

Brandon R. Hays

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Nanyuki, Kenya

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Education:

BS in Biology with Distinction, Second Major in Environmental Studies, May 2013
Concentration in Ecology, Minors in Chemistry and Latin
University of North Carolina at Chapel Hill
GPA 3.66, Honors Program, Dean's List - 8 Semesters
Carolina Covenant Scholar

Professional Experience:

MSc Student – University of Wyoming

Jan. 2018-Present

- Researching the community consequences of ant invasion on acacia trees and their native ant symbionts in Laikipia, Kenya

Fulbright Recipient

Jan. 2017-Oct. 2017

- Managed projects and carried out independent research on an ant invasion of acacia communities in the Laikipia Plateau of Kenya
- Coordinated logistics and data collection, overseeing a team of research assistants and maintaining multiple vehicles in rough terrain

Intern, **Smithsonian Conservation Biology Institute**, Dr. Iara Lacher

Jun. 2016-Sep. 2016

- Coordinated a team of interns to survey for thirteen species of invasive plants on public and private lands across a 15 county study area in northern Virginia
- Created and managed an excel database of the survey results - including data entry and quality control
- Generated maps, graphs, and tables summarizing data for professional presentations at stake-holder workshops
- Used ArcGIS to determine suitable locations for survey transects based on forest patch size, slope, propagule pressure, soil productivity, and forest edge type.

Research Consultant, **NASA Develop**, Caren Remillard

Sep. 2015-Apr. 2016

- Was part of a collaborative team using NASA's Earth Observing System to develop remote sensing tools to solve environmental problems for an array of partner management agencies
- Created professional deliverables ready for presentation at the national office, at conferences, and for the public, including project summaries, technical reports, posters, power point presentations, and videos.
- Generated a crop suitability model for traditional Andean agricultural practices under changing climate conditions
- Developed species distribution maps of the southeastern US for the invasive aquatic plant *Hydrilla verticillata*
- Used time series analysis to both examine historical changes in land use and devise forecasting models

Research Technician, **Hawaii VINE Project**, Dr. Jinelle Sperry

Jan. 2015-Aug. 2015

- Worked full time as a field researcher studying the seed dispersal network of invasive and native plants of Oahu while also conducting independent research on the network role of small mammals
- Captured birds and small mammals using mist nets and Sherman traps, handled animals safely while taking various physical measurements as well as blood samples

- Performed radio telemetry tracking of birds and thread tracking of small mammals through steeply hilly and densely vegetated forests
- Identified more than 40 species of native and non-native plants during phenology surveys
- Drove a 4WD vehicle on unimproved muddy and rocky roads to access field sites

Research Assistant, **Ecological Erosion in Gabon**, Dr. John Poulsen

Jul. 2013-Jul. 2014

- Worked independently in Gabon with instruction from PI in US - doing field work, supervising Gabonese assistants, making work schedules, entering and organizing data, as well as adapting project methodology
- Deployed camera traps, analyzed photos to identify animals, systematized the resulting data
- Performed research in the challenging Gabonese rain forest, camping for up to 12 days at a time, hiking up to 9 km carrying gear and equipment, for 2-3 weeks per month in remote locations in both wet and dry seasons
- Lived for a year with two coworkers in an isolated area in a developing country, wrestling with the associated challenges while concurrently learning French with no previous study
- Led teams of local guides, cutting and walking transects, following strict methodology while identifying over 50 species of large mammals and birds by sight, sound, scat, or nests
- Developed communication and leadership skills by overcoming cultural and language barriers with francophonic Gabonese team
- Navigated through dense forests and swamps to map-selected study sites using compass and GPS
- Walked phenology routes, identifying and evaluating 46 tropical tree species each month

Additional Experience:

Research Experience:

- Hays, B. R., Sperry, J., Drake, D. R., & Hruska, A. M. (2018). Husking Stations Provide Insight into Diet of Nonnative Rodents on O'ahu, Hawai'i. *Pacific Science*, 72(3), 335-344.
- Xu, W., Hays, B., Fayrer-Hosken, R., & Presotto, A. 2016. Modeling the Distribution of African Savanna Elephants in Kruger National Park: An Application of Multi-Scale GLOBELAND30 Data. *ISPRS-International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences*, 1327-1334.
- Undergraduate research: Hays, Brandon. 2012. Habitat Preference of Small Mammals in Panthertown Valley. *Institute for the Environment-Highlands Field Site Research Volume 2012*. Pp. 21-31.
- Undergraduate research: Hays, Brandon. 2013, Historical Effects of Agriculture on Current Small Mammal Communities at Mason Farm, NC (Unpublished)

Software Experience:

- Proficient with ArcGIS spatial analyst software: landscape classification, hydrology maps, buffer zones, etc.
- Experienced with R statistical software: creating mixed effects models and graphs
- Proficient with ENVI remote imagery analysis software: vegetation indices, atmospheric correction, etc.
- Proficient with Microsoft Excel: data entry and manipulation, creating graphs, basic statistical analyses
- Proficient with Microsoft Word and PowerPoint: project summaries, reports, figures, tables, etc.

Additional Field Experience:

- Studied ecology and conservation in the Appalachian Mountains at Highlands Biological Station in fall 2012
- Studied wildlife management and conservation in Tanzania with the School for Field Studies in summer 2010

Relevant Coursework:

Conservation Biology, Biodiversity Conservation, Animal Behavior, Ecosystem Management, Statistics for Environmental Scientists (R), Landscape Analysis (GIS), Intro to Remote Sensing (ENVI), Ecology and Evolution, Fundamentals of Ecology, Environmental Ethics

References:

Iara Lacher, Post Doc, Smithsonian Conservation Biology Institute, Changing Landscapes Initiative
(540)-635-0039, lacheri@si.edu

John Poulsen, Assistant Professor of Tropical Ecology, Duke University, Ecological Erosion in Gabon
(919)-668-4060, john.poulsen@duke.edu

Jinelle Sperry, Adjunct Assistant Professor, University of Illinois Urbana-Champaign, Hawaii VINE Project
(217)-373-4543, jinelle.sperry@usace.army.mil