

Caitlin J. Campbell

University of Maryland Center for Environmental Science Appalachian Laboratory
301 Braddock Rd., Frostburg, MD USA 21532
301-689-7142 • caitjcampbell@gmail.com

CURRENT POSITION

Graduate Research Assistant, July 2015 – present

University of Maryland Center for Environmental Science
Appalachian Laboratory, Frostburg, MD

- Modeling migratory movements of *Lasiurus cinereus*, *L. borealis*, *Lasionycteris noctivagans* using Bayesian probabilistic assignment of summer origins inferred from stable hydrogen isotope analysis and ensemble species distribution models
- Development of statistical techniques to compare, group, and validate isotope-derived probability of origin models
- Projects in preparation:
 - New techniques for combining and interpreting the isotopic and distribution likelihood-of-origin models of migratory animals
 - Range-wide models of the migratory movements of North American tree bats

EDUCATION

Frostburg State University (FSU); University of Maryland Center for Environmental Science Appalachian Laboratory (UMCES-AL), Frostburg, MD. Master of Science, Sep 2015 – August 2017.

Applied Ecology and Quantitative Biology. GPA 4.0.

Supervisory committee: David M. Nelson (advisor, UMCES-AL); Matthew C. Fitzpatrick (co-advisor, UMCES-AL); Paul F. Gugger (UMCES-AL); J. Edward Gates (UMCES-AL); Richard L. Raesly (FSU).

University of Vermont, Burlington, VT. Bachelor of Science, May 2012.

Environmental Science: Conservation Biology and Biodiversity. Honors Graduate. GPA 3.54.

Francis W. Parker Charter Essential School, Devens, MA. High School Diploma, 2008

Senior Thesis: Biodiversity conservation through the formation of local wildlife corridors

PUBLICATIONS AND REPORTS

Campbell, C. J., Nelson, D. M., Ogawa, N.O., Chikaraishi, Y., and Ohkouchi, N. Trophic position and dietary breadth of bats revealed by nitrogen isotopic composition of amino acids. In preparation.

Roman, J., Altman, I., Dunphy-Daly, M., **Campbell, C.**, Jasny, M., and Read, A. The Marine Mammal Protection Act at 40: Status, recovery, and future of U.S. marine mammals. The Annals of the New York Academy of Sciences. 2013.

Campbell, C. Livestock depredation by large carnivores: An analysis of human-wildlife conflict in Ehi-rovipuka, Namibia. 2012. Environmental Sciences, Biology. University of Vermont, Burlington, VT. Honors thesis. May, 2012.

Campbell, C. Patterns of livestock depredation in Ehi-rovipuka Conservancy, Namibia (Executive Summary Report). May, 2012. Report for Ehi-Rovipuka Conservancy Council.

Campbell, C. Biodiversity conservation through the formation of local wildlife corridors: A case study in Princeton, MA. 2008. Internal publication, Massachusetts Audubon Society.

AWARDS, HONORS, TEST SCORES

Best Student Poster, North American Society for Bat Research Annual Symposium, 2016
NSF East Asia and Pacific Summer Institute Research Fellowship, 2016, \$5,400
Japanese Society for the Promotion of Science Research Fellow, 2016, ¥534,000 (~\$5,200 USD)
GRE verbal 167 (97th percentile), quantitative 159 (74th), writing 5.0 (93rd). September 16, 2014
Honors Graduate of the College of Arts and Sciences, 2012
Resident of Honors College, 2008 - 2012
University of Vermont Presidential Scholarship, 2008 – 2012; \$10,500
Benjamin A. Gilman International Scholarship, 2011; \$5,000
Dean's List Honors, Spring 2010, Fall 2011
National Merit Scholar Commendation, 2008

PRESENTATIONS

Amino acid nitrogen isotopes reveal the trophic position and dietary strategies of bats. **Caitlin J. Campbell**, David M. Nelson, Nanako Ogawa, Yoshito Chikaraishi, and Naohiko Okhouchi. October 13, 2016. North American Society for Bat Research, San Antonio, TX.

Bats! A Brief Introduction to Microchiroptera. Oral presentation, July 6, 2016. Department of Biogeochemistry, Japanese Agency of Marine Science and Technology, Yokosuka, Kanagawa, Japan.

Range-wide Models of the Migratory Movements of North American Tree Bats. Oral presentation, May 12. Graduate Research Symposium, Frostburg State University, Frostburg MD.

Hydrogen Isotope Ecology: Analysis and Application to the Study of Bat Movement. Jake Blakely, Kamren Jefferson, Crystal Tippet, **Caitlin J. Campbell**, and David Nelson. Poster presentation by undergraduate volunteers, May 6, 2016. Undergraduate Research Symposium, Frostburg State University, Frostburg, MD.

Range-wide Models of the Migratory Movements of North American Tree Bats. Oral presentation, April 20. Department of Biology Seminar Series, Frostburg State University, Frostburg, MD

A Continent-wide Approach to Link Movement Ecology and Genetic Structure of Migratory Foliage-roosting Bats. **Caitlin J. Campbell**, Paul F. Gugger, and David M. Nelson. Poster presentation, January 11, 2016. New England Bat Working Group Meeting, Baltimore, MD.

Livestock depredation by large carnivores: An analysis of human-wildlife conflict in Ehirovipuka, Namibia. Oral presentation, April 19, 2012. University of Vermont Student Research Conference, Burlington, VT.

The odd couple: Indigenous group and international NGO cooperation creates a two-pronged approach to halt development of the Narmada River in India. Poster presentation, April 22, 2009. University of Vermont Student Research Conference, Burlington, VT.

RESEARCH EXPERIENCE

National Science Foundation East Asia and Pacific Summer Institute (NSF EAPSI) Research Fellow / Japanese Society for the Promotion of Science (JSPS) Summer Research Fellow, May 2016 – August 2016
Department of Biogeochemistry, Japan Agency for Marine Science and Technology (JAMSTEC), Yokosuka, Kanagawa Prefecture, Japan
- Applicability of compound-specific isotope analysis of amino acids (CSIA-AA) to identify the trophic levels of specialized species of microchiropteran bats

- Exploring the dietary ecology and trophic positions of migratory North American bats
- Derivatization of amino acids, quantification using gas chromatograph mass-spectrometer (GC/MS), analysis gas chromatograph isotope ratio mass spectrometer (GC/IRMS)

Endangered Bat Monitoring Crew Leader, May – July 2015

Arkansas State University / U.S. Forest Service, Jonesboro, AR

- Led crews of technicians to conduct presence/probable absence surveys for endangered *Myotis sodalis* (Indiana myotis) and threatened *M. septentrionalis* (northern long-eared myotis)
- Monitored species distributions with mist netting, harp trapping, acoustic monitoring and analysis (AnaBat), and radiotelemetry of *M. sodalis* and *M. grisescens* (grey myotis)

Bat Research and Management Technician, Jan – May 2015

New York Department of Environmental Conservation, Albany, NY

- Performed hibernacula surveys to assess population trends of endangered and unlisted bats
- Wrote and distributed reports and papers to government agencies, NGOs, and the public; coordinated surveys with local, regional, and state agencies
- Trained others in winter survey counts, acoustic surveys (Binary Acoustic systems), spring emergence surveys; data analysis and interpretation

Herpetofauna Ecology Research Assistant, Nov – Dec 2014

Florida International University, Sarapiquí, Costa Rica

- Conducted transect surveys and acoustic monitoring of amphibian and reptile species assemblages in successional forest matrix
- Examined morphological variations using ImageJ; designed models to measure operative temperature

Endangered Bat Species Monitoring Senior Research Technician, May – Aug 2014

Arkansas State University / U.S. Forest Service, Jonesboro, AR

- Performed presence/probable absence surveys for endangered *Myotis sodalis* populations
- Monitored species distributions with mist netting, harp trapping, acoustic monitoring and analysis (AnaBat), and radiotelemetry of *M. sodalis* and *M. grisescens*
- Training and supervision of research technicians

Field Ecologist, June – August 2014

Mitigation Surveying Services LLC, Benton, AR

- Monitoring for presence/probable absence of threatened and endangered bats on private lands; performed habitat delineation
- Mist netting, acoustic monitoring, pathology (white-nose syndrome) surveys, cave exit counts

Mammal Diversity Project Field Assistant, Jan – Apr 2014

Smithsonian Conservation Biological Institute, Chiapas, Mexico

- Daily setting and monitoring of Sherman and camera traps
- Small mammal trapping and handling
- Vegetation measurements for habitat characterization

Endangered Bat Species Survey and Research Technician, May – Aug 2013

Arkansas State University / U.S. Forest Service, Jonesboro, AR

- Performed compliance monitoring for endangered *Myotis sodalis* populations
- Monitored species distributions with mist netting, banding, and acoustic monitoring

Conservation Ecology Research Assistant, 2009 – 2013

Gund Institute of Ecological Economics, University of Vermont, Burlington, VT

- Assisted in research and production of publications on endangered species management; cetacean and pinniped population trends, community ecology, and management policy; invasive species ecology and control; and ecosystem services
- Coauthored paper on the efficacy of the Marine Mammal Protection Act: aggregated massive data set and analyzed for changes in species' conservation status, population size, and trends

Student Research Assistant, Feb – May 2011

Round River Conservation Studies, Wereldsend, Kunene Region, Namibia

- Designed and implemented study on human-wildlife conflict and wildlife predation of livestock
- Worked on vegetation and game surveys in conjunction with local NGOs and communities; assisted with study design, data collection and analysis, and community administration efforts

Invasive Species and Biocontrol Volunteer, 2007 – 2009

Nashua River Watershed Association, Groton, MA.

- Cultivated multiple generations of *Galerucella* spp. biocontrol agents with daily care; assisted with annual field sample collection, seasonal invasive species monitoring

Biodiversity and Administrative Intern, 2008

Massachusetts Audubon Society, Princeton and Worcester, MA.

- Performed GIS and resource surveys of habitat segments at risk of development to identify and evaluate wildlife corridors of conservation significance
- Assisted with administrative, technological running of sanctuaries and nature centers; led environmental education programs with public and school groups

TEACHING EXPERIENCE

Graduate Assistant Teaching Fellow, January 2016 – May 2016

Frostburg State University Department of Biology, Frostburg, MD

- Taught Anatomy and Physiology II Laboratory (BIOL 322); 2-credit 110 minute laboratory twice weekly. Structure and function of the human body, including the endocrine, circulatory, respiratory, digestive, excretory, and reproductive systems, and human development.
- Assisted with Anatomy and Physiology II Lecture section and administration.

Undergraduate volunteers mentored and supervised: Becca Hiller (2015-2016); Kamren Jefferson (2016); Jake Blakely (2016); Crystal Tippet (2016), Becca Phillips (2017), Sarah Sprouse (2017).

OUTREACH

Graduate Student Writing Group, Founder and coordinator. Semi-weekly inter-institutional meetings of graduate students from University of Maryland Center for Environmental Science Appalachian Laboratory and the Department of Biology of Frostburg State University to workshop writing skills. Fall 2015 – present.

Bat Ecology and Conservation, University of Maryland Center for Environmental Science Appalachian Laboratory Open House. Public outreach to community and families including bat ecology, behavior, ecosystem services, and conservation status. May 7, 2016.

Endangered Bats of Maryland, Presentation to local elementary school in rural Appalachia on natural history, ecology, threats, and legal status of local bats, Oct 2, 2015

Herpetofauna of Sarapiquí, Costa Rica. Educational presentation, live animal handling, and public outreach at La Selva Biological Station Open House, Nov 9, 2014

Living with Bears, Authored article for local online paper on coexisting with black bears in Massachusetts: “Your New Groton Neighbors, The Bears, May Be Dropping By.”
TheGrotonLine.com. Nov 21, 2013

Community Conservation Technology Training, Week-long collaboration with Ehi-rovipuka conservancy conservation officers: training on data collection and database management, open-source document managers, email and outreach. Round River Conservation Studies, March 2012.

Invasive Species and Biocontrol Volunteer, Nashua River Watershed Association, Groton, MA, 2007-2009