Hannah Hoff

hannah_hoff@brown.edu
Institute at Brown for Environment and Society
85 Waterman St, Providence, RI 02906

Education

Ph.D. Ecology, Evolution, and Organismal Biology — *Expected 2027*
Brown University

M.S. Plant Science and Plant Pathology — *Conferred July 2021*
Montana State University

B.S. Biology, minor in Environmental Studies — *Conferred December 2018*
Northland College

Publications

Peer-reviewed

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

- ***The Wildlife Society Featured Article***
- ***Brown Daily Herald***
- ***Brown University Press Release***

Hoff, H.K. and 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***
- ***Weed Science Society of America Press Release and Featured Blog Post***

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

Hoff, H.K.; Newman, R.; Thum, R.A. Genetic monitoring reveals particularly invasive hybrid watermilfoil (*Myriophyllum spicatum* × *sibiricum*) variant. *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.

Professional reporting/non-peer reviewed

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.

Grants and Awards

Blavatnik Family Graduate **Fellowship** in Biology and Medicine (2025)

Bushnell Graduate Research & Education Fund: Doctoral Dissertation Enhancement **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** (2025-2018)

Flint Hills Discovery Center **Scholarship** (2015)

Teaching and Mentoring

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 BIOL0940D: Rhode Island Flora (2023, 2024)

Mentoring: Directly mentored five undergraduate research students for >1 semester in field, lab, experimental and/or data analysis work at Brown (2022-25). At MSU, four undergraduate students for >1 semester in experimental work (2019-22).

Presentations

Oral Presentations

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, August 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, February 2022.

- Awarded **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 Geographic Distribution and Herbicide Response for Use in Management Decision-Making. Joint Aquatic Sciences Meeting, May 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, August 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," Northland College Honors Day Poster Session, April 2018.

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

Professional Service

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

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

Retreat Coordinator, Brown EEOB Graduate Student Association (2023-24, 2024-25)

Internal Seminar ('Brown Bag') Coordinator, EEOB Graduate Student Association (2024)

Graduate Student Onboarding Coordinator, EEOB Graduate Student Association (2023-24)

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

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

Journal reviewer for *Ecology and Evolution* – 2023, 2024

Journal reviewer for *Invasive Plant Science and Management* – 2021

Conference volunteer, Martes Conference – 2018

Research Experience

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

• Contribute to lab and global genetic databases through leading the development of a local plant DNA reference library for Yellowstone National Park
• Lead a field team of undergraduate students each summer in data collection and experimental setup for projects that connect the botanical attributes of plants to broader ecological dynamics involving herbivores while working directly with National Park Service scientists and managers
• Collaborate with two Herbaria to archive collections of all ~1400 plant species in Yellowstone
• Lead lab meetings, workshops, and development of coding and data visualization resources
• Analyze and share findings from laboratory, field, and experimental data through presentations, peer-reviewed paper(s), and reports to managers

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

• Managed a program of greenhouse experiments characterizing traits of different plant lineages in collaboration with managers and to contribute to national invasive species databases
• Mentored a small team of undergraduate students in greenhouse work and experimental design

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

• Managed greenhouse and experimental facilities, including maintaining plant cultures and designing and constructing experiments to contribute plant genetic and trait data to invasive species databases
• Led and participated in weekly lab meetings, paper/book discussion groups
• Analyzed and shared findings from laboratory and experimental data through collaborative reports, presentations, and peer-reviewed paper(s)

Research Assistant, Advisors: Dr. Jonathan Martin and Dr. Erik Olson **June-Dec 2018**
Wildlife Ecology Research Lab, Northland College, Ashland, WI

• Led a field project focused on the ecology of eastern white pine tree canopies: worked in remote field sites, followed OSHA protocol to climb into tree canopies, performed community composition surveys
• Analyzed camera trap images, processed lichen and light infiltration data
• Published first principal-author paper

Research Assistant, Advisor: Dr. Sarah Johnson **June 2017-April 2018**
Plant Ecology Research Lab, Northland College, Ashland, WI
• Assisted in coastal wetlands monitoring project in the Apostle Islands National Lakeshore: worked with a team in remote field sites, established vegetation transects, identified plants and vegetative cover types, worked directly with National Park Service (NPS) scientists and managers
• Assisted in rare plant monitoring project in Isle Royale National Park: identified plants and collected counts of rare coastal plant species, analyzed and presented data, worked directly with NPS scientists
• Assisted in the Northland College Herbarium: processed specimens from the Northland College herbarium and greenhouse for entry into herbarium databases

Research Assistant, Advisor: Dr. Jonathan Martin **Oct 2016-April 2017**
Forest Science Research Lab, Northland College, Ashland, WI
• Supported a dendrochronology research project: utilized high-powered microscopes and image processing software to record tree ring measurements to associate with climate data

Forest Pathology/Ecology Intern, Advisor: Brian Schwingle **June-Aug 2016**
Minnesota Department of Natural Resources, St. Paul, MN
• Assisted with a tree disease monitoring project: used ArcGIS aerial imagery and hyperspectral remote sensing data to identify sites of red pine mortality
• Created survey maps, visited sites to evaluate cause of mortality using knowledge of disease symptoms, collected root samples, entered and managed data, worked directly with state scientists

Public Service and Other Relevant Experience

ECOSTAR Project Manager, March 2020-August 2022
Funded by: Mississippi River Basin Panel on Aquatic Nuisance Species
• Used Ecological Risk Screening Summaries (ERSS) and Climate Match Risk Assessment to create a state-specific labeling system depicting (1) risk of establishment, (2) risk of impacts, and (3) risk management actions for nonnative species commonly traded in aquaria, water garden, aquaculture, and live food markets in the United States

Visitor Use Assistant, Dec 2015 - Jan 2017
Northern Great Lakes Visitor Center – Ashland, WI
• Provided interpretive services to visitors of the Apostle Islands National Lakeshore, Whittlesey Creek National Wildlife Refuge, and Chequamegon-Nicollet National Forest
• Delivered information on visitation and conservation in the parks, assisted in restoration projects on public lands, led programs and events (e.g., National Public Lands Day hikes and native seed plantings)

Wilderness Education Intern, Sept 2015 - Dec 2015
U.S. Forest Service – Superior National Forest/Boundary Waters Canoe Area Wilderness
• Worked with federal managers and visitor use assistants to revise the Wilderness Education Strategy for the Superior National Forest/BWCAW to include modern wilderness education philosophy, statements on diversity equity and inclusion (DEI), and modern networking and outreach platforms

Professional Development

Education
Diversity, Equity, and Inclusion in Plant Sciences Workshop Series, Montana State University, 2021 Outdoor Education and Leadership Training, Northland College, 2018
Instructor—Sea Kayaking, L2, American Canoe Association, 2017

Botany and Taxonomy
Plant genus *Carex* identification (section *Ovales*), Dr. Barbara Wilson, 2024

Statistics
Data Wrangling in R, 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