

## ERICA HENRY

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Postdoctoral Research Scholar  
School of Biological Sciences  
Washington State University  
360-970-3026 (cell)  
erica\_henry@wsu.edu  
[ericahenry.com](http://ericahenry.com)

### EDUCATION

- PhD** Biology – Ecology and Evolution. North Carolina State University. Raleigh, NC. February 2018.  
Nick Haddad (Chair), Bill Morris, Adam Terando, Becky Irwin  
Area of specialization: Conservation and population biology  
Dissertation: *Disturbance and conservation of at-risk butterflies*
- MS** Environmental Science. Washington State University, Vancouver, WA. 2010  
Cheryl Schultz (Chair), Scott Pearson, John Bishop  
Area of specialization: Conservation and restoration ecology  
Thesis: *A first step towards successful habitat restoration and reintroduction: Understanding oviposition site selection of an imperiled butterfly, mardon skipper*
- BA** Biology & Spanish. Willamette University, Salem, OR. 2001  
Sharon Rose (Senior thesis adviser)  
Area of specialization: Microbial Ecology  
Thesis: *The effects of forest management and fertilization on the soil microbial community*

### ACADEMIC POSITIONS

- Postdoctoral Research Scholar.** March 2021 – present. Washington State University. Vancouver, WA.
- Postdoctoral Research Scholar.** March 2018 – present. North Carolina State University. Raleigh, NC.
- Visiting Research Associate.** September 2018 – present. Kellogg Biological Station, Michigan State University, Hickory Corners, MI
- Global Change Fellow.** August 2014 – July 2015. USGS Southeast Climate Adaptation Science Center. Raleigh, NC
- Graduate Research/Teaching Assistant.** January 2014 – March 2018. North Carolina State University. Raleigh, NC.
- NSF GK-12 Fellow.** August 2009 – July 2010. Washington State University and La Center Middle School. Vancouver, WA.
- Graduate Research/Teaching Assistant.** 2008 – 2010. Washington State University. Vancouver, WA.

### PUBLICATIONS

*7 first-author, \*2 with student co-author, †7 with agency collaborator co-author*

**12. Henry, E. H.,** A. Terando<sup>†</sup>, W. F. Morris, J. Daniels, N. M. Haddad. 2022. Precipitation drives phenological response to climate change in low-latitude ectotherms. *Climate Change Ecology*. 3:100051

**11. Henry, E. H.,** M. Burford-Reiskind, A. Land<sup>†</sup>, and N. Haddad. 2020. Maintaining historic disturbance regimes increases species' resilience to catastrophic hurricanes. *Global Change Biology*. 26: 798 - 806

**10. Henry, E.,** L. Brammer-Robbins\*, E. Aschehoug, N. Haddad. 2019. Do substitute species help or hinder endangered species conservation? *Biological Conservation*. 232:127-130

9. Schultz, C. B., N.M. Haddad, **E. Henry**, and E. Crone. 2019. Movement and demography of at-risk butterflies: building blocks for conservation. *Annual Review of Entomology*. 64:167-184

8. Salvato, M. <sup>†</sup>, H. Salvato, **E. Henry**, and B. Pluer\*. 2018. *Trichogramma* SP. (Hymenoptera: Trichogrammatidae) an Egg Parasitoid of *Strymon acis bartrami* (Lycaenidae). *Journal of the Lepidopterists' Society* 72(2):175-176. 2018

7. Cayton, H., N.M. Haddad, B. Ball<sup>†</sup>, **E. Henry**, and E. Aschehoug. 2015. Habitat restoration as a recovery tool for a disturbance-dependent butterfly, the endangered St. Francis' Satyr. Pages 147-159 in Daniels, J. C. (editor) *Butterfly Conservation in North America*

6. **Henry, E.** and C. Anderson<sup>†</sup>. 2016. Population estimates to inform the management of an endangered butterfly: double-observer versus distance sampling. *Journal of Insect Conservation*. 20:505-514

5. **Henry, E.**, N.H. Haddad, J. Wilson, P. Hughes<sup>†</sup>, B. Gardner. 2015. Point-count methods for butterflies when traditional methods fail: a case study with Miami blue butterfly. *Journal of Insect Conservation*. 19:519-529

4. **Henry, E.** and L. Beyer. 2013. A note on overwintering of *Polites mardon* (Hesperiinae) in the wild. *Journal of the Lepidopterists Society*. 67:304-307

3. **Henry, E.** and C. B. Schultz. 2013. A first step towards successful conservation: Understanding local oviposition site selection of an imperiled butterfly, mardon skipper. *Journal of Insect Conservation*. 17:183-194

2. Deemer, B., K. Goodwin, T. Lee, K. Birchfield, K. Dallavis, J. Emerson, D. Freeman, **E. Henry**, L. Wynn, and J. Harrison. 2012. Elevated nitrogen and phosphorous concentrations in urbanizing southwest Washington streams. *Northwest Science*. 86:237-247

1. Schultz, C.B., **E. Henry**, A. Carleton, T. Hicks, R. Thomas, A. Potter<sup>†</sup>, M. Collins<sup>†</sup>, M. Linders<sup>†</sup>, C. Fimbel<sup>†</sup>, S. Black<sup>†</sup>, H. Anderson<sup>†</sup>, G. Diehl<sup>†</sup>, S. Hamman<sup>†</sup>, R. Gilbert<sup>†</sup>, J. Foster<sup>†</sup>, D. Hays<sup>†</sup>, N. Page<sup>†</sup>, J. Heron<sup>†</sup>, N. Kroeker<sup>†</sup>, C. Webb<sup>†</sup>, and B. Reader<sup>†</sup>. 2011. Conservation of Prairie-Oak butterflies in Oregon, Washington and British Columbia. *Northwest Science*. 85:361-388

### *In prep*

Cayton, H.L., **E.H. Henry**, N.H. Haddad, D. Pavlik E.A. Aschehoug, W.F. Morris, and G. Himes-Boor. Re-restoration as a critical component of habitat recovery in disturbance-adapted systems. Target journal: *Ecological Applications*

**Henry, E.H.**, J. Sadle<sup>†</sup>, A. Land<sup>†</sup>, M. Tait<sup>\*</sup>, and N. Haddad. Optimizing fire regimes across trophic levels. Target journal: *Journal of Applied Ecology*

Perkins, D.J.<sup>\*</sup>, C. Cooper, M. Katti, **E.H. Henry**. Blind spots in citizen science data: implications of volunteer biases in eBird data. Target journal: *Ecology and Society*

C. Hawn, **E.H. Henry**, D. Mahmoudi, W. Sacoby, and C. Cooper. Environmental justice implications of segregation driving spatial bias in citizen science. Target journal: *PNAS*

**E.H. Henry**, K. King, C. Edwards, and C. Schultz. Using larval movement to design Oregon silverspot restoration plans. Target journal: *Journal of Insect Conservation*

**GRANTS AND FELLOWSHIPS – funding total: \$901,900**

- 2022 – 2021 Oregon Silverspot Butterfly – larval and adult surveys to assist recovery. Siuslaw National Forest **\$136,000**
- 2021 – 2022 Assessing conservation effectiveness of restoration actions to recover Oregon Silverspot Butterfly. USFS + USFWS **\$110,000** - with Cheryl Schultz and Rich VanBuskirk
- 2020 – 2022 Climate Vulnerability Assessment for Cultural Resources. Seminole Tribe of Florida **\$29,400** with Lauren Nichols and Aranzazu Lascrain
- 2018 – 2020 Determining optimal fire return interval and potential future distribution for two endangered butterflies and their hostplants in Everglades National Park. NPS **\$260,000** – sole investigator
- 2017 – 2018 Interacting effects of multiple disturbances on population demography. NSF **\$140,000** – with Nick Haddad and Martha Burford Reiskind
- 2015 Global Change Fellowship. Southeast Climate Science Center and NC State University **\$21,000** (\$12,000 stipend and \$9,000 tuition)
- 2015 – 2018 Using disturbance to restore Bartram’s hairstreak habitat. USFWS **\$43,000** – with Nick Haddad
- 2013 Monitoring and recovery of Miami blue butterflies. USFWS **\$53,000** – With Nick Haddad
- 2011 Understanding mardon skipper oviposition habitat across the Puget Prairies: Scaling up in time and space. ACUB program Joint Base Lewis-McChord **\$65,000** – sole investigator
- 2009 National Science Foundation GK-12 Fellowship, “Partners in Discovery of the Columbia River Watershed.” WSUV. **\$38,400** (\$30,000 stipend, \$8,400 tuition)
- 2009 Robert Lane Fellowship. Washington State University, Vancouver. **\$1500**
- 2009 Filling in the gaps: Characterizing habitat requirements for an imperiled species. DeWind Award for Lepidoptera Conservation. Xerces Society **\$4500**
- 2009 Characterizing the habitat of a skipper, *Polites mardon*. Prairie Biotic Research **\$1000**

**MEDIA COVERAGE**

“Oregon silverspot butterfly population continues to decline, leaving researchers puzzled” by Quinton Smith, The Oregonian. July 2021

<https://www.oregonlive.com/environment/2021/07/oregon-silverspot-butterfly-population-continues-to-decline-leaving-researchers-puzzled.html>

“The Rise and Fall of the Miami Blue Butterfly” by Brittany Miller. Thompson Earth Science Institute. October 2020.

<https://spark.adobe.com/page/Vasce9ZG3U7vy/>

“Butterflies in the Storm” by Hannah Hoag. BioGraphic. July 2018

<https://www.biographic.com/posts/sto/butterflies-in-the-storm>

**RESEARCH EXPERIENCE** (numbers in parentheses refer to publication list above)

*Postdoctoral Research*, School of Biological Sciences, Washington State University, April 2021 – present

- Develop and implement new field methods to estimate vital rates for Oregon silverspot butterflies, an endangered butterfly, under different management treatments.
- Identify population trends for US butterfly species and their environmental drivers by integrating multiple data sources, including public science datasets, species specific surveys, and long-term monitoring.

*Postdoctoral Research*, Department of Applied Ecology, North Carolina State University, Feb 2018 – present

- Estimated population growth rates for an endemic plant *Croton linearis*, using integral projection models, following disturbance-based management, hurricane Irma and their interactions (11).
- Determine optimal fire management to maintain stable populations of two endangered butterflies and their hostplants with demographic population simulations.

*Doctoral Research*, Department of Applied Ecology, North Carolina State University, Jan 2014 – Feb 2018

- Tested the effect of different management strategies on population growth rate of an endangered butterfly and its host with large-scale field experiment (11).
- Developed population model to explore effect of climate change on population dynamics of Miami blue butterflies (12).
- Tested for differences in behavior and demography between an endangered butterfly and a common, surrogate butterfly in a large-scale habitat restoration experiment (10).
- Presented research at public meetings such as the Florida Keys National Marine Sanctuary Advisory Council Meeting, prior to planned prescribed fires in Florida Keys National Wildlife Refuges, and at working group meetings of which I am a member.

*Research Technician* for Dr. Nick Haddad at North Carolina State University, located in the Florida Keys, Jan 2012 – Dec 2014

- Developed monitoring protocols and abundance estimates for three rare butterflies in the Florida Keys National Wildlife Refuges, Miami blue butterfly (*Cyclargus thomasi bethunebakeri*), Bartram's scrub-hairstreak (*Strymon acis bartrami*), and Palatka skipper (*Euphes pilatka klotsi*) in the Florida Keys National Wildlife Refuges (5, 6).

*Consultant*, SWCA Environmental Consultants, Saratoga, WY, June 2011 – Dec 2012

- Conducted pre-development raptor and passerine surveys on the Chokecherry wind farm

*Research Technician* for Dr. Cheryl Schultz at Washington State University, Jan 2011 – June 2011

- Coordinated collaborative research and paper writing across 20+ authors from nine different agencies (1)

*Master's Research*, Department of Biology, Washington State University, May 2008 – Dec 2010

- Described habitat selection and resource use of Mardon skipper (*Polites mardon*), a rare butterfly (3)
- Determined overwintering state in the field (4)

## TEACHING EXPERIENCE

*Courses taught or assisted*

- Biodiversity, Climate Change, and People (SCI 223) – Pacific Northwest College of Art/Willamette University, instructor of record
- Conservation and Climate Science (AEC 761) - North Carolina State University, co-taught with Drs. Martha Burford-Reiskind and Adam Terando
- Introductory Cellular and Molecular Biology (BIO 183) – North Carolina State University, taught two lab sections
- Introductory Biology: Organismal Biology (BSCI 106) – Washington State University, taught two lab sections

*NSF GK-12 Fellowship*, Washington State University, 2009-2010

- Partnered with a middle school science teacher and spent two days per week in his classroom
- Developed lesson plans to increase inquiry-based learning into lessons centered on state educational standards
- Collaborated with the City of Vancouver Water Resources Education Center to conduct monthly sampling (macroinvertebrates and water quality) of the creek that ran through campus

*Science Camp Lead Instructor*, Oregon Museum of Science and Industry's (OMSI) Cascade Science School. Bend, OR, 2001-2003

- Taught natural science topics such as stream, forest, and arid lands ecology, ornithology, geology and botany to students, ages 8-18, and adults enrolled in OMSI field programs.
- Led various weeklong wilderness backpacking trips with students age 11-18.
- Planned, led, and developed curricula for field study outings, summer backpacking trips, and a wide variety of 1-2-hour classes.

**LEADERSHIP***Undergraduate Research Mentorship*

- Two students at WSU received university undergraduate research awards to conduct independent studies with me and will produce a paper and/or poster
- Three students who successfully completed independent research projects to earn a minor in Applied Ecology at NC State, one of whose data I included in one of my dissertation chapters and is a co-author on the paper
- Six additional undergraduate students in field research and methods through various projects
- All of these 11 students were women, two were women of color and two were first generation college students

*Post-Baccalaureate Research Mentorship*

- Ten students in field ecology research methods, four of which have gone on to pursue advanced degrees.
- Of these nine technicians, five were women, and three of those women were women of color

*Seminar series coordination, Ecology and Evolution Seminar Series, North Carolina State University, Fall, 2015 – Spring 2017*

- Resurrected a defunct seminar series, the goal of which is to highlight researchers that represent diversity in the fields of Ecology and Evolution
- Secured funding from four different departments within NC State
- Established a framework through which graduate students direct speaker nomination and hosting

**CO-PRODUCTION AND PUBLIC ENGAGEMENT***Tribal Consulting*

- Serve as western science consultant to the Seminole Tribe of Florida as they develop a climate vulnerability assessment and climate adaptation plan
- Meet regularly with project leaders to maintain open lines of communication and ensure that our work is meeting tribal needs and expectations
- Compile and summarize western science resources (datasets, publications, reports, climate projections) that the Seminole Tribe of Florida can choose to use in plan development

*Coordination with agency biologists*

- Work closely with land management agencies to ensure that my research is used to inform management decisions.
- Meet regularly with Fish and Wildlife Service, US Forest Service, National Park Service, and Department of Defense biologists to keep them up to date on our research findings and to coordinate and assist with ongoing projects of theirs.
- Participate in and provide research results for public meetings
- Attend and lead outreach events organized by agency collaborators.

*Working group participation.*

- Oregon Silverspot Recovery Working Group, 2021 – present
- Imperiled Butterfly Working Group of south Florida, 2012 – present
- Pine Rockland Working Group, 2012 – present
- Present at annual meetings, which are open to the public, and regularly interact with working group members that live on Big Pine Key, FL, where my research is located.

*Teen science café. North Carolina Museum of Natural Sciences Raleigh and Whiteville, NC*

- Presented my research and developed hands-on activity for students to use detection probability to estimate abundance of paper butterflies staged throughout the museum.

*Scientist in Every Florida Classroom*

- Develop and deliver lessons for K-12 classrooms in collaboration with teachers

**INVITED SEMINARS AND PUBLIC TALKS**

- Department of Entomology, University of California Davis, Davis, CA, March 2022
- McGuire Center for Lepidoptera Conservation, Florida Museum of Natural History, University of Florida, Gainesville, FL, February 2022 (virtual)
- School of Biological Sciences, Washington State University, Vancouver, WA, March 2021 (virtual)
- Biology Department, Florida International University, Miami, FL, October 2019
- Southeastern Climate Adaptation Science Center, Raleigh, NC, September 2019
- Entomology Department, North Carolina State University, Raleigh, NC, September 2019
- Miami chapter of the North American Butterfly Association, Miami, FL, May 2017
- Zoo Miami, Miami, FL, March 2017
- Carolina Butterfly Society, Awendaw, SC, October 2015
- Willamette University, Salem, OR, October 2010.

**PRESENTATIONS AT PROFESSIONAL MEETINGS**

**Henry, E.**, M. Burford Reiskind, N. Haddad. 2019. Ecological Society of America. Louisville, KY, USA.

**Henry, E.**, M. Burford Reiskind, N. Haddad. 2018. Pine Rockland Working Group. Miami, FL, USA.

**Henry, E.**, T. Wepprich, and Nick Haddad. 2018. International Conference on the Biology of Butterflies. Bangalore, Karnataka, India.

**Henry, E.** and N. Haddad 2017. Entomological Society of America. Denver, CO, USA

Kieckhefer, E., **E. Henry**, N. Haddad. Entomological Society of America. Denver, CO, USA

**Henry, E.** and N. Haddad 2017. Ecological Society of America. Portland, OR, USA

Warchola, N., **E. Henry**, E. Crone. 2017. Ecological Society of America. Portland, OR, USA.

**Henry, E.** and N. Haddad 2015. Entomological Society of America. Minneapolis, MN, USA.

**Henry, E.** and N. Haddad 2014. Pine Rockland Working Group. Miami, FL

**Henry, E.** and N. Haddad. 2013. Ecological Society of America. Minneapolis, MN, USA.

**Henry, E.** and C.B. Schultz. 2010. International Conference on the Biology of Butterflies. Edmonton, AB, Canada.

**Henry, E.** and C.B. Schultz. 2010. International Congress for Conservation Biology. Edmonton, AB, Canada.

**Henry, E.** and J. Ecklund. 2010. AAAS Annual Meeting. San Diego, CA, USA.