

Phone: (251)597-4782

Email: [emr0063@auburn.edu](mailto:emr0063@auburn.edu)

Alt: [emma@bandingcoalition.org](mailto:emma@bandingcoalition.org)

Website: [www.emmamrhodes.com](http://www.emmamrhodes.com)

---

**EDUCATION**

---

**Ph.D. Biology (GPA: 3.78) (Expected May 2025)**

Auburn University

Started in August 2020

Auburn, AL

**B.S. Biology (GPA: 3.91)**

University of South Alabama

Minor: Geographic Information Science and Technology

Magna Cum Laude and Phi Eta Sigma

2017

Mobile, AL

**A.S. Biology (GPA: 4.0)**

Faulkner State Community College

Summa Cum Laude and Phi Theta Kappa

2015

Bay Minette, AL

---

**PUBLICATIONS**

---

Peer-reviewed

4. **E. M. Rhodes\***, KN. Yap, G. E. Hill, W. R. Hood. A comparison of the mitochondrial performance between migratory and sedentary mimid thrushes. *Integrative and Comparative Biology*. 2024.

3. **E.M. Rhodes\***, KN. Yap, P. H. C. Mesquita, H. A. Parry, A. N. Kavazis, J. S. Krause, G. E. Hill, W. R. Hood. Scientific Reports. Flexibility underlies differences in mitochondrial function in migratory and non-migratory White-crowned Sparrows (*Zonotrichia leucophrys*). *Scientific Reports*. 2024.

Media: <https://phys.org/news/2024-05-biologists-mobile-laboratory-wide-range.html>

2. Ryan A.C. Leys\*, **E. M. Rhodes**. Morphological differences and field sex determination of a migratory and resident subspecies of the White-crowned Sparrow (*Zonotrichia leucophrys*). *Wilson's Journal of Ornithology*. 2024.

1. **E. M. Rhodes\***, Borden, J. A., & McCreadie, J. Quantification of physiological aging criteria utilizing window strike data. *Journal of Field Ornithology*. 2022.

In-review

P. H. C. Mesquita, **E. M. Rhodes**, KN. Yap, G. E. Hill, W. R. Hood, A. N. Kavazis. Mitochondrial remodeling supports migration in White-crowned

Sparrows (*Zonotrichia leucophrys*). Proceedings B.

In-prep

A. M. Rudolf, **E. M. Rhodes**, K. Yamada, H. Kiaris, W. R Hood. Effects of X-ray irradiation and housing conditions on mitochondria in *Peromyscus maniculatus*.

**E. M. Rhodes\***, K. Shepard, T. J. Zenzal Jr. Geolocators reveal commonly used annual migratory routes of Purple Martins (*Progne Subis*) in the Southeastern U.S.

Non-peer-reviewed/Technical reports

6. **E. M. Rhodes\*** and K. Shepard (2023). Fort Morgan Fall 2023 Bird Banding Report. [bandingcoalition.org/reports-publications](http://bandingcoalition.org/reports-publications).

5. **E. M. Rhodes\*** and K. Shepard (2022). Fort Morgan Fall 2022 Bird Banding Report. [bandingcoalition.org/reports-publications](http://bandingcoalition.org/reports-publications).

4. **E. M. Rhodes\*** and K. Shepard (2021). Fort Morgan Fall 2021 Bird Banding Report. [bandingcoalition.org/reports-publications](http://bandingcoalition.org/reports-publications).

3. L. Gardella\* and **E. M. Rhodes**. 2020. Birds in and near lower Alabama in the wake of tropical storm Cristobal. Alabama Birdlife. Vol 66 Article #1.

2. **E. M. Rhodes\***, E. Soehren, K. Shepard (2020). Inland Flyway Review- Fall 2019 Report- Fort Morgan Stables Banding Station. North American Bird Bander, 45 (1 & 2), 61a.

1. **E. M. Rhodes\*** and Koczur, L. M. 2019. Bon Secour NWR Site Report. 13 pp. Koczur,\* L. M. and **E.M. Rhodes**. 2019. Alabama Audubon Coastal Conservation Programs 2019 Report. 26 pp.

Reviewer Experience:

2. Year submitted: 2023. Journal of Avian Biology.
1. Year submitted: 2022. Biology Letters.

**PRESENTATIONS**

---

PROFESSIONAL TALKS

14. **E.M. Rhodes\***, Kang Nian Yap, Paulo H. C. Mesquita, Hailey A. Parry, Andreas N. Kavazis, Jesse S. Krause, Geoffrey E. Hill, Wendy R. Hood. Mitochondrial respiratory function varies between migratory and non-migratory, White-crowned Sparrows. Biological Sciences Research Symposium for Faculty, Auburn University. August 2024.

13. **E.M. Rhodes\***, Geoffrey E. Hill, Wendy R. Hood. Measuring mitochondrial respiratory performance in closely related migrant and non-migrant avian species. July 2024. Society for Experimental Biology Annual Meeting. Prague, Czech Republic.

12. **E.M. Rhodes\***, Kang Nian Yap, Geoffrey E. Hill, Wendy R. Hood. Mitochondrial capacity in two Mimidae species: a migratory and non-migratory comparison. March 2024. Auburn Research Student Symposium, Auburn, AL.
11. **E.M. Rhodes\***, Kang Nian Yap, Geoffrey E. Hill, Wendy R. Hood. Mitochondrial capacity in two Mimidae species: a migratory and non-migratory comparison. January 2024. Society for Integrative and Comparative Biology (SICB) Annual Meeting. Seattle, WA.
10. **E.M. Rhodes\*** and Kyle Shepard. October 2023. Southeastern Purple Martin Project. International Bird Observatory Conference. Veracruz, Mexico.
9. **E.M. Rhodes\***, Kang Nian Yap, Geoffrey E. Hill, Wendy R. Hood. August 2023. Mitochondrial capacity in two Mimidae species: a migratory and non-migratory comparison. American Ornithological Society Annual Meeting. Ontario, Canada.
8. **E.M. Rhodes\***, Kang Nian Yap, Paulo H. C. Mesquita, Hailey A. Parry, Andreas N. Kavazis, Jesse S. Krause, Geoffrey E. Hill, Wendy R. Hood. March 2023. Mitochondrial respiratory function varies between migratory and non-migratory White-crowned Sparrows. Auburn Research Student Symposium, Auburn, AL.
7. **E.M. Rhodes\***, Kang Nian Yap, Paulo H. C. Mesquita, Hailey A. Parry, Andreas N. Kavazis, Jesse S. Krause, Geoffrey E. Hill, Wendy R. Hood. January 2023. Mitochondrial respiratory function varies between migratory and non-migratory White-crowned Sparrows. Society for Integrative and Comparative Biology (SICB) Annual Meeting. Austin, TX.
6. **E.M. Rhodes\***, Kang Nian Yap, Paulo H. C. Mesquita, Hailey A. Parry, Andreas N. Kavazis, Jesse S. Krause, Geoffrey E. Hill, Wendy R. Hood. July 2022. Mitochondrial respiratory function varies between migratory and non-migratory White-crowned Sparrows. American Ornithological Society Annual Meeting.
5. **E.M. Rhodes\***, Geoffrey E. Hill, Wendy R. Hood. March 2021. Comparison of Mitochondrial Capacity of Migratory and Non-migratory Sparrows in Genus Zonotrichia, Auburn Research Student Symposium.
4. **E.M. Rhodes**. July 2019. Building your Coastal Bird Stewardship Program. Panel: Alabama Coastal Bird Stewardship Program. National Audubon Convention, Milwaukee, WI.
3. **E.M. Rhodes\***, Joel Borden, and John McCreadie. August 2017. Death by strike: correlations with window strike mortality and age in avian populations. American Ornithology Conference, East Lansing, MI.
2. **E.M. Rhodes\***, Joel Borden, and John McCreadie. March 2017. Age specific patterns in Window Mortality in Avian Populations. Association of Southeastern Biologists 78th Annual Meeting, Montgomery, AL.
1. **E.M. Rhodes\***, Joel Borden, and John McCreadie. February 2017. Age specific patterns in window strike mortality in avian populations. Ninety-Fourth Annual Meeting of the Alabama Academy of Science, Inc, Mobile, AL.

#### INVITED TALKS/OUTREACH TALKS

26. **E. M. Rhodes**. September 2024. Banding together: Leveraging bird banding as a tool for community engagement and science communication. Auburn Outreach & Engaged Scholarship Symposium. Auburn, AL.

25. Kelly Finley and **E.M. Rhodes**. March 2024. 251 NOW with Kelly Finley Podcast--You are invited to the Dauphin Island Bird Banding Event, April 6-10th. Mobile, AL.
24. **E.M. Rhodes**. March 2024. Creature Comforts NPR Podcast, Spring Bird Banding. Jackson, MS.
23. **E.M. Rhodes**. January 2024. Basics of Bird Migration. Auburn Science Café. Well Red. Auburn, AL.
22. **E.M. Rhodes**. October 2023. Basics of Migration. Osher Lifelong Learning Institute. Auburn. AL.
21. **E.M. Rhodes**. October 2023. Alabama Coastal BirdFest 2023 Keynote speaker: Alabama Sojourn: through the eyes of a migrant. Mobile, AL
20. **E.M. Rhodes**. August 2023. Creature Comforts NPR Podcast, Bird Banding with Emma Rhodes.
19. **E.M. Rhodes**. June 2023. Weaving a Life in Birding. Hog Island: Costal Marine Bird Studies for Teens. Bremen, ME.
18. **E.M. Rhodes**. August 2022. Creature Comforts NPR Podcast, Bird Banding and Purple Martins with Emma Rhodes.
17. **E.M. Rhodes** and Kyle Shepard. January 2022. Fort Morgan Bird Banding: Continuing the Legacy Francis M Weston Talk. Pensacola, FL.
16. **Emma Rhodes**. February 2022. All About Hummingbirds. Orange Audubon Society. Orlando, FL.
15. **E.M. Rhodes**. November 2021. Auburn Interdisciplinary colloquium. Migration and Mitochondria. Auburn AL.
14. **E.M. Rhodes**. January 2021. Creature Comforts NPR Podcast, Winter Hummingbirds. Jackson, MS.
13. Alma Padilla and **Emma Rhodes**. July 2021. Career Advice for Young Birders. Hog Island Audubon Camp. Bremen, ME.
12. **Emma Rhodes**. November 2020. Introduction to Bird Banding. Auburn University Biological Sciences "Morning Talk", Auburn, AL.
11. Drs. Wendy Hood\* and Jeff Yap, with Kyle Heine, Hailey Parry, Paulo Mesquita, **E.M. Rhodes**, and LouAnn Crosby. October 2020. Mitochondria: the powerhouses of life. Auburn University Science Café. Auburn, AL.
10. **E.M. Rhodes**. April 2020. Bird Migration. Nature Connect. Fairhope, AL.
9. **E.M. Rhodes**. October 2019. Basics of birding workshop. Alabama Coastal Birdfest. Mobile, AL.
8. **E.M. Rhodes**. March 2019. All about hummingbirds. McWane Science Center Birmingham SCI Café. Birmingham, AL.
7. **E.M. Rhodes**. November 2018. All about hummingbirds. Mississippi Coast Audubon Society. Pascagoula, MS.
6. Katie Barnes\* and **E.M. Rhodes**. October 2018. Keynote speaker: Alabama

Coastal Bird Stewardship Program. Alabama Coastal Birdfest. Mobile, AL.

**5. E.M. Rhodes.** October 2018. All about hummingbirds workshop. Alabama Coastal Birdfest. Mobile, AL.

**4. E.M. Rhodes.** September 2018. All about hummingbirds. Pascagoula River Audubon Center. Pascagoula, MS.

**3. E.M. Rhodes.** October 2017. Avian Window Strikes & Overview of Birmingham Audubon Coastal Programs. Mobile Bay Audubon Society. Mobile, AL.

**2. E.M. Rhodes.** September 2016. Coastal Bird Conservation in the Bahamas. Mobile Bay Audubon Society. Mobile, AL.

**1. E.M. Rhodes.** October 2015. My experiences with National Audubon's Project Puffin. Mobile Bay Audubon Society. Mobile, AL.

## **POSTER PRESENTATIONS**

**8. E.M. Rhodes\***, Kang Nian Yap, Geoffrey E. Hill, Wendy R. Hood. March 2022. Migration distance co-varies with hematological traits in Birds. Auburn Research Student Symposium. Auburn, AL.

**7. E.M. Rhodes\***, Kang Nian Yap, Geoffrey E. Hill, Wendy R. Hood. January 2022. Migration distance co-varies with hematological traits in Birds. Society for Integrative and Comparative Biology (SICB) Annual Meeting. Phoenix, AZ.

**6. E.M. Rhodes\***, Geoffrey E. Hill, Wendy R. Hood. March 2021. Comparison of mitochondrial capacity of migratory and non-migratory sparrows in genus *Zonotrichia*. Auburn Research Student Symposium. Auburn, AL.

**5. E.M. Rhodes.** November 2019. Capture/Recapture: reviving a thirty-year banding tradition on the Alabama Gulf Coast. Inland Bird Banding Association Annual Meeting. Jacksonville, AL.

**4. E.M. Rhodes.** July 2019. Capture/Recapture: reviving a thirty-year banding tradition on the Alabama Gulf Coast. National Audubon Convention, Milwaukee, WI.

**3. E.M. Rhodes\*** and Katie Barnes. November 2018. Alabama's Audubon Coastal Bird Survey: standardization and implementation of a Gulf-Wide initiative. Alabama and Mississippi Bays & Bayous Symposium. Mobile, AL.

**2. E.M. Rhodes.** January 2017. Age specific patterns in window mortality in avian populations. Gulf Coast Wildlife Rehabilitation Symposium. Orange Beach, AL.

**1. E.M. Rhodes** and Ylenia Chiari. October 2016. Age specific patterns in window strike mortality in avian populations. Office of Undergraduate Research at the University of South Alabama Undergraduate Research Symposium. Mobile, AL.

## **RESEARCH EXPERIENCE**

---

**Ph.D. Research** 2020-current  
Biology, Auburn University

## Laboratory Techniques & Procedures

Supervisors: Drs. Wendy R. Hood and Geoffrey E. Hill

- Conducts tissue dissections in avian taxa and mice to extract various tissues.
- Isolates mitochondria from various tissues from avian taxa and mice and runs samples using the Hanestech Oxytherm high-resolution respirometry system.
- Conducts various assays (Bradford protein, citrate-synthase activity, ETS complex activities, hemoglobin, and ketones).
- Participates in weekly lab meetings to discuss and read scientific papers, research proposals, grants, and for professional development.
- Preps tissues and subsamples for RNA analyses.
- Uses the Western Blot method for protein quantification.
- Uses Transmission Electron Microscopy to analyze metrics of mitochondrial morphology.
  
- Familiar with:
  - cDNA/PCR/qPCR
  - Cell culture
  - Oroboros high-resolution respirometry system
  - Sable System

## **B.S. Research 2015-2017**

Biology, University of South Alabama

### Window Strike Mortality Study

Jan 2016-May 2017

Supervisors: Dr. John McCredie, Joel Borden, and Dr. Ylenia Chiari.

- Developed an undergraduate research project on avian window strike mortality.
- Visited natural science museums and university collections to collect window strike data on avian specimens.
- Created a database in excel for specimen data.
- Proofed, filtered, and compiled window strike data from various sources into the database.
- Tested the accuracy of avian specimen aging techniques (skull ossification and the bursa of Fabricius) and their level of agreement using a Pearson Correlation analysis.
- Examined how skull ossification and bursa may correlate with age and sexual maturity.
- Analyzed window strike data using Chi-square tests to observe if any correlations with age and window strike exist.

### Exosomal RNA in Prostate and Pancreatic Cancer

Jan-May 2017

Supervisor: Dr. Glen Borchert

- Identified unknown RNA sequences using BLAST and other databases. Unknown sequences were from prostate and pancreatic cancer patients. The

goal of this research was to better detect cancers like prostate and pancreatic cancer.

- Formatted files to run alignment tests using command prompt.

### **Avian Point Count Surveys**

Fall 2015

Supervisor: Jared Elmore

- Conducted avian point counts as part of a study comparing diversity, richness, and life history to landcover.

## **UNDERGRADUATE TEACHING EXPERIENCE (VOLUNTEER)**

### **BIO 346: Vertebrate Natural History**

University of San Diego, Biology

Assistant Professor: Dr. Nicole Danos

- Guest Lecture provided in April 2023 titled "General Migration Lecture"
- 

### **BIOL5750: Ornithology**

Auburn University, Biological Sciences

Full Professor: Dr. Geoffrey Hill

- Guest Lecture provided in March 2023, March 2024 titled "Orientation and Navigation"

-

### **BIOL5750: Ornithology Lab**

Auburn University, Biological Sciences

Spring 2021, 2022, & 2023

Full Professor: Dr. Geoffrey Hill

- Taught the methods of bird banding to the class during a lab session.
- Demonstrated mist net and trap usage, trapping, and extracted birds from nets/traps, and data collection.

## **MENTORING EXPERIENCE**

Created and implements the "Auburn Bird Banding Training Program" from 2020 onward. Undergraduates learn the entire process of banding wild birds from handling, collecting data, trapping, and banding.

### **Undergraduates mentored for bird banding program to date:**

Dylan Ogle

Mary Wells

Joel Jacobsen

Ansley Strength

Alex Fisher

Sophie Hirsch

Thomas Beard

Payton Brewer

**Other undergraduate mentoring/directed studies:**

Amber Nicoll  
Nikki Gassman  
Kalyn Anderson  
Emile Hale

**EXTRAMURAL GRANTS**

---

5. Purple Martin Conservation Association Research Grant, Title: Grant, \$2,500, April 2022.
4. Society for the Study of Evolution, R.C. Lewontin Early Award, Title: Mitochondria Power the Evolution of Bird Migration. \$2,500, May 2022.
3. Alabama Ornithological Society, Dan C. Holliman Research Fund, Title: Southeastern U.S. Purple Martin Project. \$1,000, May 2022.
2. Alabama Ornithological Society, Dan C. Holliman Research Fund, Title: Age Specific Patterns in Window Mortality in Avian Populations, \$1,000, March 2017.
1. Alabama Ornithological Society, Dan C. Holliman Research Fund, Title: Age Specific Patterns in Window Mortality in Avian Populations, \$1,000, March 2017.

**Role Co-PI**

USFWS Multiple State Conservation Grant Program, "Disease ecology, movements, and toxicological monitoring of the American Kestrel (*Falco sparverius*) in the Southeastern U.S." Amount requested: \$408,331. *Submitted May 2024 with College of Forestry Wildlife and Environment at Auburn University.*

USFWS, Southeast Region Coastal Program Implementation Strategy Grant. Title: Alabama Coastal Bird Stewardship Program, Birmingham Audubon, \$100,000, July 2018.

**SCHOLARSHIPS AND AWARDS**

---

<b>Graduate Science Communication &amp; Outreach Efforts Competition</b> , Auburn Outreach and Engaged Scholarship Symposium, \$500	September 2024
<b>PhD student Dean's Research Award</b> College of Science and Mathematics, \$250	September 2024
<b>Student Travel Award</b> American Ornithological Society, \$814	August 2023
<b>Charlotte Magnum Student Support Program</b> , Society for Integrative and Comparative Biology, \$125	January 2023
<b>Charlotte Magnum Student Support Program</b> , Society for Integrative and Comparative Biology, \$125	January 2022

<b>Student Travel Award,</b> American Ornithological Society, \$500	June 2022
<b>NSF-GRFP,</b> National Science Foundation, \$34,000 1 yr; \$37,000 2yr & \$12,000/year Cost of Education Allowance (3 years)	April 2022
<b>Auburn Research Student Symposium,</b> Graduate Student Winner for best poster, \$100	March 2022
<b>Presidential Graduate Research Fellowship,</b> Auburn University, 3-Year RA position, \$37,000 annually	February 2020
<b>Student and Early-career Scholarship,</b> National Audubon Society, \$500	February 2019
<b>Student Support Award (Conference),</b> Mobile Bay Audubon Society, \$250	June 2017
<b>Student Travel Award,</b> American Ornithological Society, \$500	May 2017
<b>Undergraduate Paper Competition Award (2nd place),</b> Biological Sciences Section, Alabama Academy of Science, \$80	February 2017
<b>Biology Student Association Travel Award,</b> University of South Alabama, \$500	June 2016
<b>Student Support Award (Bahamas Research),</b> Mobile Bay Audubon Society, \$250	May 2016
Office of Undergraduate Research at USA, \$500	April 2016
<b>Research Travel Scholarship,</b> Conservian (Coastal Bird Conservation), \$1,200	March 2016
<b>Transfer Scholarship,</b> Phi Theta Kappa, \$5,000	August 2015
<b>Student Support Award (Project Puffin),</b> Mobile Bay Audubon Society, \$250	May 2015
<b>Student Support Award (Project Puffin),</b> Mobile Bay Audubon Society, \$250	May 2014
<b>Institutional Scholarship,</b> Faulkner State Community College, (full tuition)	December 2013

## **HONORS**

---

<b>Nomination for Best Presentation Competition</b> Division of Comparative Physiology and Biochemistry, Society of Integrative and Comparative Biology	January 2022
<b>Phi Eta Sigma</b> University of South Alabama	April 2016
<b>Phi Theta Kappa International Honor Society</b> Faulkner State Community College	February 2014

## **PROFESSIONAL/INTERNSHIP EXPERIENCE**

---

### **(Co-founder) Director of Conservation and Scientific Research:**

Banding Coalition of the Americas, Foley, AL

Mar 2020 – Present

Hours per week: 10 (Volunteer)

- Manages multiple research initiatives focused on migratory bird ecology, securing funding through grants, outreach, and research.
- Creates study and sampling designs for avian research and conservation projects.
- Trains students and volunteers in ecological research methods.
- Lead (master) bander for spring and fall public bird banding events, managing a crew of ~15 people with 1,500-2,000 public attendees annually.
- Assists with social media content on migratory birds, reaching 179.2K people annually.
- Manages databases, performs quality control, and analyzes data for scientific reports and publications.

### **Field Research Technician:** Part-time Position \*term cut short due to COVID-19

Auburn University, Auburn, AL

Mar 2020-April 2020

- Provided field training to another PhD student (i.e. mist net set-up/take down)
- Provided avian project development assistance
- Developed a federal permit application (Federal Migratory Bird Scientific Collecting permit) for an avian project

### **Coastal Biological Technician:** Full-time position

Aug 2017-Oct 2018

### **Coastal Biologist:** Full-time position

Oct 2018-Feb 2020

Alabama Audubon, Mobile, AL

- Developed the first Alabama Coastal Bird Stewardship Program (ALCBSP) alongside a coastal Audubon team: database development, monitoring protocols, management methodologies, and strategic planning for state species of conservation concern.
- Implemented Audubon Coastal Bird Surveys (ACBS): conducted surveys, recruited volunteers, and managed ACBS databases.
- Provided training and technical assistance to volunteers, ALCBSP Seasonal Stewards, and interns.
- Conducted resight, productivity, and survivorship surveys on both solitary and colonial nesters.
- Implemented Alabama's American Oystercatcher and Snowy Plover banding project.
- Wrote site and species reports throughout the year for utilization by state, federal, and city municipality partners for management purposes.
- Implemented predator management: deploying chick-shelters, camera traps, and reporting predator sightings to local partners.
- Engaged the public and beach-goers throughout the year for outreach purposes.
- Managed databases and performs QA/QC.

**Animal Caretaker: Part-time Position**

Environmental Studies Center, Mobile, AL

Mar 2016-Aug 2017

- Interacted with the public daily for wildlife education and outreach.
- Triage and treated injured animals, primarily birds.
- Cared for the on-site permanent animals.
- Handled and trained birds of prey for educational shows.
- Coordinated volunteers.

**Laboratory Technician/Student Assistant: Part-time Position**

Feb 2017-May 2017

Biological Sciences, University of South Alabama, Mobile, AL

- Maintained and organized the laboratory.
- Sorted and extracted aquatic invertebrates from water samples collected in the field.
- Prepared and organized aquatic invertebrate samples for examination.

**Undergraduate Researcher: Paid Researcher**

May 2016-Aug 2016 Summer

Undergraduate Research Fellowship (SURF), University of South Alabama, Mobile, AL

- Conducted mentored, independent research looking at avian window strike mortality.
- Attended academic research meetings and collaborated with other researchers.
- Attended professional development workshops.

**Research Field Assistant: Unpaid Intern**

May 2016 (2-week stint)

Conservian (Coastal Bird Conservation), Bahamas

- Conducted beach-nesting bird monitoring surveys locating breeding pairs, nests, and chicks.
- Implemented habitat and nesting stewardship by locating sensitive nesting areas for Wilson's Plover and Least Tern and wintering areas for endangered Piping Plover.
- Worked with site managers and local volunteers to implement protective measures and control invasive Australian pine.
- Recorded data on breeding pairs, habitat assessment, and human-created disturbance.
- Managed field notes, completed various data forms, performed data entry, and helped director supervise Conservian crew and local volunteers.
- Assisted director with daily planning/prep duties onboard the research schooner.

**Research Assistant: Unpaid Intern**

Jun-Jul 2015; May-Jul 2014

Project Puffin, National Audubon's Seabird Restoration Program, Bremen, ME

- Assisting with management and monitoring of restricted seabird restoration islands (Eastern Egg Rock, Stratton Island, Pond Island, and Jenny Island).
- Conducted band resighting, chick provisioning, productivity and growth, and census surveys working with terns, puffins, eiders, and gulls.
- Assisted with vegetation monitoring and management and predator management.

- Collected daily weather metrics, bird lists, surveys, population counts, and entered and managed data.
- Banded the colonial seabirds including one state threatened species (Arctic Tern) and assisted the supervisor in banding the federal and/or state endangered species (Roseate Tern and Least Tern).

## **OTHER EMPLOYMENT EXPERIENCE**

---

Coastal Maine Bird Studies for Teens Camp: Paid Teen Instructor. June 2019 (1 week), July 2021 (1 week), 2022 (1 week), 2023 (2 weeks), 2024 (2 weeks).

Hog Island Audubon Camp, National Audubon Society, Bremen, ME

- Supervised teen campers.
- Led bird banding workshops for adult and teen campers.
- Led field trips with the other teen instructors.
- Taught an ornithology class focused on bird anatomy, form and function.

## **SKILLS**

---

### **COMPUTER**

ARC GIS, R, Microsoft Office (Excel, PowerPoint, Access, Word), AirTable, Canva, Website Design (wix), Adobe, and eBird

### **AVIAN SAMPLING & FIELD TECHNIQUES**

- o Master Bird Bander for passerines and near-passerines, hummingbirds, Northern Saw-whet Owl, American Kestrel, and limited hawk species in 18 states.
- o Manager/banding lead for a long-term public bird banding station (Fort Morgan State Historic Site) (October 2019-present) as featured in New York Times (see media coverage below).
- o 13+ years banding experience in the US (10 states), Belize, and Canada working with passerines and near- passerines, hummingbirds, raptors, seabirds, and shorebirds.
- o Experience with a variety of trapping techniques: Mist net, bow net, noose carpets, trip-door, baited, modified box, and bal-chatri traps.
- o Experience with various band types including alpha numerics, plastic color bands (experience with sealing them), aluminum color bands, lock-ons, steel, incoloy, butt-end, and rivet bands.
- o Collects feather and blood samples in collaboration with the Bird Genoscape Project.
- o Assisted with deployment of a CTT satellite backpack transmitter and leg geolocator.
- o Assisted with MAPS (Monitoring Avian Productivity & Survivorship).
- o Conducted and lead avian point counts/Breeding Bird Surveys (BBS).

- Experience with prepping avian study skins.
- Deployed geolocators and assisted with deployment of a CTT satellite backpack transmitter.
- Experience with analyzing geocator data and deploying geolocators on Purple Martins.

## MISC

Camera trapping, UTV, GPS Garmin units, iButtons, water quality analysis testing, certified boat operator, bird guiding

## **PROFESSIONAL AFFILIATIONS**

---

Society for Experimental Biology	2024
The Society for Integrative & Comparative Biology	2020-present
Western Bird Banding Association	2020-present
Eastern Bird Banding Association	2020-present
Inland Bird Banding Association	2019-present
American Ornithological Society	2017-present
Alabama Ornithological Society	2016-present
Mobile Bay Audubon Society	2008-present
National Audubon Society	2008-present
Association of Southeastern Biologists	2017

## **PROFESSIONAL DEVELOPMENT: WORKSHOPS & CERTIFICATIONS**

---

- Auburn University; Statistical Testing and Engineering Modeling Workshop, May 2024.
- Stanford Latinx PostDoc Association. Data Management Workshop, May 2022.
- American Ornithology Conference, Customized Breeding Bird Survey trends, trajectories, graphs, and maps using the bbsBayes R package Introduction to Count Data, August 2021.
- Auburn Diversity, Equity, and Inclusion: Implicit Bias Workshop, April 2021.
- SICB Conference: Setting up a Small Animal Respirometry System, January 2021.
- Auburn University: Mock Interview Practice, September 2020.
- Auburn Savvy Researcher Boot Camp; Topics: Zotero & Excel. September 2020.
- Grant Writing Techniques for Successful Proposals, National Audubon Convention, July 2019.
- NABC Assistant Bander Certification, Toucan Ridge Ecology and Education Society in Belize, March 2018.
- Wildlife Tracking & Training, Huntington College, January 2018.
- Professional Development for Prospective Graduate Students, American Ornithology Conference, August 2017.

- Coordinated Landbird Banding during Migration in the Midwest, American Ornithology Conference, August 2017.

## **RELEVANT COURSEWORK**

---

### Auburn University

Bioenergetics (Spring 2023)  
Stress Physiology (Fall 2022)  
Exercise Physiology (Fall 2022)  
Reproductive Physiology (Spring 2021)  
Ornithology (Spring 2021)  
Mitonuclear Ecology (Spring 2020)  
Evolutionary Biology (Fall 2020)  
Advanced Analysis for Ecological Sciences (Fall 2020)

### University of South Alabama

Computational Genetics (Spring 2017)  
Biometry (Spring 2017)  
GIT Applications II-Business/Social Science (Spring 2017)  
Remote Sensing I (Spring 2017)  
Conservation Biology (Fall 2016)  
GIT Applications I-Environment (Fall 2016)  
Evolutionary Biology (Spring 2016)  
Ornithology (Spring 2016)  
Plant & Animal Interactions (Spring 2016)  
Ecology and Evolution (Fall 2015)

## **SERVICE**

---

### PROFESSIONAL

**Temporary Committee Member:** June-December 2022

Alabama Ornithological Society: Membership Committee

**Co-founder & Director:** 2020-present

Banding Coalition of the Americas

**Founder & Manager November:** 2019-November 2020

Mobile Bay Audubon Society Young Birders Club

**Vice President/Outreach and Programs Director:** September 2018-August 2020

Mobile Bay Audubon Society

### COMMUNITY/OUTREACH/VOLUNTEER

- Manager/founder of Auburn Bird Banding Training Program, August 2020-present

- Mentor for Girls Incorporated Birmingham, AL: fall 2022- winter 2023. Mentored a high school student and coordinated meetings to discuss bird banding and career options. Worked with student on Science Fair project.
- Volunteer for Auburn Museum of Natural History Open House, June 2022.
- Mentor for Honors Organismal Biology class at Auburn University, Spring 2022.
- Hummingbird Research, Inc., bander for winter hummingbird project, 2014-present.
- Christmas Bird Count Leader, 2014-2021

## **MEDIA COVERAGE**

---

How Emma Rhodes Promotes Habitat Conservation Through Bird-Banding. By Nick Williams. Mobile Baykeeper's CURRENTS. July 2024.

<https://mobilebaykeeper.org/blog/how-emma-rhodes-promotes-habitat-conservation-through-bird-banding/>?

"251 NOW with Kelly Finley--You are invited to the Dauphin Island Bird Banding Event, April 6-10th (Part 1). <https://podcasters.spotify.com/pod/show/kelly-finley/episodes/251-NOW-with-Kelly-Finley--You-are-invited-to--the-Dauphin-Island-Bird-Banding-Event--April-6-10th-Part-1-e2ht0fe>

251 NOW with Kelly Finley--You are invited to the Dauphin Island Bird Banding Event, April 6-10th (Part 2). <https://podcasters.spotify.com/pod/show/kelly-finley/episodes/251-NOW-with-Kelly-Finley--You-are-invited-to--the-Dauphin-Island-Bird-Banding-Event--April-6-10th-Part-2-e2ht0as>

"9 Days, 527 Birds, 55 Species" November 2023. By: Dodai Stewart. New York Times (Science Times). <https://www.nytimes.com/2023/11/14/science/birds-migration-banding.html>.

"Birders and birds flocking to Fort Morgan this week for banding event. October 2023. WKRG News. <https://www.youtube.com/watch?v=XxmoqsZWgUk>.

"Bird banders at Fort Morgan" September 2022. By: Fran Thompson. Mullet Wrapper. <https://mulletwrapper.net/bird-banders-at-fort-morgan-sept-30-oct-7/>

"Bird Banding and Purple Martins with Emma Rhodes" August 2022. Creature Comforts NPR Podcast. Mississippi Broadcast Network. <http://creaturecomforts.mpbonline.org/episodes/creature-comforts-bird-banding-purple-martin>

Eight Auburn University students, graduates receive National Science Foundation fellowships. By Wade Berry. May 2022.

[https://ocm.auburn.edu/newsroom/news\\_articles/2022/05/120918-nsf-fellows.php](https://ocm.auburn.edu/newsroom/news_articles/2022/05/120918-nsf-fellows.php).

“Fall Fort Morgan Banding: Continuing the Legacy” December 2021. By: Emma Rhodes. Alabama Ornithological Society: Yellowhammer. [chrome-extension://efaidnbmnnnibpcajpcqlclefindmkaj/https://www.bandingcoalition.org/files/ugd/8bb5ed\\_c7538a154b0a4571bc0c3bf5fb888052.pdf](chrome-extension://efaidnbmnnnibpcajpcqlclefindmkaj/https://www.bandingcoalition.org/files/ugd/8bb5ed_c7538a154b0a4571bc0c3bf5fb888052.pdf)

“Banding Coalition of the Americas: A new generation continues the Bob and Martha Sargent Legacy” September 2021. By: Angela Minor. Birdwatchers Digest. [https://otwtb.birdwatchersdigest.com/birding-news/banding-coalition-of-the-americas/?mc\\_cid=9b37de9d86&mc\\_eid=07c9eb1962](https://otwtb.birdwatchersdigest.com/birding-news/banding-coalition-of-the-americas/?mc_cid=9b37de9d86&mc_eid=07c9eb1962)

“Creature Comforts NPR Podcast: Winter Hummingbirds with Emma Rhodes” January 2021. <http://creaturecomforts.mpbonline.org/episodes/creature-comforts-winter-hummingbirds>

“The Beauty in Bird Watching: The Eastern Shore is a hotspot for birding activity” September 2019. By: Jim Hannaford. Portico Eastern Shore Magazine. <https://www.porticoeasternshore.com/birders/>

“Alabama is for the birds” May 2019. By: Angela Minor. Alabama Living Magazine. <http://alabamaliving.coop/article/alabama-is-for-the-birds/>

“Bird in the hand: Hummingbirds wow crowd in Kennesaw” September 2018. By: Ross Williams. Marietta Daily Journal. [https://www.mdjonline.com/news/bird-in-the-hand-hummingbirds-wow-crowd-in-kennesaw/article\\_e79880de-b495-11e8-8c78-bf5d11ac75d1.html](https://www.mdjonline.com/news/bird-in-the-hand-hummingbirds-wow-crowd-in-kennesaw/article_e79880de-b495-11e8-8c78-bf5d11ac75d1.html)

“Birmingham Audubon Saves Terns After Beachgoers Destroy Hundreds of Eggs” August 2017. By: Jillian Mock. National Audubon Society. <https://www.audubon.org/news/birmingham-audubon-saves-terns-after-beachgoers-destroy-hundreds-eggs>