

# Samantha Hoff

UNIVERSITY OF VERMONT, RUBENSTEIN SCHOOL OF ENVIRONMENT AND NATURAL RESOURCES  
WILDLIFE AND FISHERIES BIOLOGY PROGRAM  
312B AIKEN CENTER, BURLINGTON, VERMONT  
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## APPOINTMENTS

### *Current*

**Lecturer**, Wildlife and Fisheries Biology Program, Rubenstein School of Environment and Natural Resources, University of Vermont, Burlington, VT, Aug 2025 – *present*

### *Previous*

**Postdoctoral Associate**, Virginia Tech, Blacksburg, VA, June 2023 – Aug 2025

Advisors: *Kate E. Langwig & Joseph R. Hoyt*

**Bat Monitoring Coordinator**, U.S. Fish and Wildlife Service, Sept 2024 – Feb 2025

**Wildlife Technician**, NYS Dept. of Environmental Conservation, Albany, NY, Jan 2013 – May 2023

**Lecturer**, Dept. of Biology, Siena College, Latham, NY, Sept 2020 – May 2023

**Lecturer**, Dept. of Biological Sciences, University at Albany, Albany, NY, Sept 2018 – Dec 2021

**Lecturer**, Dept. of Environmental Science and Studies, Siena College, Latham, NY, Aug 2015 – May 2018

## EDUCATION

**Ph.D.** in Ecology and Evolutionary Biology, Sept 2017 – May 2023

**The University at Albany**, Albany, NY, 12222 USA

Advisors: *Wendy C. Turner, Ing-Nang Wang, Daniel Bogan, Jeff T. Foster*

**M.S.** in Biodiversity Conservation and Policy, Sept 2011 – Dec 2014

**The University at Albany**, Albany, NY, 12222 USA

Advisors: *Gary Kleppel, Jean Mangun, Sean Mahar*

**B.A.** in Environmental Studies, Sept 2006 – May 2010

**Siena College**, Loudonville, NY, 12211 USA

*Minor in Spanish*

## TEACHING & MENTORING

### Courses taught as instructor on record:

**University at Albany** - ABIO 110 General Biology Lab I; ABIO 330 Principles of Ecology and Evolution; ABIO 401 Ecology

**Siena College** - BIO 110 & 120 General Biology Lab I & II; BIO 401 Disease Ecology; ENVA 010 Environmental Issues; ENVA 020 Biological Diversity; ENVA 205 Field Techniques

Courses taught by semester, with course code (credit hours) and number of students in bold:

Spring 2023 BIO 401 (3) **22**

Fall 2022 BIO 110 (0) **15**

Fall 2021 BIO 110 (0) **11, 16** (two sections); ABIO 330 (3) **120**

Spring 2021 BIO 120 (0, hybrid) **16, 16** (two sections); ABIO 330 (3, online) **209**; ABIO 401 (3, online) **40**

Fall 2020 BIO 110 (0, online) **16**; ABIO 330 (3, online) **120**

Fall 2018 ENVA 020 (3) **26**; ABIO 330 (3) **97**

Spring 2018 ENVA 010 (1) **24**, ENVA 205 (2) **13**

Fall 2017 ENVA 020 (3) **32**, ENVA 205 (2) **15**

Spring 2017 ENVA 020 (3) **23**

Fall 2016 ENVA 010 (1) **14**, ENVA 020 (3) **26**, ENVA 205 (2) **9, 11** (two sections)

Fall 2015 ENVA 020 (3) **27**

Fall 2011 ABIO 110 (0) **20, 20** (two sections)

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Course development:

Designed an upper-level elective course that drew wide interest from biology, environmental science, and health studies majors (Disease Ecology, Siena College - BIO401); developed a seminar-style course focused on environmental health and disease (Siena College - ENVA010); developed remote material for an upper-level ecology course for biology majors and non-majors (UAlbany - ABIO401)

**Guest lecturer** – BIO 487 Senior Seminar in Disease Ecology (Union College Fall 2017); ABIO 330 Principles of Ecology & Evolution (University at Albany Spring 2018); ENVA 020 Biological Diversity (Siena College Spring 2021)

Mentees:

**Master's student, Oregon State University** – Ashley Meyer (2024 – present), spring migration behavior and maternity colony dynamics of tri-colored bats (*Perimyotis subflavus*)

**Master's student, University at Albany** – Casey Pendergast, M.Sc. in Ecology and Evolutionary Biology (2019 – 2023)

Thesis title: *Hibernation behavior and winter feeding of northern myotis in coastal populations after white-nose syndrome invasion*

**Undergraduate student researchers, University at Albany** – Shontae Duke (Fall 2018 – Spring 2019); Blake Alois (Spring 2019); Chantel Monchon (Spring 2019)

**Student interns at NYSDEC** – Alison Ligouri (Fall 2018, Siena College); Ashley Meyer (Fall 2018 – Spring 2019, Oregon State)

**Science Research in the High School student (University at Albany sponsored program)** – Eliza Hogan (August 2018 – May 2020), studying the quantitative effect of colchicine in the inhibitory growth of *Pseudogymnoascus destructans*

## RESEARCH

Interests: disease ecology: exploring host-pathogen dynamics across spatial and temporal scales to understand factors that influence transmission, population-level impacts, and community persistence; conservation biology: applied conservation approaches and management of endangered species, impacts of land use patterns on animal behavior and resource selection

Experience:

**Post-doctoral Research:** Exploring mechanisms of host persistence following disease outbreaks, NSF funded, Virginia Tech, 2023 – present

- Conducting a large-scale translocation experiment to investigate differential selection in populations following pathogen establishment
- Investigating the change in social behavior and infection patterns from the endemic through established phase of infectious disease progression
- Exploring spatial drivers of diverging host persistence for white-nose syndrome affected populations

**Ph.D. Research:** “*Refugia from white-nose syndrome: ecology and behavior of northern myotis coastal populations*”, University at Albany, 2017 – 2023

- Evaluated the roles that seasonal host behavior and environmental conditions play in shaping disease dynamics of persisting populations
- Designed an acoustic monitoring protocol for three understudied island bat populations and used results to model summer occupancy, elucidate environmental associations, and monitor the population trend
- Documented seasonal roost selection and fall behavior of island populations using radio telemetry; discovered novel hibernation behaviors through radio tracking and community outreach
- Quantified white-nose syndrome disease dynamics on the islands by measuring seasonal pathogen prevalence and infection intensity within populations and the role of the environmental reservoir
- Investigated the population structure of post-white nose syndrome populations using RAD sequencing

**Master's Research:** “*Old tools, new view: utilizing species distribution models to focus conservation efforts under a changing climate*”, University at Albany 2011 – 2014

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- Developed climate models representing habitat suitability for all NY avian species of greatest conservation using Maxent and ArcMap; assessed the role models play to inform management and policy decisions

**Undergraduate Research:** conducted visual bat surveys to compare spatial and temporal variation in activity across four ecotypes in Costa Rica, Siena College Tropical Biology Travel Course, winter 2010

## GRANTS & AWARDS

**Current funding:** Building a future for coastal northern long-eared bats in New England: creating and testing anthropogenic hibernacula designs on Martha's Vineyard, Nantucket, and Long Island, US Fish and Wildlife Service, \$28,142 (PI Johnson, co-authored grant) 2022 – 2025

**Previous awards:**

- Investigating survival mechanisms of remnant northern long-eared bat (*Myotis septentrionalis*) populations, US Fish and Wildlife Service, \$175,000 (PI Turner, co-authored grant) 2019 – 2021
- Investigating survival mechanisms of remnant northern long-eared bat populations, Bat Conservation International Student Research Scholarship, \$2700 (PI) 2019 – 2020
- Departmental Travel Grants, 2019 (\$277)
- Northeast Bat Working Group Travel Grant, 2019 (\$260)
- Persistence of northern long-eared bats (*Myotis septentrionalis*) on islands: evidence of behaviorally mediated disease resistance? White-Nose Syndrome Small Grants Program, Wildlife Management Institute on behalf of the US Fish and Wildlife Service, \$29,929 (PI Turner, co-authored grant) 2018 – 2019

## PUBLICATIONS

- 1) **Hoff, S.**, J.R. Hoyt, K.E. Langwig, L. Johnson, E. Olson, D. O'Dell, C.J. Pendergast, C.J. Herzog, K.L. Parise, J.T. Foster, and W.C. Turner. 2025. The importance of peripheral populations in the face of novel environmental change. *Proc. R. Soc. B* 291:20242331. <https://doi.org/10.1098/rspb.2024.2331>
- 2) **Hoff, S.**, B.A. Mosher, M. Watson, L. Johnson, E. Olson, D. O'Dell, C.J. Pendergast, D.A. Bogan, C.J. Herzog, and W.C. Turner. 2024. Widespread occupancy of the Endangered Northern Myotis on northeastern Atlantic Coastal Plain islands. *Endangered Species Research* 54:141–153. <https://doi.org/10.3354/esr01335>
- 3) **Hoff, S.**, C.J. Pendergast, L. Johnson, E. Olson, D. O'Dell, K. Gorman, Z. Dowling, C.J. Herzog, and W.C. Turner. 2023. Seasonal roost characteristics and fall behavior of coastal populations of Northern Myotis (*Myotis septentrionalis*). *Journal of Mammalogy* 105(2):277–288. <https://doi.org/10.1093/jmammal/gyad102>
- 4) Lilley, T.M., I.W. Wilson, K.A. Field, D.A. Reeder, G. Turner, A. Kurta, A.S. Blomberg, **S. Hoff**, C. Herzog, B.J. Sewall, and S. Paterson, 2020. Genome-wide changes in genetic diversity among populations of *Myotis lucifugus* affected by white-nose syndrome. *G3-Genes, Genomes, Genetics*, 10(6):2007–2020.

## MANUSCRIPTS IN PROGRESS (expected to submit within 6 months)

- 1) **Hoff, S.**, K.M. Gorman, A.M. Sandercock, J.A. Holliday, E.M. Hallerman, K.L. Parise, J.T. Foster, N. Kalen, J. De La Cruz, S.R. Freeze, S.M. Deeley, L. Johnson, E. Olson, D. O'Dell, M. Hall, D. Brown, P. Roby, C.J. Herzog, W.C. Turner, & W.M. Ford. Post-white nose syndrome population structure of northern myotis (*Myotis septentrionalis*) in the eastern United States. *In preparation*.
- 2) **Hoff, S.**, J.R. Hoyt, J.P. White, H.M. Kaarakka, J.A. Redell, J.E. DePue, A.B. Bennett, A. Meyer, A. Kurta, A. Grimaudo, M. Kailing, N. Laggan, C. Kailing, & K.E. Langwig. Environmental conditions drive selection and recovery following disease-induced declines. *In preparation*.

## PROFESSIONAL ACTIVITIES & SERVICE

**Vice President** for the Northeast Bat Working Group, 2020 – 2024

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**Student Representative** for the Northeast Bat Working Group, 2019 – 2020

**Professional Member** –American Society of Mammologists, Northeast Bat Working Group, Ecological Society of America

**Professional Development**

Conservation Teaching and Learning Studio. Network of Conservation Educators and Practitioners, Center for Biodiversity and Conservation at the American Museum of Natural History, New York, NY, June 24–26, 2019

**TECHNICAL SKILLS & RELATED COURSEWORK**

Coding/operation: Program R, ArcGIS, Python, Kaleidoscope, data management applications

Certificate in Geographic Information Systems and Spatial Analysis, University at Albany, May 2019

Estimating Animal Abundance and Occupancy, SMSC 0511. Smithsonian-Mason School for Conservation, Smithsonian Conservation Biology Institute, Front Royal, Virginia, July 8–19, 2019

Mathematical Models of Infectious Diseases, Summer Institute in Statistics and Modeling in Infectious Diseases (SISMID), Emory University, Atlanta, Ga, July 15–17, 2024

**CONFERENCE PRESENTATIONS & INVITED SEMINARS**

**Northeast Bat working group annual meeting**, Harrisburg, PA, January 2025

*Title:* Investigating disease-driven selection and local host adaptation following the emergence of a virulent fungal pathogen

**Ecological Society of America annual meeting**, Long Beach, CA, August 2024

*Title:* Investigating disease-driven selection and local host adaptation following the emergence of a virulent fungal pathogen

**Invited Seminar**, *Ecology and Evolution Graduate Seminar Series*, Rutgers University, February 2024

*Title:* Drivers of persistence in bat populations following disease outbreaks

**Ecology and Evolution of Infectious Diseases conference**, State College, PA, May 2023

*Title:* Coastal living: can island habitat refugia support population persistence of the endangered northern myotis?

**Northeast Bat Working Group annual meeting**, Burlington, VT, January 2023

*Title:* Seasonal roost characterization and fall behavior of coastal northern myotis populations

**Northeast Bat Working Group annual meeting**, Burlington, VT, January 2023

*Title:* Coastal living: can island habitat refugia support population persistence of northern myotis?

**The 50<sup>th</sup> North American Symposium on Bat Research & 19<sup>th</sup> International Bat Research Conference joint meeting**, Austin, TX, August 2022

*Title:* Coastal living: habitat refugia support population persistence of *Myotis septentrionalis*

**Northeast Bat Working Group annual meeting**, Manchester, NH, January 2022

*Title:* Post white-nose syndrome population structure of northern long-eared bats in the eastern United States

**Invited Seminar**, *Nantucket Conservation Foundation Annual Board Meeting*, Nantucket, MA, August 2021

*Title:* The case of the northern long-eared bat and White-nose Syndrome: the importance of coastal islands supporting population persistence

**National White-nose Syndrome Symposium annual meeting**, virtual platform, June 2021

*Title:* Case study on coastal northern long-eared bat persistence: the importance of fringe populations in preventing extirpation

**Northeast Bat Working Group annual meeting**, Saratoga Springs, NY, January 2020

*Title:* Persistence of coastal northern long-eared bats in the face of white-nose syndrome

**Invited Seminar**, *South Fork Natural History Museum Seminar Series*, Bridgehampton, NY, October 2019

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*Title:* Persistence of the northern long-eared bat on Long Island: a source of hope for a threatened species

**National White-nose Syndrome Symposium annual meeting, virtual platform, July 2019**

*Title:* Investigating survival mechanisms of remnant northern long-eared bat populations

**Ecology and Evolution of Infectious Diseases conference, Princeton, NJ, June 2019**

*Title:* Behavioral-mediated resistance of remnant northern long-eared bat (*Myotis septentrionalis*) populations

**The Wildlife Society New York State Chapter annual meeting, Kingston, NY, March 2019**

*Title:* Occurrence and activity of remnant coastal northern long-eared bat (*Myotis septentrionalis*) populations

**NYSDEC Bureau of Wildlife conference, Syracuse, NY, February 2019**

*Title:* Investigating the persistence of remnant coastal northern long-eared bat (*Myotis septentrionalis*) populations

**Northeast Bat Working Group annual meeting, State College, PA, January 2019**

*Title:* Detection and occurrence of northern long-eared bats (*Myotis septentrionalis*) on coastal islands

**National White-nose Syndrome Symposium annual meeting, Tacoma, WA, June 2018**

*Title:* Persistence of remnant *Myotis septentrionalis* island populations despite exposure to white-nose syndrome

**Joint Bat Working Groups annual meeting, Roanoke, VA, March 2018**

*Title:* Fall behavior of *Myotis septentrionalis* on islands

**Invited Presentation, Long Island Natural History Conference, Brookhaven, NY, March 2018**

*Title:* Bat conservation on Long Island and the case of the Northern Long-eared Bat (*Myotis septentrionalis*)

**The Association for Environmental Studies and Sciences conference, Tucson, AZ, June 2017**

*Title:* Birds as bellwethers of environmental change: predictive modeling to understand species response, identify hotspots, and inform conservation strategies

**Invited Seminar, Adirondack Interpretive Center Winter Ecology Seminar, Newcomb, NY, February 2017**

*Title:* Bat conservation in NY and beyond: the perils of White-nose Syndrome

**Northeast Bat Working Group annual meeting, Amherst, MA, January 2017**

*Title:* Monitoring *Myotis septentrionalis* on Long Island, New York

**Northeast Natural History conference, Springfield, MA, April 2016**

*Title:* White-nose Syndrome: An update on bat status in the Northeast and beyond

**Northeast Bat Working Group annual meeting, Baltimore, MD, January 2016**

*Title:* Efficiency of acoustic monitoring methods for northern long-eared bat (*Myotis septentrionalis*) on Long Island, NY

**Invited Seminar, Emma Treadwell Thacher Nature Center Lecture Series, Altamont, NY, January 2016**

*Title:* Bats of New York and White-nose Syndrome Update

**Northeast Association of Fish and Wildlife Agencies 70<sup>th</sup> annual conference, Portland, ME, April 2013**

*Title:* Translating science into policy: utilizing species distribution models to focus conservation efforts under a changing climate

**Invited Presentation, Audubon New York Spring Council Meeting, Saratoga Springs, NY, April 2012**

*Title:* Science informing policy: a case for climate change adaptation planning in New York