

# Amanda Bevan Zientek, PhD

Director, Biodiversity Resources Center

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**Professional Summary:** My professional journey has been shaped by three critical tenets: 1) **mentoring undergraduate student research**, 2) **improving educational experiences**, and 3) **engaging with my community** in the fields of ecology and conservation. I am passionate about improving access to transformative experiences in education for learners of all ages, and I work to integrate inclusive practices that expose students to all aspects of science while increasing community involvement and exposure to science. My hope is to continue to promote the excitement of building life-long scientific inquiry skills and demonstrate the joy of following the teacher-scholar model.

## Education

Ph.D. in Biology (2018 – 2023)

University of Northern Colorado

School of Biological Sciences

Advisor: Dr. Rick Adams

Dissertation: Response of bats and nocturnal food webs to mountain pine beetle (*Dendroctonus ponderosae*) outbreaks.

B.S. in Ecology, Evolution, and Natural Resources (2016; *cum laude*)

Rutgers University

School of Biological and Environmental Sciences

Advisor: Dr. Brooke Maslo

Thesis: Survival analysis of Indiana bats (*Myotis sodalis*) with white-nose syndrome

## Teaching Experience

Bard College

Fall 2024

*Visiting Assistant Professor*

- Developed and taught a 100-level mammalogy lecture and lab (field-based) course (Bio160) centered on building scientific inquiry skills using open-access resources following the [C.R.E.A.T.E.S method](#) to improve scientific literacy through the critical review of peer-reviewed literature and research methodology using scaffolding techniques
- Integrated the full cycle (proposal to scientific poster) of student-developed, independent research on mammals on Bard's campus as a core component of the course

University of Northern Colorado

Fall 2022

*Instructor of Record*

- Developed and taught 300-level Ecology lecture and laboratory course (Bio360)
- Collaborated with City of Greeley's Environmental Planner to develop a Curated Undergraduate Research Experience (CURE) for post-restoration river monitoring as a core component of the course
- Coordinated scientific poster session for undergraduate students in Bio360, enabling students to present research results to city officials and peers

*Human Anatomy Lab Coordinator & Graduate Teaching Assistant*

Fall 2019 – Spring 2023

- Taught Human Anatomy Laboratory for 16 semesters
- Created introductory videos, lab activities, quizzes, and practicals for 14 Human Anatomy Lab courses for 16 semesters following flipped classroom models (including virtual assignments throughout the Covid-19 pandemic)
- Led weekly meetings to train graduate and undergraduate teaching assistants on course material and discuss concerns regarding students and content for Human Anatomy Lab for 16 semesters
- Prepared and maintained course platforms (Canvas) for all 14 lab sections for 16 semesters

*Introduction to Biology Graduate Teaching Assistant*

Fall 2018 – Fall 2019

- Taught introductory Biology Laboratory - for majors (4 semesters) and for non-majors (2 semesters)

## Organization for Bat Conservation, Pontiac, MI

September 2016 – February 2018

*Education Specialist* (see section below for role as Urban Bat Project Lead)

- Designed and delivered school-based (K- 12) and public outreach programs on ecological topics, engaging groups of 20 to 400 people of all ages

**Research & Professional Experience**

## Biodiversity Resources Center, Hudsonia Ltd., NY

October 2023- present

*Director*

- Lead Hudsonia's Biodiversity Resources Center, overseeing continuing education programs and workshops focusing on ecology and conservation of natural resources for land-use decision-makers in partnership with Cornell University
- Oversee staff and undergraduate student interns conducting field surveys and manage datasets and grant budgets
- Partner with youth-led initiatives to identify important greenspaces and habitats in cities
- Prepared proposals and received competitive grant funding from state and non-governmental agencies to conduct ecological monitoring surveys of bats, birds, herpetofauna, and rare plants, and prepared Natural Resource Inventories for municipal agencies
- Design and conduct field surveys to identify high-priority habitats to inform ecological restoration, management, and monitoring programs
- Develop wildlife and habitat management plans for non-governmental organizations and landowners
- Investigate the impact of hemlock woolly adelgid (*Adelges tsugae*) on forest composition and structure using a long-term ecological dataset and multivariate analyses
- Conduct geospatial analyses in ArcGIS Pro and created maps for Natural Resource Inventories and biodiversity surveys for technical and non-technical audiences

## Behavioral Ecology Lab, University of Northern Colorado, CO

April 2023 – Sep 2023

*Postdoctoral Researcher* (part-time)

- Tested Eavesdropping Avoidance Hypothesis by analyzing spectral traits of female rock wren (*Salpinctes obsoletus*) songs in R
- Mentored graduate students on multivariate analyses (e.g. ordinations and multi-response permutation procedures) to describe foraging behavior of bats on ephemeral insects
- Developed research program to study potential ecological drivers of bat social vocal behavior and received support from Max Planck Institute of Animal Behavior

Adams Bat Lab, University of Northern Colorado, CO

August 2018 – May 2023

*Independent & Collaborative Researcher*

Summary: My dissertation research was grounded in **community ecology** and **disturbance ecology**. In addition to my dissertation research, I pursued additional research and outreach work in ecology and conservation through **supporting undergraduate independent research** (see mentorship section).

- Quantified bat assemblage structure in mountain pine beetle impacted forests in the Northern Front Range using acoustic surveys
- Developed methods to integrate point and transect surveys of bats, insect prey availability, and habitat structure to describe impacts of forest disturbance on the forest community
- Conducted multivariate analyses to identify food web variables associated with bat activity patterns
- Wrote conservation plan for tri-colored bats (*Perimyotis subflavus*) for Boulder County Parks and Open Space (BCPO)
- Quantified large mammal use of trails and drinking holes in arid environments using trail cameras
- Processed and analyzed acoustic data to model habitat use patterns of tri-colored bats using spatially explicit models
- Conducted mist net surveys to quantify seasonal population changes on BCPO parks and to monitor yearly changes in bat population structure

Holt Lab, University of Northern Colorado, CO

January 2019 – May 2023

*Collaborative Researcher*

- Created and evaluated a classroom intervention to broaden undergraduate perceptions of colonialism, sexism, and racism in the field of ecology
- Conducted analyses using machine learning (e.g. conditional random forest models) to determine best predictors of perceived barriers to biology doctoral student success from survey data
- Identified and adapted instruments from peer-reviewed literature and dissertations for questionnaire survey to quantify perceived barriers for biology doctoral students

Rocky Mountain Amphibian Project, Natural Diversity Database, WY

May 2018 – October 2018

*Project Manager*

- Recruited, trained, and supervised community participants on amphibian survey methods and project goals
- Radio tracked boreal toads and characterized diurnal activity patterns and habitat features using vegetation surveys to determine why this species has low fungal loads of chytrid fungus (*Batrachochytrium dendrobatidis*) compared to other amphibian species in the region
- Managed project budget and loaned equipment
- Coordinated partnerships with Wyoming Game and Fish Department and U.S. Forest Service

Organization for Bat Conservation, Pontiac, MI

September 2016 – February 2018

*Urban Bat Project Lead and Education Specialist*

- Collaborated with partners in ten cities across America to build, install, and distribute bat houses, plant “bat-friendly” gardens, and organize citizen scientist-led bat walks
- Trained partners and citizen scientists to use acoustic monitoring equipment

## Bevan Zientek CV

- Organized and led urban bat walks in Pontiac and Detroit
- Developed quantitative and qualitative surveys to assess how participatory science projects may impact participant attitudes towards conservation

Wyoming Natural Diversity Database, WY

Summer 2016

*Bat Field Technician*

- Conducted mist net surveys and acoustic monitoring surveys
- Radio tracked bats to day roosts in steep, rocky terrain
- Performed vegetation surveys and collected habitat data to characterize roost site selection

Maslo Lab, Rutgers University, NJ

May 2013 – May 2016

*Independent & Collaborative Researcher*

- Quantified impact of white-nose syndrome on Indiana bats using mark-recapture data in Program MARK
- Prepared guano samples for DNA extraction and PCR studies

Rutgers Cooperative Extension, Rutgers University, NJ

April 2014 – May 2016

*Wildlife Conservation and Management Assistant*

- Worked with landowners to mount bat houses and collected guano to analyze diet
- Conducted acoustic surveys using Song Meter SM2 or Pettersson D500x detectors

Youth Advisory Board, Rutgers University, NJ

January 2014 – May 2016

*Central Region Ambassador*

- Facilitated discussion groups to share experiences with foster care and/or homelessness
- Worked with youth and partners to investigate/promote solutions to improve foster care

African Bat Conservation, Dr. Emma Stone, Malawi, Africa

January 2016

*Volunteer Research Assistant*

- Conducted mist nets and harp trap surveys on bats in Liwonde National Park
- Collected insects using light traps and gathered vegetation data at mist net sites

New Jersey Non-Game Endangered Species Program, NJ

February 2015 – August 2015

*Research Assistant*

- Developed data collection protocols to study roost site characteristics of northern long-eared bats
- Conducted mist net surveys and radio tracked northern long-eared bats to roost sites
- Surveyed bats in bat houses in suburban areas as part of long-term monitoring efforts

## Research Mentorship Experience

Hudsonia Ltd.

July 2025 – present

Jenna Holub, *Center for Environmental Policy, Bard College*

- Supervise capstone project for graduate student studying environmental policy to engage with municipal officials and develop a conservation toolkit for land-use decision makers.
- Led training and oversaw data collection and analysis using qualitative and quantitative survey techniques to assess municipal officials' awareness and understanding of threats to forests and available tools for forest conservation in the Hudson Valley

Yoko Franklin, *Bates College, Research Internship Supervisor* June 2024 – September 2024

- Trained undergraduate student intern from Bates College on study design, acoustic survey techniques, and manual review of eastern red bat echolocation calls
- Oversaw development of manuscript for submission to academic journal

Adams Bat Lab, University of Northern Colorado

October 2018 – May 2023

*Research Mentor*

Summary: I mentored 8 undergraduate students on student-directed research projects. This included supporting students through the development of their projects, securing funding through written proposals, preparing for intensive 12-week overnight field work in difficult terrain (8 students), summarizing and presenting final results in a scientific poster at local, national, and international conferences, and preparing and submitting manuscripts\*

\*Manuscript in progress in coordination with an undergraduate student; see manuscript section for more details

Ashley Trump\*

Fall 2022 – Summer 2023

- Estimating primary productivity following severe bark beetle outbreaks using dendrochronology

Charli Geer\*

Summer 2022 – Fall 2022

- Identifying nocturnal forest insects

Alexandria Colpitts\*

Summer 2021

- Describing tri-colored bat (*Perimyotis subflavus*) roosting ecology in novel habitats

Lucas Allen

Summer 2021

- Examining the relationship between bat body size condition and ectoparasite load

Tara Hobbs

Summer 2020

- Relating bat ecomorphology and drinking activity at high elevation ponds

Donovan Barret

Summer 2020

- Quantifying the impacts of bark beetle kill on pond water quality

Jenny Shokar

Summer 2019

- Describing western long-eared bat (*Myotis evotis*) foraging strategies in beetle affected forests

Morgan Marzulla

Summer 2019

- Quantifying changes in moisture content and litter layer following bark beetle kill

## Peer Reviewed Publications\*

\*Denotes undergraduate student

Sanchez K., **Bevan Zientek A.**, Holt E. 2025. Social justice awareness in the undergraduate ecology classroom. *Ecosphere* 16(3): e70151.

**Bevan Zientek A.**, Colpitts A.\*, Adams, R.A. 2024. Forest characteristics predict tricolored bat activity within novel Colorado habitats. *Journal of Mammalogy* 105(5): 1057-1066.

Sanchez K., **Bevan A.**, Vita A., Royse E., Januszkiewicz E., Holt E. 2023. Grit matters: Passion and perseverance predict doctoral student perception of barriers. *Journal of Biological Education* 58(5): 1262-1285.

Maslo B., Stringham O., **Bevan A.**, Brumbaugh A., Sanders C., Hall M., Fefferman N. 2017. High annual survival in infected wildlife populations may veil a persistent extinction risk from disease. *Ecosphere* 8(12): e02001.

Maslo B., Valentin R., Leu K., Kerwin K., Hamilton G.C., **Bevan A.**, Fefferman N.H., Fonseca D.M. 2017. *Chiro*surveillance: the use of native bats to detect invasive agricultural pests. *PLoS ONE* 12(3): e0173321.

## Manuscripts In Progress\*

\*Denotes undergraduate student

Adams, R. A., **Bevan Zientek, A.** New Horizons: Tricolored bats (*Perimyotis subflavus*) show increasing numbers at two wildlife areas in Colorado. *Western North American Naturalist*: (Submitted – *Northeastern Naturalist*).

**Bevan Zientek, A.**, Franklin, Y\*. Activity of eastern red bats in riparian habitats is greater near non-conventional, organic farms than in nature reserves (Submitted – *Journal of North American Research*).

Benedict L., **Bevan Zientek A.** Trill rate and frequency are optimized for long distance transmission for long songs (*In prep*).

**Bevan Zientek, A.**, Trump\*, A., Geer\*, C., Franklin, S. Insect abundance and diversity increase following bark beetle outbreaks despite no difference in primary productivity of overstory vegetation (*In prep*).

## Selected Technical Reports

**Bevan Zientek, A.**, and Leonardi, A. 2025. Monitoring Plan for Biodiversity Conservation at Sky High Farm. Prepared for Sky High Farm.

**Bevan Zientek, A.** 2025. Preliminary Survey of Tri-colored Bat Use of Farm Hub Riparian Habitats. Prepared for Farm Hub.

**Bevan Zientek, A.** 2024. Biodiversity Assessment of the Quassaick Creek Greenway. Prepared for Scenic Hudson.

**Bevan Zientek, A.**, Graham, C., Stevens, G., Vispo, C., Knab-Vispo, C., Bradford, K., Tesauro, J., Schmidt, B., Federman, L., and White, E. 2024. Biological and Water Quality Surveys at the Jesse and Gayle Bontecou Wildlife Conservation Preserve. Prepared for Dutchess Land Conservancy.

Adams, R. A., and **Bevan, A.** 2018. Continued Survey of Bats in Boulder County. Report for Boulder County Parks and Open Space.

**Bevan, A.** and Adams, R.A. 2019. Boulder County Conservation Management Plan for the Tri-colored Bat (*Perimyotis subflavus*). Boulder County Parks and Open Space.

## Invited & Conference Presentations\*\*

\*\*received award for presentation

**Bevan Zientek, A.** 2024. Bioacoustics and Bats: Unraveling the Ecology of Elusive and Imperiled Organisms (Talk). Bard Biology Program Seminar Series, Annandale, NY.

- Bevan, A.**, Adams, R. A. 2022. *Response of bats to severe bark beetle outbreaks and ensuing successional changes (Talk)*. Annual meeting of the Ecological Society of America & Canadian Society for Ecology and Evolution joint meeting, Montreal, Quebec, Canada.
- Bevan, A.**, Sanchez, K., Holt, E. 2022. *Class intervention to address representation and social justice issues in ecology (Poster Presentation)*. Ecological Society of America & Canadian Society for Ecology and Evolution joint meeting, Montreal, Quebec, Canada.
- Bevan, A.\***, Adams, R. A. 2022. *Response of bats to severe bark beetle outbreaks and ensuing successional changes (Talk)*. North American Symposium for Bat Researchers & the International Bat Researchers Conference joint meeting, Austin, TX.
- Bevan, A.\***, Adams, R. A. 2022. *Response of bats to severe bark beetle outbreaks and ensuing successional changes (Talk)*. Front Range Student Ecology Symposium, Colorado State University, Fort Collins, CO.
- Bevan, A.** 2021. *The response of bats and associated nocturnal food webs to bark beetle kill (Talk)*. Soup and Science, Natural Resources and Ecology Lab, Colorado State University, Fort Collins, CO.
- Bevan, A.**, R. A. Adams. 2019. *Response of Bats and Nocturnal Food Webs to Mountain Pine Beetle Outbreaks (Poster Presentation)*. North American Symposium for Bat Research. Kalamazoo, MI.
- Bevan, A.**, G. Auterie. 2017. *Does the framework of citizen science projects affect participants' attitudes towards conservation? (Poster Presentation)*. North American Symposium for Bat Research., Knoxville, TN.
- Kerwin, K., L. Tsen, M. Arias, **A. Bevan**, B. Schum, B. Maslo. 2016. *A systematic review of roost-site characteristics of forest-dwelling bats affected by white-nose syndrome (Poster Presentation)*. Annual meeting of the Northeast Fish & Wildlife Association. Annapolis, MD.
- Maslo, B., R. Valentin, K. Leu, K. Kerwin, **A. Bevan**, G.C. Hamilton, N. H. Fefferman, D. M. Fonseca. 2015. *Chirosurveillance: the use of native bats to detect invasive agricultural pests (Poster Presentation)*. Annual meeting of the Ecological Society of America. Baltimore, MD.

## Community Outreach Presentations

- Bats - NY's Most Threatened Mammal, Morton Memorial Library, Rhinecliff, NY (2024)
- Bat Walk Community Program. Bontecou Preserve, Dutchess Land Conservancy, NY (2024)
- Bats of Larimer County. City of Fort Collins Natural Areas Department, CO (2022)
- Bat Walk Community Program. City of Fort Collins Natural Areas Department, CO (2022)
- Bat Chat: Factors influencing bat activity in Red Feather Lakes Wildlife Committee for Crystal Lakes Road and Recreation Association, CO (2022)
- Bat Walk Community Program. City of Fort Collins Natural Areas Department, CO (2021)
- Bat Conservation Proposal for the West Greeley Conservation District (2020)
- Professional Development in Ecology. Department of Ecology, Evolution, and Natural Resources course, Rutgers University (2020)
- Bats in Roosevelt National Forest Near You! Crystal Lakes Recreation Department, Monthly Wildlife Committee meeting, CO (2019)
- Educating, Inspiring, and Activating Urban Communities to Save Bats. Annual meeting of the North American Society for Bat Research, Teacher Workshop (2017)
- Bat Appreciation Day- Live Chat with Amanda Bevan. Explore.org (2017)
- Studying Bats at Devils Tower National Monument. Devils Tower National Monument (2016)
- Backyard Wildlife Management. Master Gardener Association of Passaic County, NJ (2016)

## Awards And Honors

Dean's Citation Award for Dissertation Excellence, University of Northern Colorado (2023)  
 Natural and Health Sciences Academic Scholar Award, University of Northern Colorado (2023)  
 Wildlife Acoustics Science Award, International Bat Researchers Conference and North American Society for Bat Researchers (2022)  
 Front Range Student Ecology Symposium, Outstanding Presentation (2022)  
 National Science Foundation Graduate Research Fellowship Program, *Honorable Mention* (2020)  
 Dr. Albert M. Winchester Graduate Fellowship in Biology (2020-2022)  
 Dr. Jim Applegate Award for Outstanding Student in Wildlife Conservation (2016)

## Grants, Fellowships, & Scholarships

Hudson River Estuary Program, Local Stewardship Planning Grants – \$127,000 (2024 - 2025)  
 Animal Behavior Society Graduate Student Travel Award – \$700 (2023)  
 Natural and Health Science Student Research Fund, University of Northern Colorado – \$500 (2022)  
 Graduate Student Association Conference Grant, University of Northern Colorado – \$380 (2022)  
 Graduate Student Association Research Grant, University of Northern Colorado – \$1,300 (2021)  
 Denver Audubon Society's Lois Weber Fund Grant – \$1,637 (2021)  
 Natural and Health Science Student Research Fund, University of Northern Colorado – \$500 (2021)  
 Dr. Albert M. Winchester Graduate Fellowship in Biology, University of Northern Colorado – \$762 (2021– 2022)  
 Dr. Albert M. Winchester Graduate Fellowship in Biology, University of Northern Colorado – \$784 (2020– 2021)  
 Graduate Student Association Research Grant, University of Northern Colorado – \$2,055 (2020)  
 Graduate Student Association Research Grant, University of Northern Colorado – \$1,163 (2020)  
 Graduate Student Association Research Grant, University of Northern Colorado – \$580 (2019)  
 Wildlife Acoustics Research Equipment Grant – \$1,200 value (2017)  
 Aresty Conference Funding Grant, Rutgers University – \$500 (2016)  
 Center for Global Education Scholarship, Rutgers University – \$1,500 (2016)  
 Cook Community Alumni Association Scholarship, Rutgers University – \$1,000 (2016)  
 Department of Ecology, Evolution, and Natural Resources Grant, Rutgers University – \$300 (2016)  
 School of Environmental and Biological Sciences Grant, Rutgers University – \$300 (2016)  
 Center for Global Education Scholarship, Rutgers University – \$2000 (2014)  
 Price Family Fellowship – \$5500 (2014 – 2016)  
 Rutgers National Scholarship, Rutgers University – \$32,000 (2011 – 2015)

## Selected Popular Press Interviews

*Radio Kingston, Nature Nuggets.* Episode 8 ~ Duane Martinez with Amanda Bevan Zientek. Radio interview (June 08, 2024)  
*BeProvided Conservation Radio.* Amanda Bevan: Educator for Organization for Bat Conservation. Podcast interview (October 31, 2017)  
*Smithsonian Magazine.* How a Deadly Flesh-Eating Fungus Helped Make Bats Cute Again. Article interview (October 26, 2017)  
*The Mid-Michigan Pet Expert Talk Show.* Bats and Black Cats. Radio interview (October 16, 2017)



*Stateside-Michigan Radio, National Public Radio.* As Bat Populations Decline, Conservationists Urge Urbanites to Welcome New Nocturnal Neighbors. Radio interview (September 2017)  
*The DIRT-American Society of Landscape Architects.* Are Urban Bats the Future? Article interview (June 30, 2017)

## Service

Board Member, North American Bat Researchers Symposium (August 2022 – October 2024)  
 Teacher Appreciation Resource Reception, West Greeley Conservation District (June 2021)  
 Board member, Colorado Bat Society (Fall 2018 – present)  
 Created outreach materials on bats for West Greeley Conservation District (Spring 2019)  
 Panel member, McNair Scholar Program discussion on graduate school (Spring 2019)  
 Endangered Wyoming toad release, WY Game and Fish Department (June 2018)  
 English instructor, students aged 6- 40, Liceu Schools, Brazil (February 2018 – May 2018)  
 Established and designed pollinator gardens in Pontiac, MI (April – September 2016)  
 Assisted with pollinator surveys at remediation sites, Rutgers University (Summer 2015)

## Skills

<b>Programming</b>	R, Python, SQL
<b>Statistics</b>	Statistical inference, multivariate analyses (PCA/NMS, structural equation modeling), data wrangling, data visualization, survey design and analysis (including coding)
<b>Software</b>	GIS (ArcGIS, R, QGIS), R, Git, Google suite, Microsoft suite
<b>Ecology</b>	Acoustic analysis (Sonobat, Kaliedoscope, Raven Pro, R), mist netting, small mammal trapping, camera trapping, radio telemetry, bat identification

## Certifications & Other Training

Introduction to Bayesian Modeling, Ecological Society of America (2024)  
 Winter Tree & Shrub Identification, Eagle Hill Institute (2023)  
 Spatial Ecology: GIS Analysis in R, Smithsonian-Mason School of Conservation (2021)  
 STEM Inclusive Excellent Trainings, University of Northern Colorado (2020 – 2022)  
 Foundations in equity and inclusion, University of Northern Colorado (2021)  
 Equity minded syllabus, University of Northern Colorado (2021)  
 Multivariate Analysis of Community Data in PC-ORD, University of Northern Colorado (Spring 2019)  
 CPR, American Red Cross (October 2017)  
 Environmental Geomatics (GIS), Rutgers University (2016)  
 Project Learning Tree & Project W.E.T (Water Education for Teachers), Rutgers University (2015)