

Hannah Hoff

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Education

- Ph.D. Brown University** *Expected 2027*
Ecology, Evolution, and Organismal Biology
- M.S. Montana State University** *Conferred July 2021*
Plant Science and Plant Pathology
- B.S. Northland College** *Conferred December 2018*
Biology, *magna cum laude*

Peer-Reviewed Publications

Hoff, H.K.; Littleford-Colquhoun, B.L.; Geremia, C.; McGarvey, L.; Anderson, H.A.; Kartzinel, R.; Segal, C.; Kartzinel, T.R. 2025. The apportionment of dietary diversity in wildlife. *PNAS*, 122: e2502691122.

- *The Wildlife Society*
- *Ecology Project International*
- *PNAS Kudos*
- *Brown Daily Herald*
- *News from Brown*

Hoff, H.K.; Thum, R.A. 2021. Hybridization and invasiveness in Eurasian watermilfoil (*Myriophyllum spicatum*): Is prioritizing hybrids in management justified? *Invasive Plant Science and Management*, 15(1).

- *Cover article, Invasive Plant Science and Management*
- *Weed Science Society of America*

Hoff, H.K.; Martin, J.G.; Liesch, P.J.; Olson, E.R. 2019. Stonefly (*Acroneuria lycorias*): New emergence behavior discovered at great heights in *Pinus strobus* canopy. *The Great Lakes Entomologist*, 52:53-6.

Hoff, H.K.; Geremia, C.; Hamilton E.W.; Littleford-Colquhoun, B.L.; Anderson, H.A.; Kartzinel, R.; Atwood, E.T.; Grove, A.R.; Divoll, T.J.; Kartzinel, T.R. Seasonal shifts in botanical diet composition drive nutritional variation across large herbivore species in Yellowstone National Park. *In prep.*

Kartzinel, T.R.; **Hoff, H.K.;** Divoll, T.J.; Littleford-Colquhoun, B.L.; Anderson, H.A.; Burak, M.K.; Kuzmina, M.L.; Musili, P.M.; Rogers, H.; Troncoso, A.J.; Kartzinel, R.Y. 2025. Global Availability of Plant DNA Barcodes as Genomic Resources to Support Basic and Policy-Relevant Biodiversity Research. *Molecular Ecology*, 34: e17712.

Videvall, E.; Gill, B.; Brown, M.; **Hoff, H.K.;** Littleford-Colquhoun, B.L.; Lokeny, P.; Musili, P.; Kartzinel, T.R. 2025. Diet-Microbiome Covariation Across Three Giraffe Species in a Close-Contact Zone. *Global Ecology and Conservation*, 58: e03480.

Littleford-Colquhoun, B.L.; Geremia, C.; McGarvey, L.; Merkle, J.; **Hoff, H.K.;** Anderson, H.A.; Segal, C.; Kartzinel, R.Y.; Maywar, I.; Nantais, N.; Moore, C.; Kartzinel, T.R. 2024. Body size modulates the extent of seasonal diet switching by large mammalian herbivores in Yellowstone National Park. *Royal Society Open Science*, 11;11(9):240136.

Stone M.M., Espinosa M., Troncoso A., Gouin N., Bertin A., Chavez J., Jackson A., **Hoff, H.K.**, Nantais N., Divoll T., Maldonado K., Newsome S., Kelt D., Kartzinel T.R. Diet inferences from DNA metabarcoding of small-mammal scats are robust to common sampling-strategy differences. *In Review.*

Other Publications and Reports

Hoff, H.K. 2021. Biocontrol agent: Milfoil weevil. Montana State University Weed Science Bulletin.

Thum, R.A. and **Hoff H.K.** 2021. Occurrences of Eurasian and hybrid watermilfoil strains in Coeur d'Alene Lake from 2015-2020. Report to Avista Corporation regarding work on Contract R-43238.

Hoff, M.H.; **Hoff, H.K.**; Meyers, M. 2021. Development of EcoStar™ rating system for live nonnative species in trade: Report to Mississippi River Basin Panel on Aquatic Nuisance Species.

Media Coverage of Research

"Two Studies, One Lesson: How Citizen Science is Transforming Our View of Yellowstone," *Ecology Project International*, 9/2025.

"An herbivore by any other name," *The Wildlife Society*, 9/2025.

"Researchers propose new model for herbivore diets in Yellowstone" *The Brown Daily Herald*, 10/2025.

"New research challenges animal dietary classifications in Yellowstone," *News from Brown*, 7/2025.

"Research sheds light on watermilfoil management," *Weed Science Society of America*, 5/2022.

Presentations

Oral Presentations

Hoff H.K. and Kartzinel T.R. "Diverse plant communities provide nutritional insurance for foraging herbivores." *Accepted to: Ecological Society of America meeting, 2026.* In organized oral session: "Beyond the barcode: Innovative applications of DNA metabarcoding in ecology"

Hoff H.K. "Chews wisely: Causes and consequences of wildlife food choices at Yellowstone National Park." Blavatnik Family Fellows Visit Day, 2026.

Hoff H.K. and Kartzinel T.R. "Chews wisely: A DNA-based model for nutrition of North American large herbivores." Ecological Society of America meeting, 2025.

Videvall E., Gill B.A., Brown M.B., **Hoff H.K.**, Littleford-Colquhoun B.L., Lokeny P., Musili P.M., Kartzinel T.R. "Diet-microbiome covariation across three giraffe species in a close-contact zone." European Society for Evolutionary Biology, 2025.

Hoff H.K. and Thum R.A. "Hybridization and invasiveness in Eurasian watermilfoil: Is prioritizing hybrids in management justified?" Midwest Aquatic Plant Management Society, 2022.

• First-place student presentation

Thum R.A., Chorak G.C., **Hoff H.K.**, Gannon K.G., Wolfe A.L. Building a centralized database of watermilfoil strain distribution and herbicide response for use in management decisions. Joint Aquatic Sciences Meeting, 2022.

Poster Presentations

Hoff H.K. and Thum R.A. "Hybridization and invasiveness in Eurasian watermilfoil: Is prioritizing hybrids in management justified?" Ecological Society of America, 2021.

Tharpgeorge S.R., Miles J., **Hoff H.K.**, Johnson S.E., and Cooper M.J. "Coastal wetland response to changing Lake Superior water levels," Wisconsin Wetlands Conference, 2018.

Hoff H.K. "Rare plant subpopulations and available habitat in Isle Royale National Park," Alaska Pacific University Poster Symposium, 2017.

Symposia Organized

"Beyond the barcode: Innovative applications of DNA metabarcoding in ecology." Organized oral session at the annual meeting of the Ecological Society of America, Salt Lake City, Utah (co-organizer).

Grants and Awards

Institute at Brown for Environment and Society: **Research, Teaching, and Training Grant** (2026)
Blavatnik Family Graduate **Fellowship** in Biology and Medicine (2025)
Brown University Division of BioMed **Travel Award** (2025)
Bushnell Graduate Research & Education: Doctoral Dissertation Enhancement **Research Grant** (2024)
Eriogonum Society: James Reveal Eriogonum Project **Research Grant** (2024)
National Institute of Health (NIH): Ruth L. Kirschtein Institutional National Research Service Award **T32 Traineeship** (2022-2023)
Midwest Aquatic Plant Management Society: Robert L. Johnson Memorial **Research Grant** (2022)
Sigurd Olson Eco-Visionary **Scholarship** (2015)
Northland College Academic Excellence **Scholarship** (2015-2018)
Chequamegon Excellence **Scholarship** (2015-2018)
Alpha Chi **Honor Society** (2015-2018)
Dean's List (2015-2018)
Flint Hills Discovery Center **Scholarship** (2015)

Resource and Code Development

Hoff, H.K. et al., Plants of Yellowstone R3. Local DNA barcode for Yellowstone National Park on Barcode of Life Datasystems (DS-YNPBP3). Available publicly: doi.org/10.5883/DS-YNPBP3.
Hoff, H.K. (2025). 'Map making for ecologists' tutorial series. Available publicly: github.com/hkhoff/Map-making-in-R-tutorials
Hoff, H.K.; Divoll, T.; Kartzinel, T.R. (2025). 'DNA metabarcoding downstream analysis' code pipeline. Available publicly: github.com/trklab-metabarcoding/metabarcoding-downstream-analyses
Kartzinel, T.R.; **Hoff, H.K.**; Littleford-Colquhoun, B.L.; Divoll, T. (2024). 'Creating local DNA reference libraries' code pipeline. Available publicly: github.com/trklab-metabarcoding/obitools2-localdb-build
Divoll, T.; Littleford-Colquhoun, B.L.; **Hoff, H.K.**; Kartzinel, T.R. (2024). 'Creating global reference libraries' code pipeline. Available publicly: github.com/trklab-metabarcoding/obitools4-global-db

Teaching

Teaching Assistant, Brown University BIOL1015/2015: Conservation in the Genomics Age (2024)
Teaching Assistant, Brown University ENVS0490: Environmental Science in a Changing World (2025)
Guest lecturer, Brown University BIOL1015/2015: Conservation in the Genomics Age (2024)
Guest lecturer, Brown University BIOL0940D: Rhode Island Flora (2023, 2024, 2025)
Exam grader, Brown University BIOL0420: Principles of Ecology (2025)

Undergraduate Mentoring

Abigail Grove '26 (Brown EEOB) – field work, laboratory work, data analysis, writing, thesis project
Eliza Atwood '24 (Brown ENVS) – field work, laboratory work, data analysis, writing, thesis project
Isabel Tribe '27 (Brown DEEPS) – field work, laboratory work
Diandra Polt '25 (Brown ENVS) – field work
Madeleine Florida '24 (Brown EEOB) – field work

Olivia Rodriguez '26 (Brown ENVS) – experimental work

Ashley Wolfe '20 (MSU PSPP) – experimental work

Katelyn Weiss '21 (MSU PSPP) – experimental work

Professional Service

Journal reviewer: *Scientific Data, Ecology and Evolution, Invasive Plant Science and Management*

Society member: Ecological Society of America, Botanical Society of America, Eriogonum Society

Conference volunteer, Martes Conference – 2018

Graduate student recruitment weekend co-organizer, Brown EEOB (2025)

President, Brown EEOB Graduate Student Association (2025-26)

Vice President, Brown EEOB Graduate Student Association (2024-25)

Graduate retreat coordinator, Brown EEOB Graduate Student Association (2023-24, 2024-25)

Internal seminar ('Brown Bag') coordinator, Brown EEOB Graduate Student Association (2024)

Graduate student onboarding coordinator, Brown EEOB Graduate Student Association (2023-24)

Research Experience

Graduate Research Assistant, Molecular Ecology and Conservation Lab 2022-Present
Brown University, Advisor: Dr. Tyler Kartzinel

Research Associate, Evolutionary/Molecular Ecology Lab 2021-2022
Montana State University, Principal Investigator: Dr. Ryan Thum

Graduate Research Assistant, Evolutionary/Molecular Ecology Lab 2019-2021
Montana State University, Advisor: Dr. Ryan Thum

Research Assistant, Wildlife Ecology Research Lab Summer 2018
Northland College, Advisors: Dr. Jonathan Martin and Dr. Erik Olson

Research Assistant, Plant Ecology Research Lab 2017-2018
Northland College, Advisor: Dr. Sarah Johnson

Research Assistant, Forest Science Research Lab 2016-2017
Northland College, Advisor: Dr. Jonathan Martin

Forest Pathology/Ecology Intern, Minnesota Department of Natural Resources Summer 2016
Forestry Division, St. Paul, MN; Advisor: Brian Schwingle

Public Service and Other Relevant Experience

ECOSTAR Project Manager 2020-2022
Funded by: Mississippi River Basin Panel on Aquatic Nuisance Species

Visitor Use Assistant, Northern Great Lakes Visitor Center 2015-2017
Funded by: U.S. National Park Service-U.S. Forest Service-University of Wisconsin Extension

Wilderness Education Intern Winter 2015
Funded by: U.S. Forest Service – Superior National Forest/Boundary Waters Canoe Area Wilderness

Training and Professional Development

Diversity, Equity, and Inclusion

“Mentoring to Make a Difference: Inclusive Mentoring Workshop for Graduate Students.” Collaborative program by University of Massachusetts, Brown University, Northeastern University, MIT, Harvard University, 2026
“Diversity, Equity, and Inclusion in Plant Sciences” workshop series, Montana State University, 2021

Teaching and Outdoor Education

Training: Engaging Storytelling for Scientific Presenters, Brown University Division of Biomed, 2026
Outdoor Education and Leadership Training, Northland College, 2018
Certified Instructor—Sea Kayaking, L2, American Canoe Association, 2017

Botany and Taxonomy

Plant genus *Carex* identification (section *Ovales*) workshop, Dr. Barbara Wilson, 2024
Herbarium specimen mounting and archival training, Martha Cooper, 2024-2025
Research exchange, Yellowstone National Park Herbarium, Heidi Anderson, 2023 & 2026

Statistics

Obitools package workshop: Analyzing next-generation sequencing data in a DNA metabarcoding context, Brown University Center for Computation and Visualization, 2023
“Data Wrangling in R” workshop series, Montana State University, 2019

Wildlife

Carnivore Tracking, Wisconsin DNR, 2018
Small Mammal Trapping (for research), University of Wisconsin-Madison, 2018
Wisconsin Trapping Education, Wisconsin DNR/Northland College, 2017

Forestry

Chainsaw Use (Bucking and Felling), Northland College, 2018
Wildland Fire Training, Wisconsin DNR/Northland College, 2017