

ISABELLE BARNES

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EDUCATION

Master of Science in Environmental and Sustainability Sciences May 2025
College of Charleston: Charleston, SC
GPA: 4.00/4.00
Master's Thesis: *Avian Response to Tree Removal in Small, Isolated Wetlands*

Bachelor of Science in Biology May 2022
Furman University: Greenville, SC
GPA: 3.46/4.00
Dean's List 2020, 2021, 2022

RESEARCH AND FIELD EXPERIENCE

Graduate Research Assistant May 2024 – Present
College of Charleston: Charleston, SC

- Conducted avian point counts at 40 paired upland and wetland sites in Huger, SC.
- Recorded vegetative characteristics of all sites for further spatial analysis.
- Analyzed both spatial and temporal data to assess how songbird communities react to wetland restoration methods over time.
- Wrote, submitted, and defended a master's-level thesis on the research's patterns and results.
- Completed multiple manuscripts detailing study procedures and findings as they relate to threatened songbird species and comprehensive wetland restoration.

On-Site Biologist January 2023 – July 2023
Environmental Resource Solutions/Army Corps of Engineers: Croft State Park, Spartanburg, SC

- Visually analyzed tree species to direct vegetation clearance crews in which trees were critical to the environment to assist with natural succession processes
- Worked alongside the on-site archeologists to find and identify artifacts.
- Created an online document for flora and fauna species found within Croft State Park to assist employees, rangers, and park patrons in identifying species of interest.

Data Analyst August 2022 – January 2023
Furman University: Greenville, SC

- Created audio-visual programming parameters to effectively sort and classify over 700GB of audio data.
- Worked with other organizations to create accurate biofauna indexes of multiple different taxa, namely herpetofauna and avian species.

Field Intern July 2022
Alaska Whale Foundation: Baranof, AK

- Visited the Alaska Whale Foundation to observe and participate in field sampling techniques of whale species in the North Pacific Ocean along the Alaska Marine Highway.
- Aided in whale detection, tracking, and identification.

Undergraduate Research Fellow
Furman University: Greenville, SC

May 2021 – August 2022

- Practiced and determined the most effective field sampling techniques and strategies to measure herpetofauna and avian diversity on the 6 mile stretch of the Swamp Rabbit Trail that surrounds Furman University.
- Applied database technologies and interpretations to acoustic and visual data using R, GIS, Kaleidoscope, and iNaturalist resources to create conclusions regarding the impacts of anthropogenic development on forest life.
- Wrote and submitted multiple comprehensive manuscripts on the findings of the research project as well as the invented methodologies used to conduct herpetofauna research.

MENTORING AND LEADERSHIP EXPERIENCE

Teaching Assistant
College of Charleston: Charleston, SC

August 2023 – May 2025

- Instructed between 6 and 26 students in basic mechanical and electrostatic physics principles.
- Created and graded weekly quizzes based on theories and principles taught and demonstrated during laboratory meetings.
- Provided feedback on scientific writing of lab procedures and results.
- Held regular office hours to assist students in preparing for both lab and lecture examinations.

Teaching Assistant
Furman University: Greenville, SC

August – December 2021

- Assisted 14 students in applying class-learned sampling techniques and analysis to assess different biodiversity factors in the field.
- Provided support and assistance to presiding professors and guest speakers during lecture and laboratory periods.
- Acted as a tutor to help students prepare for and study for both practical and written examinations.

RELEVANT COURSEWORK

Conservation Biology	Cell Biology	Statistical Analysis in R
Marine Biology	Ecology	Animal Physiology
Forest Ecology	Nature of Diversity	Population Genetics
Environmental Biology	Plant Ecology	Wetlands & Watersheds
Public Policy	Social Science Methods	Sustainable Urban Development

PRESENTATIONS AND PUBLICATIONS

Cities and the Environment (*in review) January 2025
Barnes, Isabelle; Gerardi, Jake; and Quinn, John. Joint Estimation of Herpetofauna and Avian Occupancy in a Suburban Ecosystem in Response to Anthropogenic Development.

South Carolina Sea Grant Consortium Site Review December 2024
Barnes, Isabelle; Quinn, John; Hughes, Melissa; Clark, Jestin; and McGlenn, Daniel. How do different geographically isolated wetland restoration practices affect avian communities?

- Participated via poster presentation at the annual National Sea Grant College Program review.
- Presented master's thesis data and preliminary results to stakeholders.

Panel Speaker November 2024
Dr. Abi Dubash, Isabelle Barnes, William Shelton, Natalia Yanez-Lopez and Sarah Kohrt

- Participated in an informative panel to undergraduate Biology students at Furman University about further education after college.
- Fielded questions and prompts regarding graduate school requirements and timelines.

Guest Lecturer November 2024
Dan McGlenn, Isabelle Barnes, Matthew McDonald, and Yulian Martinez-Escobar. How to Restore Isolated Wetlands.

- Provided a guest lecture in the Introduction to Environmental Studies class at College of Charleston.
- Discussed wetland restoration and ecological assessment methodologies as well as the procedural steps to re-introduce critically endangered Canby's Dropwort (*Oxypolis canbyi*) to the wetland habitat.

Encyclopedia of the Anthropocene, 2nd Ed. November 2024
Quinn, Courtney et al. 2024. Understanding and Measuring Multifunctionality in Agriculture at Local, Regional, and Global Scales.

Sensors November 2023
Barnes, Isabelle L. and Quinn, John. Passive Acoustic Sample Enhances Traditional Herpetofauna Sampling Techniques in Urban Environments.

Furman Engaged April 2022
Barnes, Isabelle and Quinn, John. Impacts of land cover and development on herpetofauna occupancy.

- Furman Engaged is an annual event that allows undergraduate students to present their engaged learning experiences outside of the classroom as well as practice critical public speaking skills.
- Presented senior thesis data on herpetofauna occupancy resultant of anthropogenic spread and land cover in a symposium setting.

Association of Southeastern Biologists March 2022

Barnes, Isabelle and Quinn, John. Impacts of land cover and development on herpetofauna occupancy.

- Gave a poster presentation at the 84th annual meeting of the Association of Southeastern Biologists in Little Rock, Arkansas.
- Attended a variety of poster sessions and symposia to learn more about the different fields of Biology that were being spotlighted.

AWARDS AND CERTIFICATIONS

Grant Writing Certificate

University of South Carolina, Columbia, South Carolina

SKILLS

Data Analysis in R
Mapping and Spatial planning in GIS
SCUBA Open Water Diving
Participatory Research
Creating & Conducting Surveys

Field Work/Sampling
Computer Programming
Excel/Google sheets proficiency
Q Methodology
Species Identification