

FAITH O. HARDIN

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EDUCATION

2018 - Present

MASTERS OF SCIENCE IN WILDLIFE AND FISHERIES

Texas A&M University – College Station, TX

Thesis: *Second-hand Homes: How Secondary-Cavity Nesting Birds May Rely on a Local Ecosystem Engineer*

Advisor: Michael L. Morrison, Department of Wildlife and Fisheries

GPA 4.0

2014 **BACHELORS OF SCIENCE IN BIOLOGY:** *concentration in ecology and field biology*

State University of New York at Oneonta, NY

Cumulative GPA: 3.94

Summa Cum Laude

2013 **TROPICAL ECOLOGY & BIOLOGY PROGRAM**

Universidad VERITAS, San José, Costa Rica.

Research Interests

Behavioral ecology and interspecies relationships. In particular, using an integrative approach to investigate the evolutionary mechanisms that may have led to sociality and cooperation, and application to conserving species in the wild. My current research focuses on how woodpeckers may act as ecosystem engineers by creating long-lasting and valuable cavities that are often relied upon by other organisms. This research is conducted through empirical long-term monitoring data and behavioral observations in the field.

Publications

- **Hardin, F.O.**, Leivers, S., Pierce, B., Cairns, D.M., Grace, J., Campbell, T., Morrison, M.L. Secondhand homes: Woodpeckers dictate secondary cavity nesters' success. (*Manuscript in progress May 2020-present*)
- Hancock, Z.B., **Hardin, F.O.** and Light, J.E., 2019. Phylogeography of sand-burrowing amphipods (Haustoriidae) supports an ancient suture zone in the Gulf of Mexico. *Journal of Biogeography*, 46(11): 2532–2547.

Invited Book Chapters

- **Hardin, F.O.**, Beckman, A., Earl, A., Grace, J. 2020. Optimizing and Competing for Resources. In *Songbird behavior: Implications for conservation and management in the Anthropocene*. D. Proppe (ed). CR Press, (Boca Raton, FL). *In press*.
- Beckman, A., **Hardin, F.O.**, Kohler, A., Morrison, M. 2020. Sociality and Antipredator Behavior. In *Songbird behavior: Implications for conservation and management in the Anthropocene*. D. Proppe (ed). CR Press, (Boca Raton, FL). *In press*.

Research Experience

- Graduate Researcher- College Station, TX *January 2018 - Present*
Thesis title – *Second-hand Homes: How Secondary-Cavity Nesting Birds May Rely on a Local Ecosystem Engineer*
 - Mentor: Michael L. Morrison, PhD
 - Delineate woodpecker territories and nest sites using behavioral cues
 - Analyze nest success of primary and secondary cavity nesting birds
 - Insect community sampling
 - Manuscript completed, in revision with committee.

- Project Manager of the East Foundation Long-term Monitoring Program *2018 – Present*
Duties:
 - Responsible for creating and updating research and field protocol for small mammal monitoring (through trapping efforts) and avian monitoring (through point counts and nest searches)
 - Interviewing/hiring of 11 field technicians
 - Creating and balancing ~\$300,000 budget for annual efforts
 - Overseeing the training of employees and daily operations of the field station
 - Proofing and analyzing data from past years and current efforts
 - Acting representative for the field technicians to and from Texas A&M

- Directed Independent Study Student – SUNY Oneonta, NY *Sept. 2013 – Jan. 2014*
Title – *Insect abundances and species richness in managed grassland*
 - Mentor: Jeffery Heilveil, PhD
 - Collected insect samples in variety of grassland habitat
 - Analyzed abundances and species richness
 - Created working insect collection for students

Professional Work and Field Research Experience

Threatened and Endangered Species Assistant Wildlife Biologist *2016 - 2018*

Department of Environmental Conservation; Schenectady, New York

- Conducted avian grassland, marsh and forest point count surveys
- Assisted with little brown bat (*Myotis lucifugus*) capture and banding at Thatcher State Park, NY
- Staffed the MAPS bird banding stations at the Albany Pine Bush Preserve and 5 Rivers Center
- Lead winter raptor surveys as part of a citizen science project
- Assisted with winter raptor trapping efforts in the Cocksackie Grasslands, NY
- Conducted Eastern Whip-poor-will, *Antrostomus vociferus*, surveys and habitat assessment
 - Used satellite imagery to digitize preferred canopy openings, with frequent survey visits
- Assisted with the Regional effort to survey the candidate species, New England Cottontail Rabbit, *Sylvilagus transitionalis*
 - Used satellite imagery and field surveys to determine preferred habitat
 - Established landowner contacts

Assistant Wildlife Biologist

May – Dec 2016

Department of Environmental Conservation, Schenectady, NY

- Assisted with Eastern Whip-poor-will, *Antrostomus vociferus*, triangulation
- Staffed Albany Pine Bush's weekly efforts to capture Northern Saw-wet Owls, *Aegolius acadicus*
- Supported MAPS Bird Banding efforts: Albany Pine Bush Preserve and the 5 Rivers Center, NY
- Aided Cerulean Warbler, *Setophaga cerulea*, and Canada Warbler, *Cardellina canadensis*, surveys
- Conducted Marsh Bird Surveys in the Iroquois National Wildlife Refuge
- Supported Radio Telemetry efforts for the Wild Turkey Survival Study
- Located, assessed and removed invasive species in Wildlife Management Areas
 - Created an ArcGIS project for invasive species project and contacted landowners
 - Produced a management plan for Region 4 invasive species

Wildlife Biology Field Technician

Dec. 2015 – April 2016

Maine Department of Inland Fisheries and Wildlife

- Using rocket nets, assisted Waterfowl Biologist with winter waterfowl trapping
- Assisted with Wild Turkey capture, using clover traps and drop nets
- Staffed efforts to capture White Tailed Deer, *Odocoileus virginianus*, for winter survival study
 - Deployed Clover Traps, Rocket Nets and Drop Nets to live capture study animals
 - Administered chemical immobilizers and reversals to study species
 - Conducted field necropsies on deceased study animals

Invasive Species Technician

Fall 2015

Albany Pine Bush Preserve Commission, Albany, NY

- Assisted Field Ecologist with MAPS bird banding station
- Oiled eggs and tracked movements of invasive Mute Swans
- Used GIS and GPS systems to locate and identify invasive plant species
 - Used field techniques to remove and eradicate infestations of invasive plants
- Assisted Fire Science technicians with prescribed burns

Field Science Technician

Summer 2015

Albany Pine Bush Preserve Commission, Albany, NY

- Staffed summer MAPS bird banding at the Commission's various stations
- Monitored the endangered Karner Blue Butterfly, *Lycaeides melissa samuelis*
 - Surveyed pre-determined transects to count target species
 - Conducted vegetation surveys to monitor habitat quality
- Ran camera trapping in select areas on the preserve to monitor vertebrates

Awards and Grants

- TAMU Graduate and Professional Student Committee Travel Award (\$500) Spring 2020
Travel to the Annual Meeting of Animal Behavior, Knoxville, TN.
(canceled due to COVID-19)
- TAMU Graduate and Professional Student Committee Travel Award (\$500) Spring 2019
Travel to the Annual Meeting of Animal Behavior, Chicago Illinois.
- East Foundation 3 Minute Thesis Director's Choice Award (\$3,000) Fall 2018
Title: *Southern Texas Ecosystem Engineers: The Golden-fronted Woodpecker*
- East Wildlife Foundation Student Grant (\$500) Spring 2018
Purchasing field equipment including mist nests and banding materials
- Pietrafesa Biology Scholarship, SUNY Oneonta, NY (\$5,000 per year) 2010-2014
Merit Scholarship for Academic Excellence

Teaching Experience

Graduate Teaching Assistant – Texas A&M, College Station, TX *Fall 2018-2019*

- Courses Taught: Ornithology 402
- Designed course syllabus, labs, field trips, and exams
- Taught undergraduate students in lab and occasionally lecture
- Graded lab exams and quizzes
- Designed three-day field trip to Goose Island National Park, TX

Teaching Assistant – State University of New York, Oneonta, NY *Fall 2013*

- Courses Taught: Biology 181 Lab – Animal and Plant Physiology
- Assisted with lesson planning and lab techniques
- Taught students in an open lab alongside residing professor

Presentations

- **F.O. Hardin.** 2020. *Second-hand Homes: secondary cavity nesting bird's nesting success improves in active woodpecker territories.* Texas A&M Wildlife and Fisheries Seminar, College Station, TX
- **F.O. Hardin.** 2020. *Second-hand Homes: How a primary cavity nester influences local secondary cavity nesters.* Texas Chapter of the Wildlife Society Annual Conference, Corpus Christi, TX.
- **F.O. Hardin.** 2019. *Behavior and nest success of the Golden-fronted Woodpecker.* Animal Behavior Society Annual Meeting, Chicago, IL.
- **F.O. Hardin.** 2019. *The influence of Golden-fronted woodpeckers as ecosystem engineers on the local avian community.* Ecological Integration Symposium, Texas A&M, College Station, TX.

Presentations (continued)

- **F.O. Hardin.** 2018. *Southern Texas Ecosystem Engineers: How the Golden-fronted Woodpecker can Impact the Local Avian Community.* Texas Chapter of the Wildlife Society Annual Conference, Conroe, TX
- **F.O. Hardin.** 2018. *Woodpeckers as Ecosystem Engineers in South Texas.* East Foundation Educational Outreach Event. Hebronville, TX
- **F.O. Hardin.** 2016. *A Review of the Tactics Used in Eliminating Local Invasive Plant Species.* NYS-DEC, Region 4 Quarterly Meeting. Schenectady NY. USA.
- **F.O. Hardin** and J.N. Tutchton. 2014. *The Effects of Small Mammal Communities on Blue Gramma Arid Grasslands as part of the Sevilleta National Wildlife Refuge.* US Fish and Wildlife Service Quarterly Meeting, Department of the Interior, Southwest Chapter. Albuquerque, NM. USA.
- A. Tumbarello and **F.O. Hardin.** 2014. *Impacts of Habitat Fragmentation in the Albany Pine Bush Preserve on the Karner Blue Butterfly.* SUNY Oneonta Student Science Symposium. Oneonta, NY. USA.
- **F.O. Hardin.** 2013. *An Exploration of Adirondack Mountain Aquatic Insects: Life History and Habitat.* Silver Bay YMCA Weekly Science Talks. Silver Bay, NY. USA.

Technical Reports

- **F.O. Hardin.** 2019. Annual East Foundation Report, East Foundation, San Antonio, TX
 - Review of annual efforts of research staff, graduate students, and field technicians
- **F.O. Hardin.** 2018. Annual East Foundation Report, East Foundation, San Antonio, TX
- **F.O. Hardin.** 2016. The 2016 Invasive Species Assessment for Region 4, NYS Fish and Wildlife
- **F.O. Hardin.** 2016. Proposed Revisions to the NY Statewide Initiative to Control Aquatic Invasive Plants Species at Public Access Points. Otsego County Conservation Association. Cooperstown, NY

Committees and Societies

- Animal Behavior Society (ABS)
- American Ornithological Society (AOS)
- The Wildlife Society
- Peer Reviewer for *The Southwestern Naturalist*
- Texas A&M Graduate and Professional Student Government (GPSG)
- *Current acting Senator for the Department of Wildlife and Fisheries, Texas A&M*

Professional References

Dr. Andrea Montalvo: East Foundation Research Scientist

Phone: (210) 600-3485

Email: amontalvo@eastfoundation.net

Dr. Gil Rosenthal: Behavioral Ecologist, Chair, Ecology & Evolutionary Biology, Texas A&M

Phone: (979) 845-3614

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Dr. Brian Pierce: Associate Director of Texas A&M Natural Resources Institute

Phone: (979) 845-1851

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