

Paul J. Taillie

Assistant Professor
University of North Carolina at Chapel Hill
Department of Geography

EDUCATION

- PhD 2018 **North Carolina State University**
PhD in Fisheries, Wildlife, and Conservation Biology
Dissertation title: *Coastal Bird Responses to the Salinization-Induced Transition from Forest to Marsh as Sea Level Rises*
- MS 2013 **North Carolina State University**
MS in Fisheries, Wildlife, and Conservation Biology
Thesis title: *Using Distribution and Abundance of Birds to Guide Management of Fire-maintained Forest Ecosystems*
- BS 2006 **Cornell University**
BS in Engineering: Geological Sciences
Concentration: Ecological Sciences

PEER-REVIEWED PUBLICATIONS (19; 5 In Review)

- In Review* Robertson E. P., F. A. La Sorte, J. D. Mays, **P. J. Taillie**, O. J. Robinson, R. J. Ansley, T. J. O'Connell, C. A. Davis, S. R. Loss. Bird migration is not tracking the changing phenology of spring green-up. *Nature Climate Change*.
- In Review* C. H. do Amaral, B. Poulter, D. Lagomasino, T. Fatoyinbo, **P. Taillie**, G. Lizcano, R. M. Roman-Cuesta. Climate trends and coastal development add new pressures to mangrove resilience and vulnerability to cyclones. *Conservation Biology*.
- In Review* **P.J. Taillie**, J. Hartfelder, R.J. Fletcher, S. Ferreira, D. Pienaar, C. Greaver, P. Viljoen, R.A. McCleery. Density-dependent factors drive megaherbivore response to drought. *Austral Ecology*.
- In Review* **P. J. Taillie**, S. Sneckenberger, N. Perry, C. Anderson, K. Kalasz, R. A. McCleery. Climate adaptation pushes insular endemic species closer to extinction. *Conservation Biology*
- In Review* R. McKee, P.J. Taillie, A. Sanjar, C. Lopez, K. Hart, R.A. McCleery. Invasive pythons alter ecosystem function: A case of phantom redundancy. *Journal of Animal Ecology*.
- 2021 Anderson, S.M., E.A. Ury, **P.J. Taillie**, E.A. Ungberg, C.E. Moorman, B. Poulter, M. Ardón, E.S. Bernhardt, J.P. Wright. Salinity thresholds for understory plants in coastal wetlands. *Plant Ecology*. DOI: 10.1007/s11258-021-01209-2
- 2021 **Taillie P.J.**, E.C. Braun de Torrez, A.D. Potash, W.W. Boone IV, M. Jones, M.A. Wallrichs, F. Shellenberg, K. Hooker, H.K. Ober, R.A. McCleery. Bat activity to fire regime depends on species, vegetation conditions, and behavior. *Forest Ecology and Management* 502: 119722

- 2021 **Taillie P.J.**, K.M. Hart, A.R. Sovie, and R.A. McCleery. Native mammals lack resilience to invasive generalist predator. *Biological Conservation*.
- 2021 Smart L.S., J. Vukomanovic., **P.J. Taillie**, K. Singh, J. Smith. Quantifying drivers of coastal forest decline highlights opportunities for targeted human interventions. *Land* 10: 752.
- 2021 **Taillie, P. J.**, McCleery, R. A. Climate Relict Vulnerable to Extinction from Multiple Climate-Driven Threats. *Diversity and Distributions*.
- 2020 **Taillie, P. J.**, Jolly, S., Bobay, L., Sneckenberger, S., McCleery, R. A. Habitat use across multiple scales suggests resilience to rising seas for endangered island endemic compared to sympatric invasive species. *Animal Conservation* 23(2): 280-290.
- 2020 Smart, L.S., **Taillie, P. J.**, Poulter, B., Mitasova, H., Swenson, J. J., Smith, J. W., Meentemeyer, R. K. Aboveground carbon loss associated with the spread of ghost forests as sea levels rise. *Environmental Research Letters* 15(10).
- 2020 **Taillie, P. J.**, Roman-Cuesta, R., Lagomasino, D., Cifuentes-Jara, M., Fatoyinbo, T., Ott, L. E., Poulter, B. Widespread mangrove mortality resulting from the 2017 Atlantic mega hurricane season. *Environmental Research Letters* 15(6).
- 2019 Battachan, A., Jurjonas, MD., Morris, P. R., **Taillie, P. J.**, Smart, L. S., Emanuel, R. E., Seekamp, E. L. Linking residential saltwater intrusion risk perceptions to physical exposure of climate change impacts in rural coastal communities of North Carolina. *Natural Hazards*.
- 2019 **Taillie, P. J.**, Moorman, C. E., Smart, L. S., Pacifici, K. Bird Community Shifts Associated with Saltwater Exposure in Coastal Forests at the Leading Edge of Rising Sea Level. *PLoS ONE* 14(5): e0216540
- 2019 **Taillie, P. J.** Moorman, C. E., Ardon, M., Emanuel, R. E., Poulter, B. Decadal-scale vegetation change driven by salinity at leading edge of rising sea level. *Ecosystems* 22: 1918-1930.
- 2019 **Taillie, P. J.** and Moorman, C. E. Marsh bird occupancy along a shoreline-to-forest gradient as marshes migrate from rising sea level. *Ecosphere* 10(1).
- 2018 Bobay, L., **Taillie, P. J.**, Moorman, C. E. Use of Autonomous Recording Units Increased Detection of a Secretive Marsh Bird. *Journal of Field Ornithology* 89: 384-392.
- 2018 Bhattachan, A., Jurjonas, M. D., Moody, A. C., Morris, P. R., Sanchez, G. M., Smart, L. S., **Taillie, P. J.**, Emanuel, R. E., Seekamp, E. L. Sea level rise impacts on rural coastal socio-ecological systems and the implications for decision making. *Environmental Science and Policy* 90:122-134.
- 2018 **Taillie, P. J.**, Burnett, R. D., Roberts, L. J., Campos, B. R., Peterson, M. N., and Moorman, C. E. Interacting and non-linear avian responses to wildfire severity and time since fire. *Ecosphere* 9(6).
- 2017 Pickens, B. A., Marcus, J. F, Carpenter, J. P., Anderson, S., **Taillie, P. J.**, Collazo, J. A. The effect of urban growth on landscape-scale restoration for a fire-dependent songbird. *Journal of Environmental Management* 119: 105-115.

- 2016 **Taillie, P. J.**, Marcus, J. F., Carpenter, J. P., Anderson, S. K. The distribution, persistence, and habitat associations of Bachman's Sparrow (*Peucaea aestivalis*) in North Carolina. *The Chat* 80 (2): 57-71
- 2014 **Taillie, P. J.**, Moorman, C. E. Peterson, M. N. Relative importance of local and landscape-level factors on the distribution of a habitat specialist in a highly fragmented system. *The Condor: Ornithological Applications* 117 (2): 137-146.
- 2012 Seavy, N., Burnett, R. D., **Taillie P. J.** Black-backed woodpecker nest-tree preference in burned forests of the Sierra Nevada, California. *Wildlife Society Bulletin* 36 (4): 722-728.

BOOKS AND BOOK CHAPTERS (1)

- 2021 Poulter B., E. Fluet-Chouinard, G. Hugelius, C. Koven, L. Fatoyinbo, S.E. Page, Judith A. Rosentreter, L.S. Smart, **P.J. Taillie**, N. Thomas, Z. Zhang, and L.S. Wijedasa. A Review of Global Wetland Carbon Stocks and Management Challenges. In *Wetland Carbon and Environmental Management* (eds. K.W. Krauss, Z. Zhu, and C.L. Stagg). AGU Wiley, New Jersey.

OTHER PUBLICATIONS

- 2015 **Taillie, P. J.**, L. Bobay. Mudflats, Shorebirds, and the Climate Dilemma. *The Wildlifer*. The North Carolina Chapter of The Wildlife Society.
- 2015 **Taillie, P. J.** Connecting the Dots: Challenges and Progress in Understanding the Annual Cycle of Birds. *The Wildlifer*. The North Carolina Chapter of The Wildlife Society.
- 2012 **Taillie, P. J.**, Prince, A. Tracing Coffee's Origin. *NCSU Fisheries, Wildlife, and Conservation Biology Newsletter*. 9 (3): 4
- 2010 Burnett, R.D., **Taillie, P. J.**, Seavy, N. Plumas-Lassen Administrative Study Post-Fire Avian Monitoring Report. PRBO Conservation Science, Contribution Number 1781.
- 2009 Burnett, R. D., Seavy, N., **Taillie, P. J.** Plumas-Lassen Administrative Study Avian Monitoring Report. PRBO Conservation Science Contribution Number 1726.

GRANTS

Awarded

Title: Using Live Mammalian Lures for Python Detection
PI: Robert McCleery
Funding Agency: US Fish & Wildlife Service
Dates: 8/2019 – 12/2021
Amount: \$230,968.29
Role: Co-Investigator

Title: Are Black Rats Limiting the Success of the Endangered Silver Rice Rat?
PI: Robert McCleery

Funding Agency: US Fish & Wildlife Service
Dates: 1/1/2021 – 6/30/2022
Amount: \$76,176
Role: Co-Investigator

Title: Small-scale Disturbance to Facilitate Coastal Marsh Resilience and Endangered Species Recovery
PI: Robert McCleery
Funding Agency: US Fish & Wildlife Service
Amount: \$142,109
Role: Co-PI

HONORS, AWARDS, AND FELLOWSHIPS

2017 **\$300 Wildlife Society Wetlands Working Group Student Travel Award**
- Awarded to graduate students for scholarly achievement related to wetland science

2016-2017 **\$21,00 SE Climate Science Center Global Change Fellowship**
- Financial, scientific, and professional development support for graduate students interested in multi-disciplinary research addressing global environmental change

2016 **\$700 Undergraduate research grant**
- The grant funded a side project to complement my doctoral dissertation that was carried out by an undergraduate student that I mentored

2013 **Xi Sigma Pi Honors Society**
- Inducted for scholarship in the field of forestry

2013 **Phi Kappa Phi Honors Society**
- Inducted for superior scholarship

TEACHING AND MENTORING

Instructor of Record

2020 Remote Sensing in Ecology Using Google Earth Engine

Teaching Assistant

2016 Vertebrate Natural History
2015-2016 Forest Wildlife Management
2013 Principles of Wildlife Science

Undergraduate and Graduate Mentees

2019-2021 Jack Hartfelder – served on graduate committee
2019-2021 Marina McCampbell
2017 Alison Van Vorst
2016 Amber Bledsoe
2016-2018 Lucas Bobay – Won an undergraduate research grant, presented findings at NC Wildlife Society conference, and published a peer-review research article.

Guest Lectures Course-Lecture Title

- 2018 Exploring the Environment - Case study: Coastal Salinization
2016 Vertebrate Natural History - Natural History of Passeriformes
2015 Forest Wildlife Management - Managing Forests for Migratory Songbirds
2015 Forest Wildlife Management - Longleaf Pine Management
2013 Principles of Wildlife Science - Distance Sampling as a Method to Sample Animal Abundance

PEER REVIEWS

I accepted requests to review articles for publication in the following journals:

Southeastern Naturalist
Journal of Wildlife Management
Condor: Ornithological Applications
PLOS One
Journal of Field Ornithology
Forest Ecology and Management
Fire Ecology

PROFESSIONAL AFFILIATIONS

The Wildlife Society (National, North Carolina Chapter, and Wetlands Working Group)
Ecological Society of America
American Ornithological Society

EXPERIENCE

University of North Carolina at Chapel Hill July 2022 – present
Position: Assistant Professor

University of Florida December 2018 to May 2022

Position: Postdoctoral research associate

Supervisor: Robert McCleery

- Designed and implemented 3 field projects aimed at conserving mammals in Florida wetlands

Center for International Forestry Research September 2018-January 2019

Position: Research Consultant

Supervisor: Rosa Roman-Cuesta

- Investigated relationships between hurricanes and mangrove vegetation dynamics using data acquired from multiple remote sensing instruments

North Carolina Wildlife Resources Commission February 2014 – January 2015

Position: Southern Piedmont Wildlife Diversity Technician

Supervisors: Jeff Marcus

- Investigate the current distribution and habitat use of Mole Salamanders in North Carolina
- Survey diversity and abundance of cave-hibernating bats and test for White-nose Syndrome
- Continue state-wide investigation of the distribution of Bachman's Sparrows
- Conduct surveys and coordinate volunteers for the NC Riparian Breeding Bird Survey Project

Point Reyes Bird Observatory 2007-2010, and 2013

Position: Northern Sierra Nevada Field Supervisor

Supervisor: Ryan Burnett

- Conducted bird surveys for the Northern Sierras Forest Songbird Community Study
- Assisted in establishing post-fire bird community monitoring study.
- Nest searched for cavity nesting birds
- Operated a mist-netting station according to MAPS and PRBO protocol.
- Entered data using FoxPro and the California Avian Data Center online
- Managed field operations including training and organization of a 5-person field crew
- Assisted with data analysis and co-authored annual reports
- Also held position as supervisor for point counting/nest searching crew of the Desert Program in the spring of 2010 (Supervisor: Chris McCreedy)

University of Arizona February 28, 2009 to April 30, 2009

Position: Field Technician

Supervisor: Jherime Kellerman

- Conducted bird surveys in several habitat types in the mountains of SE Arizona
- Quantified phenology of Sonoran Desert flora

Rocky Mountain Bird Observatory May 1st 2006 – August 30, 2006

- Conducted bird surveys using the point count method in grassland and montane conifer habitats
- Conducted presence/absence surveys for Northern Goshawks in remote, high elevation forests.

PRESENTATIONS *denotes invited talks

Amaral, C., B. Poulter, T. Fatoyinbo, D. Lagomasino, P. Taillie, G. Lizcano, S. Charles, and R. Roman-Cuesta. Drivers of Caribbean and Gulf of Mexico mangrove recovery after tropical cyclone disturbance. American Geophysical Union Fall Meeting. New Orleans, LA. 15 December, 2021.

*Taillie, P. J., C. E. Moorman. Interaction between Wildfire and Sea-Level Rise Effects Occupancy of Bird Communities in Coastal Forest Systems. Annual Conference of the Wildlife Society. Virtual. November 4, 2021.

Taillie, P. J., C. E. Moorman. Coastal Marsh Birds: Continued decline or next conservation success story. North American Ornithology Congress. Virtual. August 14, 2020.

*Taillie, P. J., C. E. Moorman. Conservation Opportunities in Coastal Wetlands as Sea Levels Rise. North Carolina Chapter of the Wildlife Society. Browns Summit, NC. 13 February, 2020.

*Taillie, P. J., R. Roman-Cuesta. Mangrove mortality resulting from the 2017 mega hurricane season. Taller regional de Carbono Azul: pilares de mitigación y adaptación al cambio climático en Mesoamérica y el Caribe. Mérida, MX. 24 September, 2019.

*Taillie, P. J., Smart, L. S. Ecological Effects of Rising Sea Level at Multiple Scales. Biospheric Brown Bag Seminar Series. NASA Goddard Space Flight Center. 4 December, 2017.

Taillie, P. J., Moorman, C. E., Poulter, B. Heading for Higher Ground: Adapting Marsh Bird Management as Sea Level Rises. Annual Conference of the Wildlife Society. Albuquerque, NM. 24 October, 2017.

- Bobay, L., Taillie, P. J., and Moorman, C. E. Application of autonomous recording units for monitoring marsh birds. North Carolina Chapter of the Wildlife Society Annual Conference. Columbia, NC. 7 February, 2017.
- Taillie, P. J., and Moorman C. E. The effects of sea level rise on marsh bird management. North Carolina Chapter of the Wildlife Society Annual Conference. Columbia, NC. 7 February, 2017.
- Taillie, P. J., Burnett, R. B., Roberts, L. J., Campos, B., Moorman, C. E., and Peterson, M. N. Mixed-severity fire has lasting effects on avian communities. Annual Conference of the Wildlife Society. Raleigh, NC. 17 October, 2016.
- *Taillie, P. J., Moorman, C. E., Carpenter, J. P., Winiarski, J. M., Peterson, M. N., Hall, J. G., Humphries, W. J. Importance of landscape scale approaches to wildlife conservation in longleaf pine systems. Annual Conference of the Wildlife Society. Raleigh, NC. 17 October, 2016.
- Taillie, P. J., J. F. Marcus, J. P. Carpenter, S. K. Anderson. Distribution and habitat associations of Bachman's Sparrow in North Carolina. Annual Conference of the Wildlife Society. Winnipeg, MB. 18 October, 2015.
- Pickens, B. A., J. F. Marcus, P. J. Taillie, J. P. Carpenter, S. K. Anderson, J. A. Collazo. Identification of restoration sites for a fire-dependent bird in an urbanizing environment. South Atlantic Landscape Conservation Cooperative Webinar. 17 September, 2015.
- Taillie, P. J., C. E. Moorman, and M. N. Peterson. Using occupancy of a habitat specialist to guide longleaf pine ecosystem restoration. North Carolina Chapter of the Wildlife Society. Columbia, NC. 26 February 2013.
- Taillie, P. J., C. E. Moorman, and M. N. Peterson. Using occupancy of a habitat specialist to guide longleaf pine ecosystem restoration. Annual Conference of the Wildlife Society. Portland, OR. 15 October, 2012.
- Taillie, P. J., C. E. Moorman, and M. N. Peterson. The influence of landscape on Bachman's sparrow habitat occupancy. Poster Presentation. NC Prescribed Fire Council Meeting. Chapel Hill, NC. 21 August, 2012.
- Taillie, P. J., C. E. Moorman, and Peterson, M. N. The influence of landscape on Bachman's sparrow habitat occupancy. NC Partners in Flight meeting. Blue Jay Point State Park. Raleigh, NC. 28 March, 2012.

VOLUNTEER EXPERIENCE

Town of Chapel Hill – Chapel Hill, NC - 2017-present

- Coordinated volunteers for greenway restoration project
- Trained volunteers in invasive species identification and removal
- Led planning and construction of community garden

Citizen Science

- Christmas Bird Count participant annually since 2010

- Regular contributor to eBird and iNaturalist

Wings Over Water Wildlife Festival 2015-2016

- Birding field trip leader

NC Museum of Natural Sciences Raleigh, NC –2011-2013

- Volunteer Bander at Prairie Ridge Ecostation

Redwood Sciences Lab Tortuguero, Costa Rica – Fall 2008

- Operated several mist-netting stations for the Tortuguero Integrative Bird Monitoring Project.
- Processed ~500 birds
- Conducted daily area searches and migration counts

Puget Sound Bird Observatory Central Cascades, WA – August 2008

- Supervisor: Dan Froehlich
- Bird banding Instructor

Braddock Bay Bird Observatory Rochester, NY – Fall 2007 and 2008

- Volunteer bird bander

SKILLS AND QUALIFICATIONS

- Advanced data management data science using R
- Advanced geospatial analysis and modeling in ArcGIS, R, and QGIS
- Remote sensing and imagery analysis in Google Earth Engine
- Statistical analysis of ecological data in R
- Expert proficiency of Microsoft Office (Excel, Word, PowerPoint, etc)
- Experience driving large trucks and operating heavy machinery (tractors, chain saws, etc)
- Vascular plant identification and use of dichotomous keys
- Mist-netting/banding including ageing and sexing passerines, bird safety, and data entry
- Live-trapping and handling of small mammals
- Avian nest searching and spot mapping
- Wetland soil sampling
- Intermediate-level Spanish