

KRISTY M. FERRARO

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Greeley Memorial Laboratory

370 Prospect Street, New Haven, CT 06511

EDUCATION

Yale University New Haven, CT
School of the Environment, *PhD* (*defended Feb, conferred Aug*) 2024
Dissertation: The Zoogeochemistry of Northern Ungulates
Environmental Humanities Graduate Certificate

Vanderbilt University Nashville, TN
Earth and Environmental Sciences, *Master of Science* 2018
Thesis: Investigating the Role of Frugivorous Ungulates in Forest Nutrient Cycling

Boston College Chestnut Hill, MA
Environmental Geoscience and Philosophy, *Bachelor of Science* 2015

PROFESSIONAL EXPERIENCE

Instructor of Record, Yale School of the Environment 2023
NSF Graduate Research Fellow, Yale School of the Environment 2017 - 2022
Fulbright Student Scholar, University of Berne 2015 - 2016

PEER-REVIEWED PUBLICATIONS

*Indicates shared first-authorship, ^UIndicates undergraduate mentee

15) **Ferraro, K.M.** and C. Hirst. (accepted) Missing Carcasses, Lost Nutrients: Quantifying Nutrient Losses from Deer Culling Practices in Scotland. *Ecological Solutions and Evidence*.

14) Orrick, K.*, **K.M. Ferraro***, and N.R. Sommer. (2024). Individuals as the ecological and ethical center of human-wildlife conflict. *Biological Conservation*.
DOI: <https://doi.org/10.1016/j.biocon.2024.110614>

13) Orrick, K., F. Rowland, N.R. Sommer, and **K.M. Ferraro**. (2024). Predator-prey interactions across hunting mode, spatial domain size, and habitat complexity. *Ecology*.
DOI: <http://doi.org/10.1002/ecy.4316>

12) Trepel, J., E. Lundgren, A. Abraham, **K.M. Ferraro**, C. Fløjgaard, L. Haugaard, P. Sunde, R. Pedersen, M. Tietje, J. Kamp, and E. Le Roux. (2024). Zoogeochemistry of a protected area: driven by anthropogenic impacts and animal behaviour. *Conservation Science and Practice*.
DOI: <http://doi.org/10.1111/csp2.13107>

11) Burak, M.K.*, **K.M. Ferraro***, K.D. Orrick*, N.R. Sommer, D. Ellis-Soto, and O.J. Schmitz. (2024). Context matters when rewilding for climate change. *People and Nature*.
DOI: <http://doi.org/10.1002/pan3.10609>

10) Welker, L.^U, E.B. Ward, M.A. Bradford, and **K.M. Ferraro**. (2024). Mycorrhizal functional types shape nitrogen availability in a regenerating forest. *Plant and Soil*.
DOI: <https://doi.org/10.1007/s11104-024-06483-3>

9) Barbero-Palacios, L., **K.M. Ferraro**, I.C. Barrio, J.A. Krumins, J. Bartolomé, E. Albanell, L. Jarque-Bascuñana, J. Antonio Calleja, S. Lavín, J. A. Carriera, and E. Serrano. (2023). Faecal Nutrient Deposition of Domestic and Wild Herbivores in an Alpine Grassland. *Science of the Total Environment*.
DOI: <https://doi.org/10.1016/j.scitotenv.2023.166616> 8) **Ferraro, K.M.**, L. Welker^U, E.B. Ward, O.J.

- Schmitz, and M.A. Bradford. (2023). Mycorrhizal association mediates the zoogeochemical effects of a calving subsidy by forest ungulates. *Journal of Animal Ecology*.
DOI: <https://doi.org/10.1111/1365-2656.14002>
Awarded, The Bormann Prize 2024
- 7) **Ferraro, K.M.**, A.L. Ferraro, A.Z. Andis, and N.R. Sommer. Revisiting Two Dogmas of Conservation Science. (2023). *Conservation Biology*.
DOI: <https://doi.org/10.1111/cobi.14101>
Awarded, NYU Wild Animal Welfare Award, 2023
- 6) Abraham, A., E. Duval, **K.M. Ferraro**, A. Webster, C. Doughty, E. le Roux, and D. Ellis-Soto. (2023). Understanding anthropogenic impacts on zoogeochemistry is essential for ecological restoration. *Restoration Ecology*. 31.3, e13778.
DOI: <https://doi.org/10.1111/rec.13778>
- 5) Webber, Q.M.R., **K.M. Ferraro**, J.G. Hendrix, and E. Vander Wal. (2022). What do caribou eat? A review of the literature on caribou diet. *Canadian Journal of Zoology*. 100.3, 197-207.
DOI: <https://doi.org/10.1139/cjz-2021-0162>
Awarded, Editor's Choice
- 4) **Ferraro, K.M.**, O.J. Schmitz, and M.A. McCary. (2022). Effects of ungulate density and sociality on landscape heterogeneity: a mechanistic modeling approach. *Ecography*. 2022.2.
DOI: <https://doi.org/10.1111/ecog.06039>
- 3) Sommer, N.R. and **K.M. Ferraro**. (2022). An ethical framework for behavioural training in wildlife management. *Conservation Science and Practice*. 4.3, e616.
DOI: <http://doi.org/10.1111/csp2.616>
- 2) **Ferraro, K.M.**, A.L. Ferraro, and N.R. Sommer. (2021). Challenges facing cross-disciplinary collaboration in conservation ethics. *Conservation Science and Practice*. 3.11, e523.
DOI: <https://doi.org/10.1111/csp2.523>
- 1) Ellis-Soto, D.*, **K.M. Ferraro***, M. Rizzuto, E. Briggs, J.D. Monk, and O.J. Schmitz. (2021). A methodological roadmap to quantify animal-mediated nutrient subsidies. *Journal of Animal Ecology*, 90.7, 1605-1622.
DOI: <http://doi.org/10.1111/1365-2656.13538>
Awarded, Sidnie Manton Award 2021

PAPERS IN REVIEW OR REVISION

*Indicates shared first-authorship, ^UIndicates undergraduate mentee
Drafts available upon request

Gadsden, G.I., **K.M. Ferraro**, and N. C. Harris. Modeling Rodent Population Flux as an Indirect Result of Changing Residential Energy Efficiency for Public Health and Ecosystem Integrity. (in revision at *Landscape and Urban Planning*).

Hawkinson, V., O.J. Schmitz, and **K.M. Ferraro**. Understanding Contingency in Human-Wolf Conflict Across a Mosaic of Land Uses: An Agent-Based Modeling Approach. (in review at *People and Nature*).

Peterson, M., J. Bradham, **K.M. Ferraro**, M. Guillet, A. Keuroghlian, M. Ribeiro, M.L. Jorge. Modeling animal movement patterns to identify thresholds of functional connectivity in fragmented landscapes. (submitted to *Biological Conservation*).

FELLOWSHIPS, AWARDS, AND HONORS

Fellowships and Scholarships [Total: \$323,000]

Banting Postdoctoral Fellowship, <i>Government of Canada</i> (\$125,000)	2024
PEO Scholar Award, <i>Philanthropic Educational Organization</i> (\$20,000)	2022
NSF Graduate Research Fellowship, <i>National Science Foundation</i> (\$138,000)	2017
Fulbright/Swiss Excellence Scholarship, <i>Institute of International Education</i> (\$20,000)	2015
The Seydel Award, <i>Institute of International Education</i> - Declined (\$20,000)	2015

Awards and Honours [Total: \$1,500]

Bormann Prize <i>Yale School of the Environment</i> (\$750 prize)	2024
Award Winner - Wild Animal Welfare Workshop, <i>NYU Environmental Studies</i> (\$500 prize)	2023
Sidnie Manton Award for Best Early Career Review, <i>J. of Animal Ecology</i> (\$250 prize)	2022
Mary Allen Stafford Named Scholar, <i>Philanthropic Educational Organization</i>	2022
Boston College Arts and Sciences Honors Program, <i>Boston College</i>	2015
Member of the Order of the Cross and Crown, <i>Boston College</i>	2015
Sophomore Scholar, <i>Boston College</i>	2013

RESEARCH FUNDING

Grants [Total: \$171,405]

*Co-awarded

Yale University Student Travel Award, <i>Yale Graduate School</i> (\$1,600)	2022, 2023
ESA Travel Award (non-competitive), <i>ESA Canada Chapter</i> (\$250)	2023
Doctoral Travel Award, <i>Yale School of the Environment</i> (\$1,500)	2020, 2022, 2023
LEAP Student Grant, <i>Yale Law, Animals, and Ethics Program</i> (\$5,000)*	2021, 2022
Graduate Student Travel Award, <i>NSF & Geological Society of America</i> (\$500)	2022
International Dissertation Research Fellowship, <i>MacMillan Center</i> (\$18,000)	2022
Dissertation Improvement Award, <i>Yale Institute for Biospheric Studies</i> (\$5,000)	2021
Kohlberg-Donohoe Research Fellowship, <i>Yale School of Forests</i> (\$5,000)	2021
Research Fellowship Program, <i>Yale Institute for Biospheric Studies</i> (\$1,555)	2021
Stable Isotope Matching Funds, <i>Yale Institute for Biospheric Studies</i> (\$4,500)	2022, 2023
Christine Stevens Wildlife Award, <i>Animal Welfare Institute</i> (\$15,000)	2020
NSF/GSA Student Research Grant, <i>Geological Society of America</i> (\$2,500)	2020
Research Tools and Instruments, <i>NSERC Canada</i> (\$94,000)*	2020
Research Fellowship Program, <i>Yale Institute for Biospheric Studies</i> (\$5,000)	2020
Grants in Aid of Research, <i>Sigma Xi</i> (\$1,000)	2020
Doctoral Pilot Award, <i>Yale Institute for Biospheric Studies</i> (\$3,000)	2019
GSA Student Research Grant, <i>Geological Society of America</i> (\$2,500)	2017
Tinker Travel Award, <i>The Tinker Foundation</i> (\$3,000)	2017
Graduate Student Travel Grant, <i>Vanderbilt University</i> (\$500)	2017
ACC-IAC Thesis Research Grant, <i>Boston College</i> (\$2,000)	2014

TEACHING AND MENTORING

Instructor of Record

Conservation Ethics, <i>Yale School of the Environment</i>	Spring, 2023
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Academic Advising

Yale College, Undergraduate Thesis Advisor (2)	
Dara Albrecht	2022-2023
“Caribou-ffet”: <i>The Nutritional Landscape of Caribou in Newfoundland.</i>	

Les Welker	2021-2022
<i>The Impact of Mycorrhizal Association of Understory Plants on Soil Dynamics</i>	
Vanderbilt University, Undergraduate Thesis Research Mentor (1)	2017-2018
Nashville Public Schools, Senior Research Project Mentor (1)	2017-2018
Teaching Assistantships	
Restoration Ecology, <i>Yale School of the Environment</i>	Spring, 2024
Pests, Parasites, and Pathogens, <i>Yale School of the Environment</i>	Spring, 2019
Oceanography, <i>Vanderbilt University</i>	2016, 2017
Paleoclimate Reconstruction Methods, <i>University of Berne</i>	Spring, 2016
Course Mentor	
Undergraduate independent study, <i>Vanderbilt University</i>	Spring, 2018
High School independent study, <i>Vanderbilt University</i>	Spring, 2018
Guest Lectures	
Conservation Ethics, <i>Conneticut College</i>	2024
Animal-Ecosystem Interactions, <i>Wofford College</i>	2024
Ethical Approaches to Conservation, <i>Yale University</i>	2024
The Zoogeochemistry of Deer, <i>University of Florida</i>	2024
Conservation Ethics, <i>North Dakota State University</i>	2023
Applied Ethics for Conservation, <i>Yale University</i>	2023
Ethics of Eradication and Control, <i>Yale University</i>	2023
Applications of Agent Based Modeling in Ecology, <i>University of Hohenheim</i>	2022
Conservation Ethics, <i>Yale University</i>	2022
Conservation Ethics, <i>Harvard University</i>	2022
Ecological Applications of Agent Based Modeling, <i>Vanderbilt University</i>	2021
Introduction to LaTeX, <i>Yale School of the Environment</i>	2020
Ethical Approaches to Conservation, <i>Vanderbilt University</i>	2018
Paleoclimate Reconstruction Methods using Chironomids, <i>University of Berne</i>	2016
Workshops	
Applying to Fellowships, <i>Vanderbilt University</i>	2023
Introduction to LaTeX, <i>Yale School of the Environment R-rodeo</i>	2020
Introduction to IBMs using NetLogo, <i>Yale School of the Environment R-rodeo</i>	2020
Safety in the Field - workshop organizer, <i>Yale School of the Environment</i>	2019
Disabilities Tutor	
Department of Environmental Geosciences, <i>Boston College</i>	2012
Professional Mentorship	
Yale University, Women in Science Undergraduate Mentee-Match (2)	2018-present
Yale College, Fellowship Office Graduate Affiliate	2018-present
Boston College, Women's Center Mentoring Program (2)	2015-present
Yale School of the Environment, PhD Peer Mentoring Program (1)	2020-2021

INVITED TALKS, PANELS, AND WORKSHOPS

Guelph University Biology Seminar Series, Guelph, ON, CAN	2024
Because Animals Matter: Zoogeochemistry of North American Ungulates	
Guelph University Biology Department Workshop, Guelph, ON, CAN	2024
Because Animals Matter: Conservation Ethics	
Boramann Prize Talk: Yale School of the Environment, New Haven, CT, USA	2024
Mycorrhizal association mediates the zoogeochemical effects of a calving subsidy by	

forest ungulates	
Florida Fish and Wildlife Conservation Commission, Remote	2024
Revisiting Two Dogmas of Conservation Science	
New York University Wild Animal Welfare Workshop, New York, NY, USA	2023
Revisiting Two Dogmas of Conservation Science	
Memorial University Biology Seminar Series, St. John's, NL, CAN	2022
Because Animals Matter: Zoogeochemistry of North American Ungulates	
Memorial University Biology Department Workshop, St. John's, NL, CAN	2022
Because Animals Matter: Applied Ethics for Conservationists	
Yale Confluence Series, New Haven, CT, USA	2022
Applied Ethics for Conservationists	
PEO Chapters C and F Summer Meeting, Hamden, CT, USA	2022
The Role of Ungulates in Nutrient Cycles	
Yale Animal Ethics Reading Group, New Haven, CT, USA	2022
Challenges to Conservation Ethics	
The Association for Tropical Biology and Conservation, Virtual	2021
Applying to Graduate School Seminar - Panelist	
University of Bangor Behaviour, Ecology, & Physiology Seminar Series, UK	2021
The Role of Ungulate Density and Sociality on Landscape Nutrient Distribution	
Vanderbilt University Latin American Studies Brazil Week, Nashville, TN, USA,	2018
Investigating the Role of White-Lipped Peccaries in Nitrogen Cycling in the Cerrado of Brazil	
University of Bern Peloclimate Group Seminar, Bern, CH	2016
A Chironomid-inferred Holocene Temperature Reconstruction at Gouillé Rion	

PRESENTATIONS

Talk. **Ferraro, K.M.**, Ellis-Soto, D., M. Rizzuto, E. Briggs, J.D. Monk, and O.J. Schmitz. A roadmap to quantifying zoogeochemical impacts of animals on the move. Ecological Society of America, Portland, USA, 2023.

Talk. **Ferraro, K.M.**, Ellis-Soto, D., M. Rizzuto, E. Briggs, J.D. Monk, and O.J. Schmitz. A methodological roadmap to quantify animal-mediated nutrient subsidies. British Ecological Society, Edinburgh, UK, 2022.

Talk. **Ferraro, K.M.**, O.J. Schmitz, M.A. McCary. The role of ungulate density and sociality on landscape nutrient redistribution, Ecological Society of America, Montreal, CAN, 2022.

Talk. **Ferraro, K.M.** The role of caribou in nutrient redistribution, Max-Planck Yale Center 2021 Mini-Conference, New Haven, CT, 2021.

Talk. **Ferraro, K.M.**, O.J. Schmitz, M.A. McCary. The role of ungulate density and sociality on landscape nutrient redistribution, Yale School of the Environment Research Day, New Haven, CT, 2021.

Talk. **Ferraro, K.M.**, A.L. Ferraro, N.R. Sommer. The need for cross-disciplinary communication to inform conservation ethics. Animalhouse: Animals and Their Environs, The New School, New York, 2021

Talk. **Ferraro, K.M.**, N.R. Sommer. A Call for a New Conservation Ethic in the Age of Climate Change. Animalhouse: Animals and Their Environs, The New School, New York, Cancelled.

Poster. **Barnes, K.M.** Investigating the Role of White-Lipped Peccaries in Nitrogen Cycling in the Cerrado of Brazil. *Poster.* Vanderbilt University Earth and Environmental Graduate Research Symposium, Nashville TN. 2017.

Poster. **Barnes, K.M.** Simulating Ungulate Impact in Forests: A Century-Based Model of White Lipped Peccary Presence in the Forests of the Cerrado, Brazil. Ecological Society of America, Portland OR. 2017.

Talk. **Barnes, K.M.** A Paleoclimate Reconstruction Using Coleoptera Remains Representing the Chelford Interstadial at Arclid Quarry, Cheshire.

Talk. **Barnes, K.M.** Boston College Department of Environmental Geoscience Undergraduate Research Symposium, Boston MA. 2015.

Talk. **Barnes, K.M.** Consideration For All Beings. *Oral Presentation*. Boston College Department of Philosophy Undergraduate Research Symposium, Boston MA. 2015.

RELEVANT WORK EXPERIENCE

- Yale College Fellowships Office** New Haven, CT
National Fellowships Graduate Assistant 2019 - 2022
- Reviewed and edited over 100 applications for fellowships including Fulbright, Truman, Marshall, Mitchell, Rhodes, Soros, and internal Yale fellowships each year
 - Served on interview panels for various fellowships including Fulbright and Soros
 - Scheduled and conducted mock interviews for Yale College applicants of the Rhodes, Marshall, Mitchell, Fulbright, Truman and Goldwater fellowships
 - Composed and edited campus endorsement letters for Marshall, Mitchell and Rhodes Fellowships
 - Improve Yale College's rank in the Top Producing Institutions for Fulbright U.S. Students list from 15th to 5th
- Yale Analytical and Stable Isotope Center** New Haven, CT
Research Assistant 2019
- Prepared and ran samples for stable isotope analysis on a Costech ECS 4010 Elemental Analyzer with ConFlo III interface

PROFESSIONAL SERVICE

- University Service**
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| Faculty Search Committee Student Representative | 2020 |
| Yale School of the Environment Doctoral Committee Founder | 2020 |
| Yale School of the Environment Student Committee Rep | 2019-2020 |
| Yale School of the Environment Student Interest Group Leader | 2019-2020 |
| Vanderbilt Women in Earth Science Event Coordinator | 2016-2018 |
- Committees**
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| Yale Graduate Student Disability Alliance | 2020-present |
| Yale Anti-Racism Network | 2020-2022 |
| Yale Environment Doctoral Funding COVID-19 Response | 2020 |
| Yale School of the Environment BIOMES Committee | 2019-2020 |
| Yale School of the Environment Student Activities Committee | 2019-2020 |
- Invited Editor**
- | | |
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| Special issue of the <i>Journal of Animal Ecology</i> entitled <i>Animal Vectorized Subsidies</i> | 2022 |
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- Ad Hoc Reviewer**
- Ecological Applications (2), Oecologia, Journal of Animal Ecology (2), Ecology and Evolution, Functional Ecology*
- Symposia Organized**
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| Zoogeochemistry as a Throughline in Ecology, and for a Changing World <i>co-organizer</i> | 2023 |
| Ecological Society of America, Portland, OR | |
| The Consequences and Mechanisms of Zoogeochemistry <i>co-organizer</i> | 2023 |
| Ecological Society of America, Portland, OR | |
| Approaches to Studying Zoogeochemistry <i>co-organizer</i> | 2023 |
| Ecological Society of America, Portland, OR | |
- Talks Organized**
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| Eat, Poop, Die: How Animals Make Our World | 2024 |
| Speaker: Joseph Roman | |

Feral Earth: Introduced Megafauna and the Biological Reality of Naiveness	2023
Speaker: Erick Lundgren	
Black Veganism: Race, Animals, and Ethics	2021
Speaker: Lindgren Johnson and Sly Ko	
Through the Prism of Individual Differences: Integrating the Geometry of the Selfish Herd and the Ideal Free Distribution Using Caribou Calving Aggregations	2020
Speaker: Eric Vander Wal	
Cutting it Close in the Canadian Boreal Forest: How Logging is Eroding the Great North Forest and Fueling the Climate and Biodiversity Crises	2020
Speaker: Jennifer Skene	
Conference Volunteer	
Ecological Society of America	2018

PROFESSIONAL DEVELOPMENT

Programs

Law, Ethics, and Animals Program Fellow, *Yale Law School* 2019-present

Short Courses

Ecosystem roles of Megafauna in the Past, Present, and Future Aarhus, Demark 2022
 Yale Interdisciplinary Center for Bioethics Summer Course New Haven, CT, 2020
 Climate Change Ethics and Animal Ethics Seminars
 Metabarcoding of Trophic Interactions Innsbruck, Austria, 2019
 Survivor's Guide to Stable Isotope Ecology Siracusa, Italy, 2017

Workshops

New Thinking in Conservation San Diego, CA, 2024
 Planet Zoogeochemistry Aarhus, Denmark, 2023
 Anti-racism Learning Community for Graduate Students and Postdocs New Haven, CT, 2020
 Incorporating Environmental Justice into Teaching Symposium New Haven, CT, 2019
 Diversity in Academia Workshop New Haven, CT, 2019
 STEM Policy and Advocacy: Making Your Voice Heard Nashville, TN, 2017

OUTREACH AND SCIENCE COMMUNICATION

Public Writing

Codversations. *The Caribou Fertility Feedback Loop.* 2024
 Codversations. *Caribou nutrition: when eating your greens isn't quite enough.* 2022
 Codversations. *What do caribou eat?* 2022
 Animal Ecology in Focus. *Animals in the Driver's Seat: A Methodological Roadmap To Animal Mediated Nutrient Translocation.* [Available here](#) 2022
 N.R. Sommer's Ecology Blog. *Tips for fellowship applications* [Available here](#) 2022

Select Media Coverage

Psychology Today *Conservation Science Must Value Individuals and Anthropomorphism.* [Available here](#)
 Medium *A Bear is not just a Bear: Recognizing the Individual in Wildlife Conservation* [Available here](#)
 Yale School of the Environment *Unique Research on Calving Impacts on Nutrient Cycle Earns 2024 Bormann Prize* [Available here](#)
 Raincoast Investigate and Inform. *How studying animal culture can inform conservation.* [Available here](#)
 Sierra Magazine. *Can Conservation Be Compassionate?* [Available here](#)

Green Blob Podcast. *Christmas Special with Sidnie Manton Award winner Kristy Ferraro*
[Available here](#)

Yale School of the Environment. *Yale Doctoral Students Highlight ‘Animal-Vectored Subsidies’ in Journal of Animal Ecology* [Available here](#)

Ecology in Focus. *Winners Announced: Sidnie Manton Award* [Available here](#)

Yale Environmental Humanities Program. *Q&A With Environmental Humanities Student Kristy Ferraro* [Available here](#)

Journal of Animal Ecology. *Diego Ellis Soto and Kristy M. Ferraro win the Sidnie Manton Award*
[Available here](#)

Yale Law School LEAP. *Q&A Kristy Ferraro Ph.D. '24 on How Caribou Impact Ecosystems and the Ethics of Wildlife Management* [Available here](#)

Invited Public Talks

Science guest speaker, Miss Porters School	Farmington, CT 2024
Earth Day guest speaker, Cheshire Academy	Hamden, CT 2020
Visiting scientist, Georgia Aquarium	Atlanta, GA, 2020
Visiting scientist, Boston Public Schools	Boston, MA, 2017

Outreach Programing

Yale Pathways to Science	2019-2021
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TECHNICAL SKILLS

Programming Languages: R, MATLAB, NetLogo

Software & Tools: LaTeX, CENTURY, Microsoft Office, ArcGIS

Research: VHF telemetry and triangulation, ungulate calf capture, denitrification assays, carbon mineralization assays, soil sample processing, chironomid identification

Instrumentation: IRGA, Elemental Analyser with Conflow III, Isotope-radio mass spectrometry

PROFESSIONAL AND SCHOLASTIC MEMBERSHIPS

Women in Science at Yale
Yale Animal Ethics Study Group
Ecological Society of America
Geological Society of America
British Ecological Society
Society for Conservation Biology