KATIE GUNDERMANN

EDUCATION

The Pennsylvania State University, University Park PA Expected Dec 2026
Doctor of Philosophy in Wildlife and Fisheries Science
Dissertation:

The Pennsylvania State University, University Park PA Aug 2022
Master of Science in Wildlife and Fisheries Science GPA: 3.89
Thesis: Ungulate space-use and movement in response to changes in reproductive status, forest structure, and hunting pressure in Pennsylvania

University of Delaware, Newark DE May 2017
Bachelor of Science in Wildlife Ecology and Conservation GPA: 3.79
Senior Thesis: The effect of soil conductivity on nest site selection in northern diamondback terrapins
Dean's List: Fall 2013 – Spring 2017

PEER-REVIEWED PAPERS

In prep. **Gundermann, K.P.***, Green, D.S., Myers, C., Higley, J.M., Brown, R.., & Matthews, S.M. 2021. Ecological characteristics of diurnal rest sites by ringtails (*Bassariscus astutus*).

WORK EXPERIENCE

The Pennsylvania State University, University Park, PA

Graduate Research Assistant, Quantitative Wildlife Ecology Lab Aug 2020 – Present

PI – Dr. Frances Buderman

- Develop hierarchical Bayesian models to investigate research questions focusing on how ungulates movement changes in response to reproductive status and hunting pressure in Pennsylvania
- Process animal location, remotely sensed landcover data for analysis R and ArcGIS
- Build and run Bayesian models in JAGS and NIMBLE
- Present research at formal conferences and to general audiences of collaborators and stakeholders

Great Basin Institute/ US Forest Service, Shaver Lake CA

Crew Supervisor, Sierra Nevada Carnivore Monitoring Program May 2020 – Aug 2020

PI – Dr. Jody Tucker

- As a member of a small team, I worked to develop and test new technology and advances in sampling design to try and improve sampling efficiency for a long-term monitoring program of the Pacific fisher, Pacific marten, and other co-occurring carnivore species across the Sierra Nevada

- Collaborated with innovative technology partners such as Wildlife Insights and WildTrack to try to incorporate new technology, such as AI to identify camera trap photos and individually identify track plate fisher prints
- Conducted a pilot field study aimed at collecting and identifying small mammal tracks through track plate surveys, camera traps, and Footprint Identification Technology
- Wrote reports summarizing project status, successes, and areas of improvement

University of Montana/Rocky Mountain Research Station, Missoula MT
Monitoring Technician, Multispecies Mesocarnivore Monitoring Program Jan 2020 – Apr 2020
PI – Jessie Golding

- Worked as part of a collaborative team to non-invasively monitor forest mesocarnivores of conservation concern in the western United States
- Planned feasible winter survey routes throughout the Helena-Lewis and Clark National Forest based on access and snow conditions
- Coordinated with supervisors out of the Rocky Mountain Research Station and personnel from across the Helena-Lewis and Clark to ensure safety during surveys, and to troubleshoot problems as they arose in the field
- Identified snow tracks of target (lynx, wolverine, and fisher) and non-target species, collected eDNA samples following a strict protocol and backtracked to collect hair and scat samples of target species

Institute for Natural Resources, Oregon State University, Yreka CA
Crew Lead, Klamath-Siskiyou Carnivore Project Jul 2019 – Dec 2019
Field Technician, Klamath-Siskiyou Carnivore Project Sep 2018 – Dec 2018
PI - Drs. Sean M. Matthews & David S. Green

- Lead a crew of two technicians in collaboration with two principle investigators to survey for fisher and co-occurring mesocarnivores using hair snares, track plates, and remote cameras on a long-term population-demography study
- Assisted in hiring two field technicians for the 2019 field season, reviewed applications, and conducted interviews
- Trained and supervised two field technicians throughout field season
- Communicated regularly with supervisors, USFWS biologists, and industry biologists to complete field work and troubleshoot problems as they arose in the field
- Conducted quality assurance and control on genetic samples and prepared genetic sample shipment
- Independently set up, checked, re-provision, and removed baited stations used to survey for fishers and other mesocarnivores.

Tetlin National Wildlife Refuge, Tok AK
Biological Technician, Tetlin National Wildlife Refuge April 2019 – July 2019

- Conducted annual biological surveys for the refuge such as snowshoe hare pellet counts and Early Detection and Rapid Response (EDRR) invasive beetle surveys
- Conducted peregrine falcon nest surveys to determine nesting status of breeding pairs
- Flew to remote cabins on refuge only accessible by float plane (BushHawk) to complete certain biological surveys
- Safely handled and maintained shotguns to the standards of USFWS both in the field and in storage
- Created and executed environmental/wildlife education programs for elementary school-aged children

Canada Lynx Field Technician, Northwest Boreal Lynx Project Jan 2019 – March 2019

PI/Graduate Student - Derek Arnold

- Live-captured and deployed GPS collars and ear tags on Canada lynx to determine changes in movements of lynx during the course of a snowshoe hare population cycle
- Established, monitored, and maintained traplines of box traps and freemont snares on Tetlin and Kanuti National Wildlife Refuges
- Lived and worked in the backcountry in subarctic conditions as part of a small team
- Dosed and administered Telazol via jabstick and hypodermic syringe for adults and kittens
- Proficiently used snow machines, skis, and snowshoes as transportation in the backcountry
- Operated a 4x4 vehicle, towed trailers, and operated snow machines in winter conditions

South Carolina DNR Green Pond SC Feb 2018 – Aug 2018

Black Rail Technician, SC DNR Black Rail Project

PI - Christy Hand

- Non-invasively monitored black rails on the South Carolina Black Rail Project to further our understanding of life history, reproduction, population status, year-round occupancy, and marsh species composition
- Conducted call-response surveys for black rails and other secretive marsh birds
- Installed, maintained, and managed trail cameras in the ACE Basin of South Carolina
- Created, adapted, and edited protocols for vegetation surveys, field protocols regarding setting, maintaining, and pulling remote field cameras, and data management protocols
- Worked independently and communicating regularly with Wading Bird biologist about status of field work and data management progress

US Forest Service, Shaver Lake CA June 2017 – Oct 2017

Biological Science Technician, Sierra Nevada Carnivore Monitoring Program

PI - Jody Tucker

- Monitored fisher and marten populations using non-invasive genetic and camera sampling throughout Sierra and Sequoia National Forests
- Installed, maintained, and managed remote cameras, hair snares, and track-plate boxes
- Followed a detailed protocol for setup of sampling stations and management of subsequently collected data
- Managed the project database management by properly sorting photos, handling hair samples, correctly identifying tracks, and filling out corresponding paperwork
- Identified tracks of mammals, reptiles, and birds of the Sierra Nevada
- Safely navigated and hiked in the backcountry using topographic maps, GPS units, and a compass, while carrying 40lbs packs

University of Delaware, Newark DE Sep 2016 – May 2017

Research Assistant, Department of Entomology and Wildlife Conservation

PI – Dr. Jacob Bowman, Graduate Student – Eric Ness

- Analyzed camera trap pictures to identify target species (coyote, black bear, bobcat) and non-target species (red and gray fox, raccoon, fisher, and deer) to understand white-tailed deer recruitment and relative predator abundance in Western Maryland
- Organized and transformed camera survey data for analysis

Teaching Assistant, Department of Entomology and Wildlife Conservation Feb 2016 – May 2017 Supervisor – Dr. Kyle McCarthy, Graduate Student – Imogene Cancellare

- Lead review sessions for students, graded exams, and assisted in labs, working closely with Professor, graduate students, and students in two classes, Wildlife Ecology and Conservation, a large lecture class of 250 students, most of which are not Wildlife majors or minors and Mammalogy, a higher level class, of ~50 students, required for the major and minor degrees

ORAL PRESENTATIONS

Gundermann, K.P.*, Diefenbach, D.R., Walter, W.D., Corondi, A.C., Rosenberry, C.R., Banfield, J.E. & Buderman, F.E. 2021. Efficacy of Positional and Behavioral Change-Point Models in Determining Ungulate Parturition. The Wildlife Society Annual Conference 2021, virtual.

POSTER PRESENTATIONS

Gundermann, K.P.*, Diefenbach, D.R., Walter, W.D., Corondi, A.C., Rosenberry, C.R., Banfield, J.E. & Buderman, F.E. 2021. Comparing the Efficacy of Positional and Behavioral Change-Point Models in Determining Ungulate Parturition. EURING 2021 Analytical Meeting & Workshop, virtual.
Awarded 2nd for Best Student Poster Presentation

Gundermann, K.P.*, Green, D.S., Myers, C., Higley, J.M., Brown, R.., & Matthews, S.M. 2020. Ecological characteristics of diurnal rest sites by ringtails (*Bassariscus astutus*). The National Wildlife Society Meeting, virtual.

Gundermann, K.P.*, Myers, C., Higley, J.M., Green, D.S., & Matthews, S.M. 2019. Integrating telemetry data into spatial capture-recapture to better infer densities and rest site selection of ringtails in northwestern California. The Western section of the Wildlife Society Annual Meeting, Fish Camp, CA.

TEACHING EXPERIENCE

Graduate Teaching Assistant, WFS 408: Mammalogy, Ecosystem Science and Management, Pennsylvania State University, University Park, PA (S2022, S2021)

Graduate Teaching Assistant, WFS 409: Mammalogy Lab, Ecosystem Science and Management, Pennsylvania State University, University Park, PA (S2022, S2021)

Graduate Teaching Assistant, WFS 301: Vertebrates Lab, Ecosystem Science and Management, Pennsylvania State University, University Park, PA (F2022, F2020)

ADDITIONAL SKILLS

Trapping and handling of mesocarnivores
Chemical Immobilization of mesocarnivores
Construction and setting Fremont snare traps to safely and humanely live trap Canada lynx
Triangulating and tracking both free-moving and dead animals with VHF radio telemetry
Non-invasive survey techniques including camera trapping, hair snares, and sooted track plates
Backcountry navigation (GPS units, topographic maps, and compass)
Backcountry camping
Operating 4-wheel drive vehicles on dirt and gravel roads
Operating manual transmission vehicles
Operating snowmobiles on both groomed trails and in the backcountry
Proficient in all aspects of Microsoft Office, Geographic Information Systems (ArcGIS 10.7, ArcGIS Pro), and RStudio
Database entry, transformation, and management
Effective communicator with supervisors, co-workers, collaborators/stakeholders, and the public
Ability to confidentially speak in public to general and science-based audiences
Developed science communication Instagram posts for general public audience (@thelynxproject, ~24,000 followers)

PROFESSIONAL MEMBERSHIPS and TRAININGS/CERTIFICATIONS

The Wildlife Society:

Associate Wildlife Biologist ®	
Leadership Institute – Class of 2020	
New Professional National Member	2017 – Present
Pennsylvania Chapter of TWS Member	2020 - Present
TWS Western Section Member	2018 – 2020
University of Delaware Student Chapter Member	2014 – 2017
President of UD Student Chapter	2016 – 2017

Trainings/Certifications:

American Heart Associate – HeartSaver CPR and AED	Expired – January 2022
American Red Cross – Adult First Aid/CPR with Anaphylaxis and Epi Auto Injector	Expired – April 2021
CITI Program - Animal Care and Use, Field Animal Researchers, and Basic Course	Expires – November 2023
USWFS – Snowmobile Safety Course	Expired – February 2022
USFWS – Bear Awareness Training	Expired – June 2022
USFWS – Bear Less-Lethal Deterrents Training	Expired – June 2022
USFWS – Bear Firearms Safety and Qualification Training (Shooter – Shotgun)	Expired – May 2020
Missoula Avalanche – Avalanche Awareness	
Aerie Backcountry Medicine – First Aid for Winter Environments	
Interagency Aviation Training – Basic Aviation Safety (A-100)	
Interagency Aviation Training – Overview of Aircraft Capabilities and Limitation (A-104)	
Interagency Aviation Training – General Awareness Security Training (A-116)	
Interagency Aviation Training – Mishap Review (A-200)	
Interagency Aviation Training – Water Ditching and Survival (A-312)	