

2015

University of North Florida Environmental Center Annual Report 2015

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University of North Florida Environmental Center Annual Report

2015





From the Director

During my first year as director, the Environmental Center celebrated its tenth anniversary. The accomplishments of the past decade have built a solid foundation for the Environmental Center. I would like to take thank Dr. Ray Bowman, Dr. Radha Pyati and Dr. Stuart Chalk, each of who served as a past director and helped progress the Environmental Center to where it is today.

In an effort to improve the Environmental Center's impact both on campus and in the community, our staff and faculty board have been meeting with strategic partners and building new relationships within the community. These relationships will prove critical to the long-term success of the Environmental Center.

While we will continue to pursue ways to strengthen and improve the Environmental Center, I am pleased to say that many of the Environmental Center's signature programs, including the annual State of the River Report, the St. Johns River Transformational Learning Opportunity and Garbage on the Green were all completed in the 2015 academic year and will be continued in the future. I am also pleased to report that each of these programs are being supported by external funding sources.

In addition to the continuance of our signature programs, we officially launched the Sawmill Slough Preserve Digital Archive this year. The Environmental Center has been collaborating with faculty and staff for many years in an effort to build a digital species inventory of the Preserve, and we are very pleased with the final product. We will continue to leverage this valuable resource and collaborate with faculty, staff and students to add more information to the inventory.

The Environmental Center is now turning its attention to our most ambitious project to date, the Environmental Leadership Program. The program, which is being developed over the 2016 academic year, will recruit undergraduate students from all disciplines and require them to apply the skills they learn in the classroom to solve real-world problems. The process will further enhance their ability for critical thinking and problem solving, while developing their leadership skills and preparing them for their future careers.

The past decade has been an exciting and formative time for the Center, but the potential of the next ten years is limitless.

J. David Lambert, Ph.D.

Who We Are

Professional Staff



J. David Lambert, Ph.D.
Director
Employee since 2004



James W. Taylor
Coordinator
Employee since 2011



Justin Lemmons, M.S.
Ecologist
Employee since 2013

Student Assistants



Matt Groth
Biology
Employee since 2015



Caitlin Kengle
Civil Engineering
Employee since 2014



Hannah Logsdon
Public Health
Employee since 2012



Morgan Matchett
Biology
Employee since 2014



Kevin O'Halloran
International Relations
Employee since 2014

Executive Board

Christopher Baynard, Ph.D.
Department of Economics and Geography
Coggin College of Business

Charles Closmann, Ph.D.
Department of History
College of Arts and Sciences

J. David Lambert, Ph.D.
Department of Construction Management
College of Computing, Engineering and
Construction

Erin Largo-Wight, Ph.D.
Department of Public Health
Brooks College of Health

Brian Zoellner, Ph.D.
Department of Foundations and Secondary
Education
College of Education and Human Services

Additional Student Employees

Natalie Sassine, fine arts
Alexandria Gibson, biology
Kierstin Masse, biology
Renee Hutchins, anthropology
Mary Borg, education
Kacie Smith, biology
Danielle Tiple, biology
Patricia Hancock, anthropology

Steven DeFord, anthropology
Sarah Bohan, psychology
Ashley Gillis, psychology
Andrew Provezano, psychology
Robert Sapitan, anthropology
Hussam Khayat, MBA
Shannon Campbell, history

Academic Collaborations

Capstone Course Projects

Construction Management

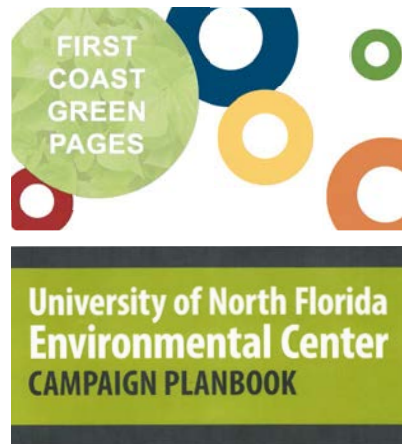
As an ongoing effort to support outdoor classrooms and community-engagement, the Environmental Center facilitated and funded the building of a new and improved outdoor classroom for [Seaside Community Charter School](#). Students from the Department of Construction Management designed and built the outdoor classroom for their capstone, and even got children from the school to help put the finishing touches on the concrete foundation.

This new outdoor classroom will be utilized by UNF faculty and students for ongoing research to study the impact of outdoor classrooms on learning outcomes and well-being among children.



Advertising and Public Relations

All advertising and public relations students are required to participate in a capstone course in which they create a marketing campaign plan for nonprofit clients. In the fall semester, the Environmental Center connected Dee Colvin to a local organization building a sustainable business directory. In the spring, the Environmental Center served as the client and the students developed an excellent plan for marketing the new Environmental Leadership Program to freshman.



Class Presentations

The Environmental Center faculty and staff are available to do class presentations on a variety of topics for all faculty. Most often, the Center gives class presentations in the Departments of Biology, Public Health and Construction Management. The Center is also available for presentations at departmental meetings.

Digital Commons

From all of its activities, the Environmental Center has produced many papers, reports and other artifacts. To ensure they are not lost to time, the Environmental Center has started to utilize the [UNF Digital Commons](#), a service offered by the Thomas G. Carpenter Library. See collections below:

- [Garbage on the Green](#)
- [Sawmill Slough Preserve](#)
- [State of the River Report](#)
- [Campus Sustainability](#)



Click to go to the Environmental Center Digital Commons

St. Johns River

Transformational Learning Opportunity

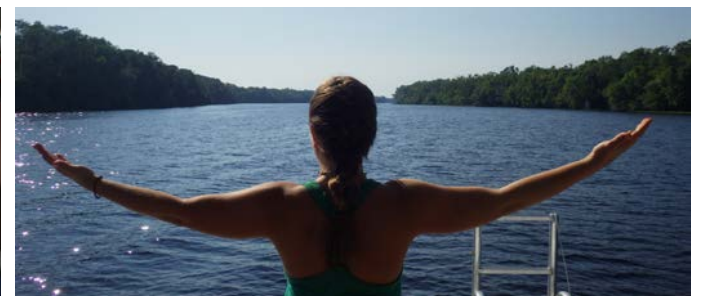
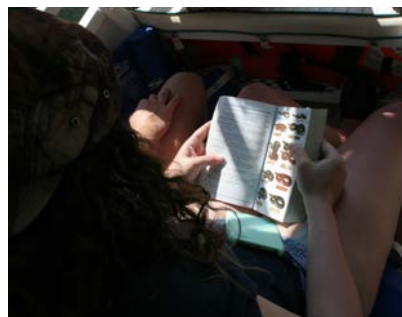


TLO Students:

Amy Brownhouse, chemistry/biology junior
Ahmad Marar, biology senior
Morgan Matchett, biology junior
Nicole Llanas, biology junior
Daniel Woodhouse, history junior
Danielle Tiptley, biology senior
Allexandria Maye, biology freshman
Erin Bassett, biology junior
Gina Alvarez, biology senior
Brittanie Sullivan, nutrition senior
Jessica Potter, psychology junior
Kyle Reeves, biology senior
Heather Levy, biology freshman

Trip Leader: James Taylor, Environmental Center
Academic Supervisor: Dr. Rick Troendle,
Department of Chemistry
Trip Assistant: Jake FitzRoy, Eco Adventure

The [St. Johns River Transformational Learning Opportunity \(TLO\)](#) is an experiential experience utilizing the St. Johns River to create interdisciplinary connections and facilitate the understanding of those connections by students. The St. Johns River TLO is designed to challenge students both mentally and physically, and offer unique perspectives about the St. Johns River. The experience combines classroom lectures, expert guest speakers, lab work and an eight-day full immersion experience that includes kayaking, hiking, swimming in springs and boating. The St. Johns River TLO not only enhances the students' educational experience and environmental awareness, but also provides them with the opportunity for growth and development of essential leadership skills.



State of the River Report

for the Lower St. Johns River Basin, Florida

UNF Principal Investigator: Radha Pyati, Ph.D.

JU Principal Investigator: Lucy Sonnenberg, Ph.D.

The Seventh State of the St. Johns River Report was published in summer 2014 by a team of scientists from [UNF](#), [Jacksonville University](#) and [Valdosta State University](#). This project, supported by the [Environmental Protection Board](#) of the City of Jacksonville, has provided an annual baseline of the basin's health since 2008. The 2014 Report revealed the following findings: fisheries are threatened and endangered; species are stable; nutrient concentrations in the basin are decreasing gradually, but a concomitant drop in chlorophyll-a has not been seen; fecal coliform levels are decreasing in the tributaries, but are not yet close to final target levels. Members of the report team discussed these findings with several media outlets, including First Coast Connect on WJCT, First Coast News, WJXT, WOKV, Inside Jacksonville and ClimateWire.

Click links below for 2014 information:

[Technical Report](#)

[Report Brochure](#)



Environmental Center



Seed Grants

To help stimulate the creation of multi-disciplinary research projects related to the environment, the Environmental Center offers grants to faculty, or teams of faculty, from all five UNF colleges. The grants are intended to support environmentally related research that subsequently results in the preparation and submission of a proposal to an external funding agency. The grants are competitively awarded to the most meritorious proposals, but there is an emphasis on projects that create effective collaborations between faculty members and students from diverse disciplines.

Should we 'Go Green!' or 'Police Pollution': Using Regulatory Fit Theory to Craft Effective Pro-Environmental Messages

*Drs. Curtis Phills, Paul Fuglestad and Heather Truelove,
Department of Psychology.*

Climate scientists have a message: anthropogenic climate change and its negative consequences are real (IPCC, 2013). Unfortunately, the presentation of that message has not resulted in a large groundswell of support of pro-environmental initiatives (Gallup, 2014). Part of the reason for this may be that the message on climate change may not resonate with the general public on a motivational level. Regulatory fit theory (Higgins, 2000) proposes that elements of a message can be designed to induce a motivational “fit” such that people perceive the message as more resonant are in turn more likely to follow through with the message’s recommendations. Persuasive messages commonly use either a promotion focus, emphasizing the pursuit of ideals and positive outcomes, or a prevention focus, emphasizing the fulfillment of obligations and the prevention of negative outcomes. [Read more.](#)

In the Land of Mocama: Environmental and Cultural History of 1564

*Dr. Robert L. Thunen, Department of Sociology,
Anthropology, Social Work*

This is a pilot study to examine the environmental, archaeological, historical and cartographic data for information on the St. Johns River from the mouth of the river to the end of Mill Cove (the study area). Specifically, the study focuses on what the natural and cultural landscape was like in the year 1564 — the year the French arrived and built La Caroline Colony. We start with the fundamentals: to examine maps from recent topographic surveys, then move back investigating earlier maps, ending with maps of the first Spanish Period to get a sense of how much the river’s fundamental hydrology has been impacted by dredging, erosion, and soil displacement. Next, the possible locations for the Mocama (Timucua) contact villages are examined based on both the archaeological and historical documents. [Read more.](#)

Center-Funded Research

Outdoor Classroom

Erin Largo-Wight, Ph.D.

Department of Public Health, Brooks College of Health

In 2014, the Environmental Center awarded a Seed Grant to Dr. Erin Largo-Wight, associate professor in the Department of Public Health, to study the impact of outdoor classrooms at a local elementary school. In Fall 2014, the Environmental Center connected Dr. Largo-Wight with a capstone class from the Department of Construction Management and throughout the semester students designed a new, improved outdoor classroom for [Seaside Community Charter School](#). UNF faculty and students will utilize the space for ongoing research to study the impact of outdoor classrooms on learning outcomes and well-being among children.



History of the Sawmill Slough

Charles Closmann, Ph.D.

Shannon Campbell, graduate student

Department of History, College of Arts and Sciences



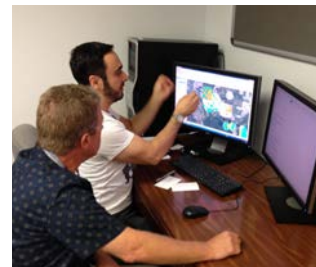
In an effort to further understand the [Sawmill Slough Preserve](#), graduate student Shannon Campbell investigated the formation of the Preserve. Through interviews and delving into library collections, she pieced together the history of the various attempts to protect portions of the campus and the events leading to the formal designation of the preserve in 2006.

Understanding landscape change in Southwest Florida: oil, oranges and neighborhoods

Chris Baynard, Ph.D.

Hussam Khayat, graduate student

*Department of Economics and Geography,
Coggin College of Business*



This study examined how oil exploration and production activities have shaped the landscape in Southwest Florida using geospatial data and techniques that included satellite imagery, air photos and geographic information systems (GIS). Initial findings suggested agricultural expansion, particularly orange groves and urbanization have created much larger changes.

Digital Archive

In February 2015, the Environmental Center launched the [Digital Archive](#), an on-line scientific and educational resource documenting the years of research and management efforts in the Sawmill Slough Preserve. The Archive was developed by Dr. Stuart Chalk, associate professor of chemistry, in collaboration with Chuck Hubbuch, preserve curator and Justin Lemmons, Environmental Center ecologist. Many Environmental Center student employees have also helped to build the species inventories and archive collection.

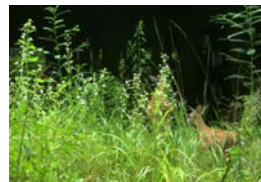
By the Numbers:

1014 plants & animals
17 species of special concern



Wildlife Camera

A stationary camera was deployed in various locations in the Sawmill Slough Preserve to monitor wildlife activity. The camera documented the use of wildlife crossings located along UNF Eco Road and the culvert under Butler Blvd. The camera is maintained by Environmental Center staff and employees.



The Website

The Archive includes information about Preserve history, management practices and species inventories. Original inventory lists are available along with photos and authoritative external resources.



Ecologist

Justin Lemmons

Sponsored Research



Native Plant Initiative

The purpose of this project is to partner with [Florida Native Plant Society \(FNPS\) Ixia Chapter](#) and resident gardeners in an effort to cultivate and establish featured native plants in backyard gardens. The project will focus on unique native plants not found in the nursery trade, as well as threatened and ecologically beneficial species. Cultivated plants will be provided to FNPS members, experienced gardeners, and sold at an annual or bi-annual plant sale open to the public. Establishment and distribution of Duval native plant species among plant-enthusiasts and gardeners will reduce the chance that disturbances will drive these native species to extinction or eliminate declining natural populations.



Habitat Restoration Focused on Florida Threatened Wildflowers

The purpose of this project, funded by the [Jacksonville Zoo and Gardens](#), is to restore and expand habitat for populations of threatened plant species in the [Sawmill Slough Preserve](#), and to monitor effects of clearing and a prescription burn on plant diversity. The site with the largest population of threatened species is at risk of losing optimal habitat due to a closed canopy and competition with other vegetation. Through restoration efforts the area will be managed for its unique habitat and biodiversity as well as provide opportunities for future research by students and faculty.



The ecologist was hired in 2013 and is responsible for assisting the preserve curator with management activities, as well as, conducting research and restoration in the [Sawmill Slough Preserve](#). Responsibilities include ongoing species inventories and creating new catalog lists, maintaining lists of research and supervising projects in the Preserve, presenting research at scientific conferences, promoting research and community outreach, analyzing water quality and writing grants and reports. The ecologist also leads collection management of the Sawmill Slough Preserve [Digital Archive](#).

Management Practice



The ecologist works closely with the preserve curator to learn essential aspects of preserve management and assist with activities such as species inventories of flora and fauna, pest plant control, prescription burns, habitat restoration and trail maintenance. The ecologist helps modify the management plan where appropriate, develop potential future projects, assist contractors with restoration activities and monitor the Preserve for human activity such as vandalism.

Sawmill Slough Preserve

Expansion Proposal

Initiatives

During the designation of the [Sawmill Slough Preserve](#) in 2006, some upland areas were not included in the boundaries, but instead reserved for potential development in accordance with predicted growth of the University. The 2010-2020 UNF Master Plan highlighted adjacent upland areas as “recommended conservation area expansion.” Protecting these areas is important for wildlife, education, recreation and for complying with the mission of the Preserve to maintain the “highest natural levels of biodiversity in a natural condition.” The proposal was developed collaboratively by the UNF Sustainability Committee, Environmental Center staff, preserve curator Chuck Hubbuch and Robert Richardson, Director of Research Technology Services for the College of Computing, Engineering and Construction. The proposal was presented at the Master Planning Committee focus groups with University members in Spring 2015 to emphasize the importance of preserving these unique upland environments.



State of the Preserve

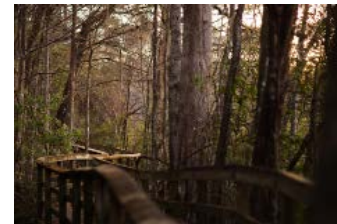
The State of the Preserve was a social event hosted on Tuesday, April 21, in an effort to bring community members together and increase awareness about projects in the Sawmill Slough Preserve. The event included presentations of the recently launched [Preserve Digital Archive](#), the history of the Preserve, ongoing restoration efforts and proposal for expansion. The Digital Archive was presented by Dr. Stuart Chalk, associate professor of chemistry, and Justin Lemmons, Environmental Center ecologist. The history of the Preserve was presented by Shannon Campbell, history graduate student. The event allowed people to network and discuss important environmental issues in a friendly atmosphere.

Photo Contest

The Environmental Center hosted three [photo contests](#) to celebrate the beauty and importance of nature on the UNF campus, two of which were themed. Photos were uploaded to the [Environmental Center's Facebook page](#) and the winner was decided by the number of likes the photos received. The winners of the contests are featured to the right.

3 contests

55 photos submitted



Campus Sustainability

The Environmental Center plays a critical role in helping make UNF a sustainable campus. As an academic center, the Environmental Center helps understand the University's impact through monitoring and applied research. With the support of dedicated student assistants and hundreds of volunteers, the Environmental Center conducts an annual greenhouse gas emissions inventory and campus waste audit. In addition, the Environmental Center organizes a range of sustainability outreach programs for faculty, students and staff.

Sustainability Committee



Campus Sustainability Month



RecycleMania - Bin Wars!

[Bin Wars](#) was a collaboration among the Environmental Center, Osprey Productions and Physical Facilities during homecoming week to create a culture of recycling on campus. Teams designed and decorated recycling bins that were used during homecoming and at other campus events.



EV Charging Station



The University of North Florida will be one of the first organizations to receive an electric vehicle charging station through the [ChargeWell](#) program, a partnership between the [North Florida Transportation Planning Organization](#) and [JEA](#). Through a collaborative effort with the UNF Sustainability Committee and Parking Services, the Environmental Center was able to secure funding from the ChargeWell program to install the first electric vehicle charging station on campus. The dual level 2 electric vehicle charger will be installed in Lot 53 in the fall semester.

Garbage on the Green

Final Report



Photo Gallery



[Garbage on the Green](#) is the Environmental Center's largest and most interactive volunteer event of the year. During the event, student volunteers help audit waste from around campus and also do an early morning campus cleanup. The data collected by volunteers helps the university make informed decisions regarding recycling.

Volunteering

By the Numbers:

9

projects

173

students

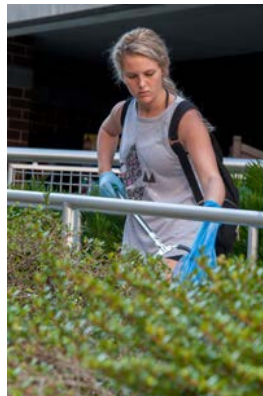
496

total hours

Campus Cleanups

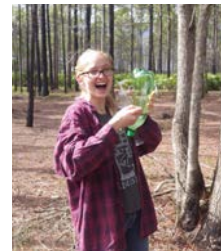
In an effort to keep the campus beautiful and litter-free, student employees and volunteers host campus cleanups throughout the year. The cleanups provide students with a fun networking opportunity for like-minded individuals.

36 pounds collected



Sawmill Slough Preserve

The ecologist provides undergraduate students with an opportunity to step outside the classroom and work in the beautiful on-campus nature preserve. Allowing students to utilize their skills and knowledge in the field enhances their understanding of the concepts taught in the classroom. Students assist the ecologist with identifying plants and animals, managing invasive plants and using equipment to monitor water quality.



Community Projects

Throughout the year, student volunteers participated in a range of community events including cleanups, tree plantings and park maintenance. These opportunities helped connect students to community organizations and provided them with an opportunity to network with like-minded students.



Castaway Island Preserve
Jul. 25, 2014



Yoga and Beach Cleanup
Nov. 5, 2014



McCoys Creek Cleanup
Jan. 25, 2015



McCoys Creek Cleanup
Apr. 18, 2015

Community Programming

Sponsored Series

The [US Green Building Council \(USGBC\) North Florida Chapter](#) hosted the Green Carpet Film Series, a series of public screenings of thought-provoking documentaries including panel discussions with local environmental experts.



254 attendees 5 events

Inspired by PechaKucha and Ted Talks, this monthly luncheon series organized by the [US Green Building Council \(USGBC\) North Florida Chapter](#) is designed to unleash the creativity of our region and foster sustainability. Each event featured speakers who shared their vision on how to create a sustainable community by the year 2040.



195 attendees 3 events

A monthly luncheon series organized by the Northeast Florida Green Chamber that brought together local sustainable businesses to share their successes and discuss best practices.



35 attendees 3 events

COJ Environmental Symposium

Hosted by the [Jacksonville Environmental Protection Board \(EPB\)](#) and the Environmental Center, this symposium gave community members a unique opportunity to interact with the regulatory agencies responsible for developing and implementing environmental policy. To help the community understand the environmental goals of Northeast Florida, the symposium featured the release of the annual [State of the River Report](#), break out sessions on a variety of topics and a keynote speaker. The event also featured the annual EPB Environmental Awards recognizing individuals who have exhibited a long-term commitment to the protection and preservation of the environment.



216 attendees

8th annual

Other Events

- [St. Johns Riverkeeper](#) volunteer training, May 20, 2015
- [USGBC](#) regional meeting, Oct. 12, 2014
- [USGBC Sustainability Officer's Roundtable](#), May 5, 2015
- [Sierra Club Northeast Florida Group](#), Apr. 13, 2015
- [Florida Springs Institute](#) book tour, Jun. 26, 2015

Thank You!

Our work is done through countless collaborations. We would like to thank our partners and sponsors for their continued support.



*The Cummer
Family Foundation*

