

Diana J. R. Lafferty, Ph.D.

Assistant Professor of Wildlife Ecology

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EDUCATION

2012–2015	Ph.D.	Forest Resources	Mississippi State University
2008–2012	Coursework	Forest Resources	Oregon State University
2005–2007	M.S.	Ecology and Conservation	Florida Institute of Technology
2002–2004	Grad. Cert.	Conservation Biology	University of Central Florida
1995–1999	B.S.	Zoology	Southern Illinois University

ACADEMIC POSITIONS

2017–present	Assistant Professor Northern Michigan University, Department of Biology
2016–2017	Postdoctoral Research Scholar University of Montana, College of Forestry and Conservation
2015–2017	Postdoctoral Research Scholar North Carolina State University, Department of Forestry and Environmental Resources

FELLOWSHIPS

2010–2011	Diversity Advancement Pipeline Fellowship	\$15,670
2008–2010	Arnold and Vera Meier Education Fellowship	\$4,200
2005–2007	National Science Foundation GK-12 Teaching Fellowship	\$81,000

CURRENT RESEARCH FUNDING

2020–2022	National Park Service <i>Impacts of tourism on brown bear physiological stress at Lake Clark National Park, Alaska</i>	\$100,000
2020–2021	Alaska Department of Fish and Game <i>Trophic niche variation in American marten</i>	\$1,700
2020–2021	Environmental Radioactivity Research Center Network <i>Effects of radionuclide exposure on the microbiome community within the gastrointestinal tract of wild boar</i>	\$1,384
2019–2020	NMU–Faculty Research Grant <i>Managing mammals and their microbes: the new imperative of 21st century conservation</i>	\$7,000
2019–2020	NMU–Biology Department Development Grant <i>Immersing undergraduates in the wildlife microbial ecology pipeline</i>	\$500
2019–2020	NMU–Excellence in Research Mentorship Award <i>Exposure to nuclear radiation alters the structure and function of gut microbiomes in wild boar across the Fukushima Nuclear Exclusion Zone</i>	\$12,000

PREVIOUS RESEARCH FUNDING

2018–2019	Huron Mountain Wildlife Foundation <i>Assessing the link between forest disturbance and carnivore gut microbial diversity: a critical link in quest for effective carnivore conservation</i>	\$5,000
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2017–2018	NMU–Biology Department Development Grant <i>Does forest disturbance impact carnivore gut microbial diversity?</i>	\$1,000
2014–2015	Habitat Conservation Trust Foundation <i>Quantifying long-term stress to aid brown bear conservation planning</i>	\$10,842
2014–2015	Hauser Bears <i>Linking diet and measures of physiological stress to aid wild bear conservation</i>	\$8,486
2011–2012	American Society of Mammalogists: Grant-in-Aid of Research <i>Moose hunters subsidize the scavenger community in Alaska</i>	\$1,234
2011–2012	Strengthening Education and Employment for Diverse Students (SEEDS) <i>Linking wolf diet to changes in marine and terrestrial prey abundance is a rapidly changing ecosystem</i>	\$5,000

HONORS, DISTINCTIONS, AWARDS

2014	Mississippi State University Graduate Student Travel Award
2013	International Bear Association Student Travel Award
2012	Mississippi State University Graduate Service Award
2011	US-International Association for Landscape Ecology Student Travel Award
2010	Oregon State University Hatfield Marine Science Student Teaching Award
2010	Harris Lab Travel Assistance Award
2010	NASA Professional Enhancement Award
2019	Oregon Laurels Graduate Scholarship
2009	Alfred W. Moltke Scholarship
2008	Oregon Supplemental Laurels Graduate Scholarship
2006	Florida Institute of Technology Graduate Student Travel Award

PEER-REVIEWED PUBLICATIONS (I had my surname changed in 2013 from Raper to Lafferty)

1. Mangipane LS, **Lafferty DJR**, Joly K, Sorum MS, Cameron MD, Belant JL, Hilderbrand GV, Gustine DD. 2020. Dietary plasticity and the importance of salmon to brown bear body size and condition in a low arctic ecosystem. *Polar Biology* <https://doi.org/10.1007/s00300-020-02690-7>.
2. Zimova M, Barnard L, Davis B, Kumar A, **Lafferty DJR**, Mills LS. 2020. Using remote cameras to monitor coat color molt phenology. *Ecosphere* 11(4):e03084.
3. **Lafferty DJR**, Zimova M, Clontz L, Hackländer K, Mills LS. 2019. Noninvasive measures of physiological stress are confounded by exposure. *Scientific Reports*: 10.1038/s41598-019-55715-5.
4. Jones MR, Mills SM, Callahan CM, Alves J, **Lafferty DJR**, Jiggins FM, Alves PC, Jensen JD, Melo-Ferreira JM, Good JM. 2018. Adaptive introgression underlies polymorphic seasonal camouflage in snowshoe hares. *Science* 360: 1355–1358.
5. LS Mills, Bragina EV, Kumar A, Zimova M, **Lafferty DJR**, Feltner J, Davis BM, Hackländer K, Alves PC, Good JM, Melo-Ferreira J, Dietz A, Abramov AV, Lopatina N, Fay K. 2018. Winter coat color polymorphisms identify global hotspots for evolutionary rescue from climate change. *Science* 359:1033–1036.
6. Stutzman LA, Belant JL, **Lafferty DJR**, Gustine DD, Hiller TL, Colvin ME, Mangipane BA, Hildebrand GV. 2018. Dietary plasticity in a nutrient-rich system does not influence brown bear body condition or denning. *Polar Biology* 41:763–772.
7. **Lafferty DJR**, Kumar AV, Whitcher SL, Hackländer K, Mills LS. 2017. Within-sample variation in snowshoe hare fecal cortisol metabolite measurements. *Conservation Physiology* 5:1–7.
8. Mowat G, Curtis J, **Lafferty DJR**. 2017. The influence of sulfur and hair growth on stable isotope diet estimates for grizzly bears. *PloS One* 12(3): e0172194.
9. **Lafferty DJR**, Hanson-Dorr KC, Priscock AM, Dorr B. 2016. Biotic and abiotic impacts of double-crested cormorant breeding colonies on forested islands in the southeastern United States. *Forest Ecology and Management* 369:10–19.

10. **Lafferty DJR**, Loman ZG, White KS, Morzillo AT, Belant JL. 2016. Moose hunters subsidize the scavenger guild in Alaska. *Polar Biology* 39:639–647.
11. **Lafferty DJR**, Laudenslager ML, Mowat G, Heard D, Belant JL. 2015. Sex, diet and the social environment: factors influencing hair cortisol concentration in black bears. *PloS One* 10(11): e0141489.
12. **Lafferty DJR**, Belant JL, Phillips DL. 2015. Testing the niche variation hypothesis with a measure of body condition. *Oikos* 124:732–740.
13. **Lafferty DJR**, Belant JL, White KS, Womble JN, Morzillo AT. 2014. Linking wolf diet to changes in marine and terrestrial prey species in a rapidly changing ecosystem. *Arctic* 67:143–148.
14. Lewis TM, **Lafferty DJR**. 2014. Brown bears and wolves scavenge humpback whale carcass in Alaska. *Ursus* 25:8–13.
15. **Raper DJ**, Bush MB. 2009. A test of *Sporormiella* representation as a predictor of mega-herbivore presence and abundance. *Quaternary Research* 71:490–496.
16. **Raper DJ**, Zander H. 2009. Paleoecology: an untapped resource for teaching environmental change. *Journal of Environmental Science and Education* 4:441–447.
17. **Raper DJ**, Dampier S. 2008. Evaluating enrichment: a pilot study with broad applications. *Animal Keeper's Forum* 2:109–113.

INVITED BOOK REVIEWS

- **Lafferty DJR**. 2017. The Triple Crown of population biology – A Review of *Adaptation in Metapopulations* by Michael J. Wade. *Ecology* 98:289–290.
- **Lafferty DJR**. 2017. Mammalian ecophysiology and adaptations to diverse environments – A Review of *Ecological and Environmental Physiology of Mammals* by P.C. Withers, C.E. Cooper, S.K. Maloney, F. Bozinovic, A.P. Cruz Neto. *Ecology* 98:1185–1188.

MANUSCRIPTS IN REVIEW OR REVISION

- **Lafferty DJR**, McKenney EA, Hubbard T, Trujillo S, Beasley, DE. Call to academic institutions to strategically advance diversity, equity, and inclusion. [in review]
- Gillman SJ, McKenney EA, **Lafferty DJR**. Simple gut, simple gut microbiome? Comparison of gut microbiome community composition between two gastrointestinal sites of wild American black bear (*Ursus americanus*). [in review]
- Gillman SJ, McKenney EA, **Lafferty DJR**. Human-provisioned foods reduce gut microbiome diversity in wild American black bear (*Ursus americanus*). [in review]
- **Lafferty DJR**, Sims PQ, Mills LS. Repeatable differences in snowshoe hare behavior: animal personality may facilitate adaptation to climate change. [in revision]
- **Lafferty DJR**, Mowat G, Paetkau D, Monroe AP, Belant JL. Genetic and ecological divergence in a brown bear population across a coastal–interior transition zone. [in revision]

TECHNICAL PAPERS

- White EM, **Raper DJ**, Blahna DJ. 2010. Recreation patterns and characteristics for the federal lands in the Southern Nevada Agency Partnership. Report for USDA FS and OSU Joint Venture Agreement No. 10-JV-11261955-018. 44 p.

THESES

- **Lafferty DJR**. 2015. *Evolutionary and ecological causes and consequences of trophic niche variation in ursids*. Ph.D. Dissertation. Department of Wildlife, Fisheries and Aquaculture, Mississippi State University.
- **Raper DJ**. 2007. *Assessing sporormiella abundance in modern lacustrine sediments as a proxy measure for extinct megaherbivore populations*. M.Sc. Thesis. Department of Biological Sciences, Florida Institute of Technology.

CONFERENCE PRESENTATIONS (*INDICATES AN UNDERGRADUATE MENTEE)

- 2020 Nanba K, **Lafferty DJR**, Beasley JC, Chinn SM, Nemoto Y, Gillman SJ, McKenney EA. Effects of radionuclide exposure on the microbiome community within the gastrointestinal tract of wild boar. Environmental Radioactivity Research Network. Fukushima, Japan
- 2020 Pimenta J, Ferreira MS, Jones MR, **Lafferty DJR**, Alves CP, Mills LS, Good JM, Melo-Ferreira J. Snowshoe hare circannual clock: regulatory landscape of coat colour change. World Lagomorph Conference. Montpellier, France (*abstract accepted*) *Conference cancelled due to Covid-19*
- 2020 **Lafferty DJR** Hildreth RB*, Gillman SJ, Olfenbittel C. Human-provisioned foods impact black bear gut microbiomes: implications for management. International Association for Bear Research and Management, Kalispell, MT, USA (*abstract accepted*) *Conference postponed due to Covid-19*
- 2020 Hubbard T, Cove MV, **Lafferty DJR**. Dynamic occupancy models reveal the impact of human recreation on black bear activity patterns across the rural-wildland interface. International Association for Bear Research and Management, Kalispell, MT, USA (*abstract accepted*) *Conference postponed due to Covid-19*
- 2020 Trujillo S, Hilderbrand GV, Mangipane LS, McKenney EA, **Lafferty DJR**. Variation in brown bear gut microbiomes: implications for conservation and management. International Association for Bear Research and Management, Kalispell, MT, USA (*abstract accepted*) *Conference postponed due to Covid-19*
- 2020 Bergquist A, Hubbard T, **Lafferty DJR**. Yooper Wildlife Watch: Immersing undergraduate students in authentic ecological research. Celebration of Student Scholarship, Marquette, MI, USA *Virtual conference due to Covid-19*
- 2020 Hubbard T, Cove MV, **Lafferty DJR**. Human recreation influences American black bear occupancy and activity across the rural-wildland interface. Celebration of Student Scholarship, Marquette, MI, USA *Virtual conference due to Covid-19*
- 2020 Trujillo S, Hilderbrand GV, Mangipane LS, McKenney EA, **Lafferty DJR**. Brown bear gut microbiomes: a novel tool for conservation and management. Celebration of Student Scholarship, Marquette, MI, USA *Virtual conference cancelled due to Covid-19*
- 2020 Beasley J, Nanba K, Chinn S, Ambai K, **Lafferty DJR**. Effects of radionuclide exposure on the microbiome of wild boar. Annual meeting of the Institute for Environmental Radioactivity. Fukushima, Japan
- 2020 Jeakle LK, Gillman SJ, Roell BJ, McKenney EA, **Lafferty DJR**. Environmental exposure effects succession of microbial consortia in a model carnivore. Mid-west Wildlife and Fisheries Association, Springfield, IL, USA
- 2019 **Lafferty DJR**, McKenney EA, Gillman SJ, Bergquist AM, Kailing CD*, Walimaa M*, Kailing MJ. Altruism and inclusion: training the next generation of wildlife ecologists in the art of scientific collaboration, The Wildlife Society, Reno, NV, USA
- 2019 Gillman SJ, McKenney EA, **Lafferty DJR**. Feeding the beast: are human foods another pressure on wildlife's health? The Wildlife Society, Reno, NV, USA
- 2019 Kailing CD*, **Lafferty DJR**, Using local knowledge to optimize live-capture of American marten. The Wildlife Society, Reno, NV, USA
- 2019 Phillips S, Becker M, Fennessy J, **Lafferty DJR**, Bruggink J, Lindsay A. Estimating population size of Luangwa Valley giraffe (*Giraffa tippelskirchi*) using photographic data. International Giraffid Conference, Columbus, OH, USA
- 2019 Phillips S, Becker M, Fennessy J, **Lafferty DJR**, Bruggink J, Lindsay A. Estimating population size of Luangwa Valley giraffe (*Giraffa tippelskirchi*) using photographic data. American Society of Mammalogists, Washington D.C., Virginia, USA
- 2019 Pimenta J, Ferreira MS, Jones MR, **Lafferty DJR**, Mills LS, Good JM, Melo-Ferreira J. White to brown and back: the circannual genic regulation of coat colour change in snowshoe hares. Congress of the European Society for Evolutionary Biology, Turku, Finland

- 2019 Bergquist A, Lloyd C*, Foley J*, Freitag G*, Macek AR*, Gillman SJ, **Lafferty DJR**. Yooper Wildlife Watch: an integrated education and research initiative. Celebration of Student Scholarship, Marquette, MI, USA
- 2019 Gillman SJ, McKenney EA, **Lafferty DJR**. Feeding the beast: are human foods another pressure of wildlife's health? Celebration of Student Scholarship, Marquette, MI, USA
- First place in the NMU graduate student poster competition -
- 2019 Jeakle L*, Kailing CD*, Macek AR*, Hildreth RB*, Andrus EH*, Krysiak B*, Gillman SJ, Kailing MJ, Roell BJ, McKenney EA, **Lafferty DJR**. Succession of microbial consortia in the feces of mink (*Neovison vision*). Celebration of Student Scholarship, Marquette, MI, USA
- 2019 Kailing* CD, Gillman SJ, Kailing MJ, Jeakle L*, Walimaa M*, Roell BJ, McKenney EA, **Lafferty DJR**. Influence of habitat structure on the diet and gut microbiome of American marten. Celebration of Student Scholarship, Marquette, MI, USA
- Third place in the NMU undergraduate student group poster competition -
- 2019 Krysiak B*, Freitag GM*, Sims PQ, **Lafferty DJR**, Mills LS. Repeatable differences in snowshoe hare behavior: animal personality may facilitate adaptation to climate change. Celebration of Student Scholarship, Marquette, MI, USA
- First place in the NMU undergraduate student group poster competition -
- 2018 Jones MR, Mills LS, Célio Alves P, Callahan CM, Alves JM, **Lafferty DJR**, Jiggins FM, Jensen JD, Melo-Ferreira J, Good JM. To change or not to change: the origins of seasonal camouflage variation in snowshoe hares. Society for Molecular Biology and Evolution, Yokohama, Japan
- 2018 Kirschner J*, Jeakle L*, Kremer K*, Macek A*, Arlasky C*, Uthoff A*, Sims P, **Lafferty DJR**, Mills LS. Snowshoe hare personality may facilitate adaptive responses to environmental change. Celebration of Student Scholarship, Marquette, MI, USA
- 2017 **Lafferty DJR**, Sims PQ, Corbit S*. Repeatable differences in snowshoe hare behavior: animal personality may facilitate plastic responses to climate change. Ecological Society of America, Portland, OR, USA
- 2017 Jones MR, Melo-Ferreira, Célio Alves P, Callahan CM, **Lafferty DJR**, Jensen JD, Mills LS, Good JM. Molecular and evolutionary origins of seasonal camouflage in snowshoe hare. Society for Molecular Biology and Evolution. Austin, TX, USA
- 2016 **Lafferty DJR**, Bragina E, Clontz L*, Davis B, Fay K, Feltner J, Kumar AV, Sanders D*, Venezia R*, Whitcher S*, Zimova M, Mills LS. Cultivating collaborations across the academic hierarchy: training the next generation of wildlife ecologists. The Wildlife Society, Raleigh, NC, USA
- 2016 Sanders D*, Davis B, **Lafferty DJR**, Mills LS. Camera trap limitations: quantifying error rates and assessing impacts on animal behavior. The Wildlife Society, Raleigh, NC, USA
- 2016 Clontz L*, **Lafferty DJR**, Zimova M, Hackländer K, Palme R, Mills LS. Environmental factors influence measures of stress in snowshoe hares. The Wildlife Society, Raleigh, NC, USA
- 2016 Venezia R*, **Lafferty DJR**, Hackländer K, Palme R, Mills LS. Measuring stress in captive wildlife: how enrichment can be used to mediate stress to experimental treatments. The Wildlife Society, Raleigh, NC, USA
- 2016 **Lafferty DJR**, Kumar A, Whitcher S*, Hackländer K, Palme R, Mills LS. Within-sample variation in snowshoe hare fecal glucocorticoid metabolite measurements. World Lagomorph Conference, Turlock, CA, USA
- 2016 Venezia R*, **Lafferty DJR**, Hackländer K, Palme R, Mills LS. Physiological stress response of snowshoe hares (*Lepus americanus*) to environmental enrichment. World Lagomorph Conference, Turlock, CA, USA
- 2016 Mills LS, Bragina E, Fay K*, Zimova M, Davis B, Kumar A, **Lafferty DJR**, Feltner J, Hackländer K, Alves P, Melo-Ferreira J, Pacifici K. Lagging morphs of lagomorphs in winter. World Lagomorph Society, Turlock, CA, USA

- 2016 Stutzman LA, Belant JL, Gustine DD, **Lafferty DJR**, Hiller TL, Magipane BA, Hilderbrand GV. Influence of dietary meat intake on body condition and denning attributes of brown bears. International Association for Bear Research and Management, Anchorage, AK, USA
- 2016 **Lafferty DJR**, Lamb C, Conkling T, Mowat G, Belant J. Physiological stress among grizzly bears across a multiuse landscape. International Association for Bear Research and Management, Anchorage, AK, USA
- 2016 Venezia R*, **Lafferty DJR**, Hackländer K, Palme R, Mills LS. Physiological stress response of snowshoe hares (*Lepus americanus*) to environmental enrichment. North Carolina State University Undergraduate Research Symposium, Raleigh, NC, USA
- 2016 **Lafferty DJR**, Bragina E, Clontz L*, Davis B, Fay K*, Feltner J, Kumar AV, Sanders D*, Venezia R*, Whitcher S*, Zimova M, Mills LS. Snowshoe hare conservation physiology: a catalyst for cultivating collaborations. North Carolina State University Postdoctoral Research Symposium, Raleigh, NC, USA
- 2015 Hackländer K, **Lafferty DJR**, Zimova M, Venezia R*, Palme R, Mills LS. Stress response in snowshoe hares facing mismatch of coat colour and their environment. 89th Annual Meeting of the German Society for Mammalian Biology, Hannover, Germany
- 2015 **Lafferty DJR**, Laudenslager LM, Mowat G, Belant JL. Longitudinal assessment of physiological stress in grizzly bears. Ecological Society of America, Baltimore, MD, USA
- 2014 **Lafferty DJR**, Monroe AP, Mowat G, Paetkau D, Belant JB. Genetic and dietary divergence in a grizzly bear population across a coastal-interior transition zone. International Association for Bear Research and Management. Thessaloniki, Greece
- 2014 **Lafferty DJR**, Laudenslager LM, Mowat G, Heard D, Belant JL. Evaluation of factors influencing cortisol concentration in black bears. International Association for Bear Research and Management, Thessaloniki, Greece
- 2014 Mowat G, Curtis J, Stricker C, Arckinstall D, **Lafferty DJR**. Does sulfur help to measure diet for grizzly bears? International Association for Bear Research and Management, Thessaloniki, Greece
- 2013 **Lafferty DJR**, Mowat G, Paetkau D, Belant JL. Trophic polymorphism and genetic structure in a population of brown bears across a coastal-inland transition zone. Mississippi Chapter of The Wildlife Society Jackson, MS, USA
- 2013 **Lafferty DJR**, Belant JL. Testing the niche variation hypothesis with a measure of body condition. International Association for Bear Research and Management, Provo, UT, USA
- 2013 **Lafferty DJR**, Mowat G, Paetkau D, Belant JL. Trophic polymorphism and genetic structure in a population of brown bears across a coastal-inland transition zone. International Association for Bear Research and Management, Provo, UT, USA
- 2013 **Lafferty DJR**, Mowat G, Paetkau D, Belant JL. Trophic polymorphism and genetic structure in a population of brown bears across a coastal-inland transition zone. Ecological Society of America, Minneapolis, MI, USA
- 2011 **Raper DJ**, White KS, Morzillo TA. Landscape evaluation of habitat use by moose, wolves, and black bears during moose calving season. US Chapter of the International Association for Landscape Ecology, Portland, OR, USA
- 2011 **Raper DJ**, Lewis TM, Payton Q, Morzillo AT. Carrion use by vertebrate scavengers in the Gustavus-Glacier Bay ecosystem. American Society of Mammalogists, Portland, OR, USA
- 2011 **Raper DJ**, Lewis T, Payton Q, Morzillo TA. Who's eating at the moose buffet? Application of remote photography to evaluate scavenging at hunter-killed moose carcasses. Research Advances in Fisheries, Wildlife, and Ecology, Corvallis, OR, USA
- 2010 **Raper DJ**, Morzillo AT, White KS. Assessing the impact of multiple stressors on predator-prey interactions in southeast Alaska. American Society of Mammalogists, Laramie, WY, USA

- 2010 **Raper DJ**, Morzillo AT, White KS. Modeling moose population dynamics under multiple climate change and browsing scenarios. US Chapter of the International Association for Landscape Ecology, Athens, GA, USA
- 2006 **Raper DJ**, Bush MB. Dung fungus as an indicator for mega-herbivore biomass: modern analogues for paleoecological applications. Environmental Science Systems Partnership Conference, Beijing, China
- 2006 **Raper DJ**, Gosling W Bush MB. Assessing *Sporormiella* abundance in modern lacustrine sediments as a proxy measure for extinct mega-herbivore biomass, Ecological Society of America, Memphis, TN, USA

MEDIA COVERAGE OF RESEARCH

- “NMU Graduate Earns Award for Wildlife Research,” *The Mining Journal* 05/2020
- “Yooper Wildlife Watch,” *News Channel 3*, 11/2019
- “Feeding the Beast,” *Northern Research and Discoveries Magazine* Fall 2019
- “Wildlife Watch–Citizen Scientist Initiative Focuses on Animals,” *The Mining Journal* 10/2019
- “Student involved in Lake Superior Restoration,” *Northern Today* 08/2019
- “Marking Student Work at NMU,” *The Mining Journal*, 04/2019
- “Can Snowshoe Hares Adapt to Climate Change,” *Sierra*, 08/2017
- “Scavengers on Camera,” *Alaska Department of Fish and Game News*, 12/2010
- “Spores Tell Tale of Megafauna’s Disappearance,” *Science News*, 12/2009

NMU GRADUATE STUDENTS ADVISED

Sarah Trujillo, MS Student, Graduate Teaching Assistant (Winter 2020–present)

Thesis title: *Variation in brown bear gut microbiomes as sentinels of environmental change: applications for conservation and management*

Tru Hubbard, MS Candidate, Graduate Teaching Assistant (Fall 2019–present)

Thesis title: *A dynamic landscape of fear: human recreation impacts carnivore activity across multi-use lands*

Sierra Gillman, MS Candidate, NSF Graduate Research Fellow (Fall 2018–Winter 2020)

Thesis title: *The gut microbiota of a wild American black bear population*

NMU GRADUATE STUDENT COMMITTEES

Will Otte, MS student, Biology

Carly Paget, MS Candidate, Biology

Sam Phillips, MS Candidate, Biology

Anna Slowik, MS Candidate, Biology – graduated 2020

Amelia Bergquist, MS Candidate, Postsecondary Science Education – graduated 2020

Ada Acevedo, MS Candidate, Biology – graduated 2018

NMU UNDERGRADUATE RESEARCH STUDENT MENTEES (2017-PRESENT)

Evan Andrus ¹	Jacob Furtah	Kevin Kremer ¹	Tyler Penrod ^{2,3,6}
Caroline Arlasky ¹	Grace Grimes ¹	Brooke Krysiak ^{1,2,5}	Emma Piper
Vince Bashi	Devon Hains	Jacob Lawain	Emily Reeves
Megan Bertucci	Mitchell Hawthorne	Cate Lloyd ^{1,2}	Abby Smith ¹
Brandon Caltrider	Rachel Hildreth ^{1,2,5}	Siarra Lopez ¹	Connor Smith ¹
Morgan Ciecko ¹	Alyssa Huiskens	Abby Macek ¹	Julia Soma ^{1,7}
Chelsea Doran ²	Lane Jaekle ^{1,2,5}	Kaitlin Morrow	Caitlin Sternberg
Cassidy Downing ^{1,2,3}	Chris Kailing ^{1,2,4,5}	Trevor Omer ²	Zac Van Huysen ^{2,5}
Lynda (Jo) Foley ¹	Cierra Kalinovik	Rob Ort ^{1,2,5}	Myles Walimaa ^{1,5}
Grace Freitag ^{1,4,5}	Jay Kirschner ²	Raymond Ozols	Max Wiecek

¹ Co-author on a conference presentation

² Lead author on a conference presentation

³ Undergraduate research grant recipient

⁴ McNair National Scholar

⁵ Co-author on manuscript in preparation

⁶ NMU Honors Research Fellow

⁷ Freshman Fellow

TEACHING EXPERIENCE

2017–present **Northern Michigan University**, Marquette, MI

Assigned courses

BI 210 Principles of Ecology–Lecture/Lab (Fall ~ 140 students/Winter ~ 90 students)

BI 240 Conservation Biology–Lecture (Winter ~ 60 students)

BI 290 Fisheries and Wildlife Seminar–Lecture (Winter ~ 45 students)

BI 428 Behavioral Ecology–Lecture (Fall ~ 28 students [even years])

BI 595 Foundations of Ecology–Lecture (Fall ~ 10 students [odd years])

Additional courses

BI 491 Zambia Study Abroad Preparation co-Instructor (Winter 2019–14 students)

BI 495 Zambia Study Abroad co-Instructor (Summer 2019–14 students)

BI 288 Advanced Undergraduate Research (lower division)

- Snowshoe Hare Behavioral Analysis

BI 488 Advanced Undergraduate Research (upper division)

- Conservation Microbial Ecology
- Snowshoe Hare Behavioral Analysis
- Microplastic in the Environment
- Carnivore Ecology
- Carnivore Habitat Mapping

BI 498 Directed Studies Undergraduate level

- Stereotypies in Captive Wildlife

BI 598 Directed Research–Graduate level

- Analysis of Capture-Recapture Data in R
- Analysis of Human Foods in Carnivore Diets
- Integrating Wildlife Ecology, Citizen Science and Undergraduate Curriculum Creation to Advance Student Learning

2008 **Florida Institute of Technology**, Melbourne, FL

Co-instructor

BIO 5000 African Savanna Ecology–Study Abroad Kenya (co-instructor–24 students)

2006–2007 **Bayside High School**, Palm Bay, FL

Co-instructor, NSF GK-12 Teaching Fellow

Integrated Science III

2005–2006 **Palm Bay High School**, Melbourne, FL

Co-instructor, NSF GK-12 Teaching Fellow

Integrated Science II

Marine Science

INSTRUCTOR/TEACHER TRAINING

2016 North Carolina State University - Reflective Teaching Certificate

Fostering collaboration: NCSU Postdoctoral Research Symposium

Emerging tech: using social media in the college classroom

Effectively navigating large online enrollment classes

How to implement specified grading: lessons learned

Captioning: creating an inclusive learning environment

Addressing challenges to student engagement in large classes

Strategic course design

Creative and critical thinking in the classroom

- 2015 North Carolina State University - Faculty Reading Circle
The Anti-Education Era: Creating Better Students through Digital Learning by James Paul Gee
- 2013–2014 Mississippi State University - Graduate Teaching Assistant
WFA 4433 Mammalogy
WFA 4423 Herpetology
- 2013 Mississippi State University - Graduate Teaching Assistant Training Workshop
Understanding federal, state and university education policy and procedures, classroom management and communication
- 2011 Oregon State University - Creating a Successful College Classroom–MB 699
- 2010–2012 Oregon State University - Graduate Teaching Assistant
WF 453 Forest Management and Wildlife Conservation
FOR 341 Forest Ecology
FS 505 Foundation of Ecology
FS 115 Ecology of Oregon Coastal Forests
- 2005 Florida Institute of Technology - Foundations in Classroom Management–EDS 5055

NORTHERN MICHIGAN UNIVERSITY SERVICE

- 2020 Organized/hosted an occupancy modelling workshop for graduate students to learn single and multi-species/state occupancy modelling. This workshop was taught by visiting researcher Dr. Michael V. Cove from the Smithsonian Institution.
- 2020 Organized a departmental seminar, “Introducing the charismatic micro-fauna: conservation and ecosystem services of the endangered Key Largo woodrat” given by visiting researcher Dr. Michael V. Cove from the Smithsonian Institution.
- 2019 Invited speaker – New Faculty Network Lunch
- 2019 Invited speaker – NMU Full Sail Program – Wildlife Responses to Climate Change
- 2019–present NMU Undergraduate Research Advisory Board
- 2019–present NMU Internationalization Committee
- 2018–present Chair of the NMU Department of Biology Budget Committee
- 2018–present NMU Sustainability Advisory Council
- 2018 Organized/hosted a training workshop for undergraduate students, graduate students and faculty to learn fecal DNA extraction techniques for microbiome and metabarcoding analysis and bioinformatics analysis in R. This workshop was taught by visiting researcher Dr. Erin McKenney from North Carolina State University.
- 2018 Organized a departmental seminar, “Lemurs and Marten and Bears Oh My! What can microbes tell us about wildlife?” given by visiting researcher Dr. Erin McKenney from the North Carolina Museum of Natural Sciences and North Carolina State University.
- 2018 NMU Department of Biology – Neuroscience faculty search committee
- 2018 STEM Re-imagine – immersing historically underrepresented high school students in conservation ecology field techniques
- 2017–present NMU Allies – providing visible support for a safe university environment for LGBTQIA+ students, staff and faculty
- 2017–present Campus visit student/family host – meet with perspective students and families to discuss academic programs, research opportunities, campus engagement (30/year)
- 2017–present NMU Faculty mentor for the Cause-4-Paws student organization
- 2017–present NMU Faculty mentor for the Wildlife and Fisheries Association student organization
- 2017 NMU Department of Biology – Neuroscience faculty search committee

SERVICE TO THE BROADER SCIENTIFIC AND SCIENCE-EDUCATION COMMUNITIES

Ad hoc reviewer for: *Acta Theriologica, Animals, Arctic, BioScience, Canadian Journal of Zoology, Conservation Physiology, Diversity, Ecological Indicators, Ecological Solutions and Evidence, Ecology and Evolution, Endocrine, Food Webs, Forest Ecology and Management, Forests, Journal of Mammalogy, Journal of Wildlife Management, Journal of Zoology, Mammal Research, Mammal Review, Oecologia, People and Nature, Polar Biology, Quaternary Research, Scientific Reports, Southeastern Naturalist, Sustainability, Ursus, Wildlife Monographs*

- 2020 Genome British Columbia – GeneSolve Program Grant Reviewer
- 2020 National Science Foundation – Arctic Natural Science Program Grant Reviewer
- 2019 Natural Sciences and Engineering Research Council of Canada Grant Reviewer
- 2019 Snapshot USA – Nation-wide camera trap survey led by Smithsonian
- 2019 North Star Montessori Academy, Conservation Science Class Field Day
- 2019 Invited speaker – Northern Center for Lifelong Learning – Yooper Wildlife Watch
- 2019 Upper Peninsula Rainbow Pride, Pride Fest 2019 volunteer, Marquette, MI
- 2018 Natural Sciences and Engineering Research Council of Canada Grant Reviewer
- 2016–2017 Special events volunteer, North Carolina Museum of Natural Sciences
- 2015–2017 Representative, Postdoctoral Association College of Natural Resources, NCSU
- 2013–2015 College of Forestry, Diversity Advancement Council, MSU
- 2012–2015 Board member, Wildlife, Fisheries and Aquaculture Grad Student Council, MSU
- 2014 Organizing team, Relay-for-Life, Wildlife, Fisheries and Aquaculture, MSU
- 2014 Instructor, Discovery Days: immersing students in field ecology, Starkville, MS
- 2011–2013 Volunteer, Polaris Project: raising awareness about global human trafficking
- 2011–2012 Mentor, Cross-culture Mentoring Program, OSU
- 2012 Search committee member, HJ Andrews LTER-PI/Spaniol Endowed Chair, OSU
- 2012 Host family, 4-H International Leadership and Cultural Exchange, South Africa
- 2012 Logistics volunteer, National Ocean Sciences Bowl, Salmon Bowl, Corvallis, OR
- 2012 Affirmative Action Search Advocate, Hiring Committees, OSU
- 2008–2012 Member, College of Forestry Graduate Student Council, OSU
- 2011 Public seminar, Public Library Science Series, Bear Necessities, Gustavus, AK
- 2010 Volunteer research assistant, butterfly capture-mark-recapture, Corvallis, OR
- 2010 Public seminar, Public Library Science Series, Scavengers, Gustavus, AK
- 2009 Rules judge, National Ocean Sciences Bowl, Salmon Bowl, Corvallis, OR
- 2007 **Research intern, Palm Beach Zoo, Palm Beach, FL**
- 2006–2007 Coach, Ocean Sciences Bowl, Bayside High School, Palm Bay, FL
- 2005–2006 Coach, Ocean Sciences Bowl, Palm Bay High School, Melbourne, FL
- 2002–2004 **Volunteer, Center for Great Apes, Wauchula, FL**
- 2001 **Intern, Hoedspruit Endangered Species Center, Hoedspruit, South Africa**
- 2000–2004 Volunteer, Canaveral National Seashore sea turtle nest protection, Titusville, FL
- 1998 **Intern, St. Louis Zoo Herpetarium, St. Louis, MO**
- 1998 Intern, Illinois Department of Natural Resources, Natural Heritage, Marion, IL

ADDITIONAL WORK EXPERIENCE

- 1999–2004 **Carnivore Keeper**–Central Florida Zoological Park and Botanical Garden, Sanford, FL
Husbandry, behavioral training, monitored carnivore health, assisted veterinarians, collected behavioral, reproductive and endocrine data, established an environmental enrichment program, cross-trained in the primate and herpetology departments, contributed to education programs, supervised 8 interns, trained 6 keepers and numerous docents, taught junior zookeeper summer camp students

PROFESSIONAL AFFILIATIONS

International Association for Bear Research and Management

Society for Conservation Biology

Ecological Society of America

World Lagomorph Society

Turtle Survival Alliance

The Wildlife Society

Xi Sigma Pi (Forestry Honors Society)

PROFESSIONAL REFERENCES

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