**. Florida Statewide Endangered and Threatened Plant Conservation Program, Florida Forest Service, Tallahassee, FL.
- Onuferko T.M. 2018. **A revision of the cleptoparasitic bee genus *Epeolus* Latreille for Nearctic species, north of Mexico (Hymenoptera, Apidae)**. *Zookeys* 755:1-185.
- Peet R.K., Platt W.J., and Costanza J.K. 2018. **Fire-maintained pine savannas and woodlands of the southeastern United States Coastal Plain**. In Barton A.M. and Keeton W.S., editors. *Ecology and Recovery of Eastern Old-Growth Forests*. Island Press, Washington, DC.
- Molgo I.E., Soltis D.E., and Soltis P.S. 2017. **Cytogeography of *Callisia* section *Cuthbertia* (Commelinaceae)**. *Comp Cytogenet* 11(4):553-577.
- Barney R.J. 2016. ***Pachybrachis* Chevrolat (Coleoptera: Chrysomelidae: Cryptocephalinae) endemic to Florida, including descriptions of four new species**. *The Coleopterists Bulletin* 70(1):31-52.
- Germain-Aubrey C.C., Nelson C., Soltis D.E., et al. 2016. **Are microsatellite fragment lengths useful for population-level studies? The case of *Polygala lewtonii* (Polygalaceae)**. *Applications in Plant Sciences* 4(2):1500115.
- Menges E.S., Smith S.A., and Weekley C.W. 2016. **Adaptive introductions: How multiple experiments and comparisons to wild populations provide insights into requirements for long-term introduction success of an endangered shrub**. *Plant Diversity* 38(5):238-246.
- Corogin P.T. 2015. ***Sideroxylon* section *Frigoricola* (Sapotaceae): A clade endemic to temperate North America**. Dissertation, University of Florida, Gainesville, FL.
- Kiefer J.H., Mossa J., Nowak K.B., et al. 2015. **Peninsular Florida stream systems: Guidance for their classification and restoration**. USF School of Geosciences Faculty and Staff Publications 1601.

Riley E.G. 2015. **Three new hispine beetles (Coleoptera: Chrysomelidae: Cassidinae) from the United States and new United States record.** The Coleopterists Bulletin 69(14):183-190.

Hopkins H. 2014. **A revision of the genus *Arenivaga* (Rehn) (Blattodea, Corydiidae), with descriptions of new species and key to the males of the genus.** Zookeys (384):1-256.

Chavez-Velasquez D.J. 2013. **The North American plums (*Prunus* spp.) and their use as germplasm resources: From population to phylogenetic studies - A breeder's perspective.** Dissertation, University of Florida, Gainesville, FL.

Kallal R.J. and LaPolla J.S. 2012. **Monograph of *Nylanderia* (Hymenoptera: Formicidae) of the World, Part II: *Nylanderia* in the Nearctic.** Zootaxa 3508:1-64

Smiley S.A., McCoy E.D., Schrey A.W., et al. 2012. **Utilizing a multifaceted approach to assess the current distribution and conservation status of an uncommon species: The golden mouse (*Ochrotomys nuttalli*) in Florida.** Diversity and Distributions (18):1120-1129.

Sorrie B.A. 2012. **Identification, distribution, and habitat of needle-leaved *Hypericum* (Hypericaceae) in the southeastern United States.** Phytoneuron 76:1-14.

Boughton R.K. and Bowman R. 2011. **Statewide assessment of Florida Scrub-jays on managed areas: A comparison of current populations to the results of the 1992-1993 survey.** A report submitted to the US Fish and Wildlife Service.

Deyrup M. 2011. **Lake Wales Ridge scrub arthropods (FFWCC Project T-15-D).** Florida Fish and Wildlife Conservation Commission, Tallahassee, FL.

Franck A.R. 2011. **Vascular flora of two conservation lands in Charlotte and Desoto Counties, Florida and notes on the flora of Florida.** Journal of the Botanical Research Institute of Texas 5(2):815-835.

Gibson G.A.P. 2011. **The species of *Eupelmus* (*Eupelmus*) Dalman and *Eupelmus* (*Episolidelia*) Girault (Hymenoptera: Eupelmidae) in North America north of Mexico.** Zootaxa 2951:1-97.

Quintana-Ascencio P.F., Menges E.S., Weekley C.W., et al. 2011. **Biennial cycling caused by demographic delays in a fire-adapted annual plant.** The Society of Population Ecology 53:131-142.

Trusty J.L. and Ober H.K. 2011. **Determinants of successful groundcover restoration in forests of the Southeastern United States.** Journal for Nature Conservation 19(1):34-42.

- Blanton K., Mossa J., Kiefer J., et al. 2010. **Bankfull indicators in small blackwater streams in peninsular Florida: Reliability and relations with hydrology.** Southeastern Geographer 50(4):422-444.
- Kiefer J.H. 2010. **Hydrobiogeomorphology of fluvial systems in peninsular Florida: Implications to classification, conservation, and restoration.** Dissertation, University of Florida, Gainesville, FL.
- Slapcinsky J.L., Gordon D.R., and Menges E. 2010. **Responses of rare plant species to fire in Florida's pyrogenic communities.** Natural Areas Journal 30(1):4-19.
- Smiley S.A. 2010. **The distribution and population dynamics of the golden mouse (*Ochrotomys nuttalli*) at its southern range periphery.** Thesis, University of South Florida, Tampa, FL.
- Corogin P.T. and Judd W.S. 2009. **Floristic inventory of Tiger Creek Preserve and Saddle Blanket Scrub Preserve, Polk County, Florida.** Rhodora 111(9):448-502.
- Stebnicka Z.T. and Skelly P.E. 2009. **A revision of the genus *Haroldiataenius* Chalumeau (Scarabaeidae: Aphodiinae: Eupariini).** Insecta Mundi 0066:1-18.
- Stebnicka Z.T. and Skelly P.E. 2009. **Taxonomic redefinition of the genera *Parataenius* Balthasar and *Pseudataenius* Brown, with descriptions of three new species (Scarabaeidae: Aphodiinae: Eupariini).** Insecta Mundi 0062:1-16
- Weekley C.W. 2009. **Recent developments boost recovery prospects of Florida Ziziphus.** The Palmetto 26:1.
- Blanton K.M. 2008. **Development of bankfull discharge and channel geometry regressions for peninsular Florida streams.** Thesis, University of Florida, Gainesville, FL.
- Corogin P.T. 2008. **Floristic inventory of Tiger Creek Preserve and Saddle Blanket Scrub Preserve, Polk County, Florida.** Thesis, University of Florida, Gainesville, FL.
- Harris, R.C. and Ladd, D. 2008. **The lichen genus *Chysothrix* in the Ozark ecoregion, including a preliminary treatment for eastern and central North America.** Opuscula Philolichenum 5:29-42.
- Leavengood J.M. 2008. **The checkered beetles (Coleoptera:Cleridae) of Florida.** Thesis, University of Florida, Gainesville, FL.
- McCoy E.D. and Mushinsky H.R. 2007. **Estimates of minimum patch size depend on the method of estimation and the condition of the habitat.** Ecology 88(6):1401-1407.

- Menges E.S., Dolan R.W., Pickert R., et al. 2007. **Does current or past landscape structure predict genetic variation: An analysis using six Florida scrub endemic plants.** *International Journal of Ecology* 2010:503759.
- Spechler R.M. and Kroening S.E. 2007. **Hydrology of Polk County, Florida.** U.S. Geological Survey Scientific Investigations Report 2006-5320.
- Weekley C.W. and Menges E.S. 2007. **Continuation of research on the federally listed Lake Wales Ridge endemic Florida Ziziphus.** Plant Conservation Program, Florida Division of Forestry, Tallahassee, FL.
- Deyrup M. 2006. ***Pyramica boltoni*, a new species of leaf-litter inhabiting ant from Florida (Hymenoptera: Formicidae: Dacetini).** *Florida Entomologist* 89(1):1-5.
- Skelly P.E. 2006. **A revision of the genus *Geopsammadius* Gordon and Pittino, 1992 (Scarabaeidae: Aphodiinae: Psammodiini).** *Insecta Mundi* 20(1-2).
- Turner W.R., Wilcove D.S., and Swain H.M. 2006. **State of the scrub: Conservation progress, management responsibilities, and land acquisition priorities for imperiled species of Florida's Lake Wales Ridge.** Archbold Biological Station, Lake Placid, FL.
- Weekley C.W. and Menges E.S. 2005. **Creation of a strategic plan and continuation of research on the federally listed Lake Wales Ridge endemic Florida ziziphus (*Ziziphus celata*).** Final Report to the Florida Plant Conservation Program, Florida Division of Forestry, Tallahassee, FL
- Deyrup M. and Cover S. 2004. **A new species of *Odontomachus* ant (Hymenoptera: Formicidae) from inland ridges of Florida, with a key to *Odontomachus* of the United States.** *Florida Entomologist* 87(2):136-144.
- Evans M.E., Dolan R.W., Menges E.S., et al. 2000. **Genetic diversity and reproductive biology in *Warea carteri* (Brassicaceae): A narrowly endemic Florida scrub annual.** *American Journal of Botany* 87:372-381.
- Marshall S.D., Hoeh W.R., and Deyrup M.A. 2000. **Biogeography and conservation biology of Florida's *Geolycosa* wolf spiders: Threatened spiders in endangered ecosystems.** *Journal of Insect Conservation* 4:11-21.
- Carrington M.E. and Keeley J.E. 1999. **Comparison of post-fire seedling establishment between scrub communities in Mediterranean and non-Mediterranean climate ecosystems.** *Journal of Ecology* 87:1025-1036.
- Romano G.B. 1999. **Reproductive biology and population molecular genetics of the scrub morning glory *Bonamia grandiflora*.** Dissertation, University of Florida, Gainesville, FL.

Carrington M.E. 1996. **Postfire recruitment in Florida sand pine scrub in comparison with California chaparral.** Dissertation, University of Florida, Gainesville, FL.

Davis M.M., Sprecher S.W., Wakeley J.S., et al. 1996. **Environmental gradients and identification of wetlands in north-central Florida.** *Wetlands* 16(4):512-523.

Deyrup M. 1996. **Two new grasshoppers from relict uplands of Florida (Orthoptera: Acrididae).** *Transactions of the American Entomological Society* 122(4):199-211.

Menges E.S. and Gordon D.R. 1996. **Three levels of monitoring intensity for rare plant species.** *Natural Areas Journal* 16:227-237.

Segal D., Sprecher S., and Watts F. 1995. **Relationships between hydric soil indicators and wetland hydrology for sandy soils in Florida.** Technical Report, WRP-DE-7. Defense Technical Information Center, Fort Belvoir, VA.

Folk M. 1993. **Gopher tortoise and Sherman's fox squirrel densities in sandhill communities on three TNC preserves in Florida.** The Nature Conservancy, Kissimmee, FL.

Christman S.P. and Judd W.S. 1990. **Notes on plants endemic to Florida scrub.** *Florida Scientist* 53(1):52-73.

Tighe R.E. 1987. **Hydrology of Tiger Creek, Polk County, Florida.** Report for The Nature Conservancy, Babson Park, FL.

Chasteen D. 1982. **Sand pine scrub vegetation survey near Tiger Creek Preserve.** Final Report for The Nature Conservancy, Babson Park, FL.

### Venus Flatwoods Preserve

Peet R.K., Platt W.J., and Costanza J.K. 2018. **Fire-maintained pine savannas and woodlands of the southeastern United States Coastal Plain.** In Barton A.M. and Keeton W.S., editors. *Ecology and Recovery of Eastern Old-Growth Forests.* Island Press, Washington, DC.

Turner W.R., Wilcove D.S., and Swain H.M. 2006. **State of the scrub: Conservation progress, management responsibilities, and land acquisition priorities for imperiled species of Florida's Lake Wales Ridge.** Archbold Biological Station, Lake Placid, FL.

Varner J.M. and Kush J.S. 2004. **Remnant old-growth longleaf pine (*Pinus palustris* Mill.) savannas and forests of the southeastern USA: Status and threats.** *Natural Areas Journal* 24(2):141-149.

Haig S.M., Bowman R., and Mullins T.D. 1996. **Population structure of red-cockaded woodpeckers in south Florida: RAPDs revisited.** *Molecular Ecology* 5(6):725-734.

James F. 1995. **The status of the red-cockaded woodpecker in 1990 and the prospect for recovery.** In Kulhavy D.L., Costa R., and Hooper R.G., editors. *The Red-cockaded Woodpecker: Species Recovery, Ecology, and Management. Proceedings of a Symposium Held in Charleston, South Carolina.* Center for Applied Studies, School of Forestry, Stephen F. Austin State University, Nacogdoches, Texas.