

STACI M. AMBURGEY

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 - <https://amburgey.github.io/> •
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EDUCATION

- Ph.D. Penn State University, Intercollege Graduate Degree Program in Ecology (IGDPE), Ecosystem Science and Management (ESM), 2019
Dissertation – Coarse and fine-scale determinants of species range boundaries
- M.S. Colorado State University, Zoology, 2013
*Thesis – Effects of hydroperiod and predator communities on *Pseudacris maculata*: A model species for climate change impacts on amphibians*
- B.S. Colorado State University, Biological Sciences, Zoology, 2010
Honors Graduate, Hughes Undergraduate Research Scholar
*Honors Thesis – Effects of reduced hydroperiod on metamorphosis rates of *Pseudacris maculata* (Boreal chorus frog)*
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PUBLICATIONS, DATA RELEASES, AND REPORTS

- 2021 **Amburgey, SM**, AA Yackel Adams, B Gardner, B Lardner, AJ Knox, SJ Converse. Tools for increasing visual encounter probabilities for invasive species removal: a case study of brown treesnakes. *Neobiota* 70: 107-122.
- 2021 **Amburgey SM**, B Lardner, A Knox, SJ Converse, AA Yackel Adams. 2021. Brown Treesnake detections on transects using potential attractants of live-mouse lures or fish-spray scent, Guam. U.S. Geological Survey data release. <http://doi.org/10.5066/P9G6JHZ3>
- 2021 **Amburgey, SM**, AA Yackel Adams, B Gardner, NJ Hostetter, SR Siers, BT McClintock, SJ Converse. Evaluation of camera trap-based abundance estimators for unmarked populations. *Ecological Applications* 31: e02410.
- 2021 **Amburgey, SM**, AA Yackel Adams, and SJ Converse. Camera trap data of Brown Treesnakes at mouse-lure traps on Guam, 2015. U.S. Geological Survey data release, <https://doi.org/10.5066/P9JV1QU5>.
- 2021 **Amburgey, SM**, DAW Miller, CJ Rochester, KS Delaney, SPD Riley, CS Brehme, SA Hathaway, RN Fisher. The influence of species life history and distribution characteristics on species responses to habitat fragmentation in an urban landscape. *Journal of Animal Ecology* 90: 685-697.
- 2020 **Amburgey, SM**, AA Yackel Adams, B Gardner, NJ Hostetter, SR Siers, BT McClintock, SJ Converse. Evaluating Statistical Methods for Estimating Density of Invasive Brown Treesnakes from Camera Trapping Data. Report submitted to the Department of Defense, Joint Region Marianas/NAVFAC Marianas.
- 2020 **Amburgey, SM**, DAW Miller, A Brand, A Dietrich, EHC Grant. Factors Facilitating Co-occurrence at the Range Boundary of Shenandoah and Red-Backed Salamanders. *Journal of Herpetology* 54: 125-135.

- 2019 **Amburgey, SM**, DAW Miller, A Brand, A Dietrich, EHC Grant. Knowing your limits: Testing spatially explicit occupancy models to understand range boundaries of an endangered plethodontid salamander. *Ecosphere* 10: e02727.
- 2018 Muths, E, R Scherer, **SM Amburgey**, PS Corn. Twenty-nine years of population dynamics in a small-bodied montane amphibian. *Ecosphere* 9: e02522.
- 2018 Miller, DAW, EHC Grant, E Muths, **SM Amburgey** + 37 coauthors. Quantifying Climate Sensitivity and Climate Driven Change in North American Amphibian Communities. *Nature Communications* 9: 3926.
- 2017 **Amburgey, SM** + 18 coauthors. Range position and climate sensitivity: The structure of among-population demographic responses to climatic variation. *Global Change Biology* 24: 439–454.
- 2016 Grant, EHC, DAW Miller, BR Schmidt, MJ Adams, **SM Amburgey** + 25 coauthors. Quantitative evidence for the effects of multiple drivers on continental-scale amphibian declines. *Scientific Reports* 6: 10.1038/srep25625.
- 2016 Muths, E, RD Scherer, **SM Amburgey** + 3 coauthors. First estimates of the probability of survival in a small-bodied, high-elevation frog (Boreal Chorus Frog, *Pseudacris maculata*), or how historical data can be useful. *Canadian Journal of Zoology* 94: 599-606.
- 2016 **Amburgey, SM**, M Murphy, WC Funk. Phenotypic plasticity in developmental rate insufficient to offset high tadpole mortality in rapidly drying ponds. *Ecosphere* 7: 10.1002/ecs2.1386.
- 2015 Funk, WC, MA Murphy, KL Hoke, E Muths, **SM Amburgey** + 2 coauthors. Elevational speciation in action? Restricted gene flow associated with adaptive divergence across an altitudinal gradient. *Journal of Evolutionary Biology* 29: 241–252.
- 2014 **Amburgey, SM**, LL Bailey, M Murphy, E Muths, WC Funk. The effects of hydroperiod and predator communities on amphibian occupancy. *Canadian Journal of Zoology* 92: 927-937.
- 2014 Bosch, J, S Fernández-Beaskoetxea, RD Scherer, **SM Amburgey**, E Muths. Demography of common toads after local extirpation of co-occurring midwife toads. *Amphibia-Reptilia* 35: 293-303.
- 2012 **Amburgey, S**, WC Funk, M Murphy, E Muths. Effects of hydroperiod duration on survival, developmental rate, and size at metamorphosis in boreal chorus frog tadpoles (*Pseudacris maculata*). *Herpetologica* 68: 456–467.

PRESENTATIONS AND AWARDS

- 2021 School of Aquatic and Fishery Sciences Diversity, Equity, Inclusion, and Justice and Community Service Recognition Award. University of Washington.
- 2020 University of Washington, College of the Environment Postdoc Pecha Kucha. *Silent islands? The quest to manage brown treesnakes*. Virtual Event.
- 2020 Brown Treesnake Technical Working Group. *Optimizing Brown Treesnake Monitoring Strategies*. Virtual Meeting.
- 2020 Brown Treesnake Technical Working Group. *The challenges of using camera trapping for abundance estimation of invasive herpetofauna*. Virtual Meeting.

- 2020 The Wildlife Society Annual Meeting. *The challenges of using camera trapping for abundance estimation of invasive herpetofauna*. Virtual Meeting.
- 2020 The 9th World Congress of Herpetology. *The importance of scale in amphibian conservation: species responses to fragmentation*. Dunedin, New Zealand. Invited speaker for session.
- 2020 The 9th World Congress of Herpetology. *Decision analysis for early detection and rapid response: modeling to advance identification of optimal management*. Dunedin, New Zealand. Talk given for lead author, Sarah Converse.
- 2020 The 9th World Congress of Herpetology. *Camera traps for early detection and rapid response and management of an invasive reptile*. Dunedin, New Zealand.
- 2019 Marianas Terrestrial Conservation Conference/Brown Treesnake Technical Working Group. *Assessing the use of camera trapping for estimation of abundance of invasive brown treesnakes on Guam*. Garapan, Saipan.
- 2019 The Wildlife Society Annual Meeting. *Assessing Spatial Capture-Recapture Models for Unmarked Individuals When Estimating Density of Invasive Brown Treesnakes on Guam*. Reno, NV.
- 2018 The Wildlife Society Annual Meeting. *Using multispecies occupancy models to understand the interplay of patch size and life history traits in shaping Southern California small vertebrate communities*. Cleveland, OH. Invited speaker for session.
- 2018 Ecological Society of America. *Knowing Your Limits: Understanding the Role of Interspecific Interactions in Structuring Range Boundaries*. New Orleans, LA.
- 2017 The Wildlife Society Annual Meeting. *Extending the Use of Conditional Occupancy Models to Understand the Role of Competitive Exclusion in an Endangered Plethodontid Salamander*. Albuquerque, NM.
- 2017 Northeast Partners in Amphibian and Reptile Conservation. *Defining the Edge: Understanding the Range Limits of an Endangered Plethodontid Salamander in Shenandoah National Park*. Pembroke, VA.
- 2016 The Wildlife Society Annual Meeting. *Understanding the Interaction of Annual and Regional Climate in Structuring Species Range Limits*. Raleigh, NC.
- 2015 Ecological Society of America. *Using state-space models to predict within-range variation in responses of wood frogs to annual variation in weather*. Baltimore, MD. Invited speaker for session.
- 2013 Front Range Student Ecology Symposium. *Predicting the effects of climate change: phenotypic plasticity insufficient to offset high tadpole mortality in rapidly drying ponds*. Fort Collins, Colorado. **2nd place student research presentation.**
- 2013 Colorado Partners in Amphibian and Reptile Conservation. *Boreal chorus frog (*P. maculata*): A model species for studying the effects of climate change in our own backyard*. Fort Collins, Colorado. **1st place student research presentation.**
- 2012 Wyoming Chapter of The Wildlife Society. *Predicting the effects of climate change: phenotypic plasticity insufficient to offset high tadpole mortality in rapidly drying ponds*. **1st place student research presentation.**

GRANTS AND FELLOWSHIPS

- 2021 Department of Defense Research Grant, Co-PI (\$216,640.68)

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| 2020 | College Sustainability Fund mini-grant for seminar planning (\$1,000) |
| 2020 | Department of Defense Research Grant (\$227,445) |
| 2013 – 2019 | Powell Center Fellow, United States Geological Survey (USGS) Amphibian Decline Working Group |
| 2018 – 2019 | NASA Pennsylvania Space Grant Graduate Fellowship (\$5,000) |
| 2018 | Frank A. Andersen Travel Award (\$750) |
| 2018 | College of Ag. Sciences Sahakian Family Endowment Travel Grant (\$500) |
| 2018 | Ecosystem Science and Management Travel Award (\$300) |
| 2018 | J. Brian Horton Program Service Award (\$1,500) |
| 2017 | Northeast Partners in Amphibian and Reptile Conservation Travel Award (\$100) |
| 2017 | Huck Institute for the Life Sciences Travel Grant (\$750) |
| 2014 – 2017 | Advancing Science in America (ARCS) Scholarship (\$5,000/year) |
| 2014 | Huck Institute for the Life Sciences Top-Up Graduate Award (\$2,500) |
| 2014 | Funds for Excellence in Graduate Recruitment Assistanceship (\$2,500) |
| 2011 | Edward and Phyllis Reed Aquatic Insect Research Fellowship (\$8,000) |
| 2010 | Edward and Phyllis Reed Aquatic Insect Research Fellowship (\$5,000) |
| 2010 – 2012 | Colorado Graduate Grant (\$2,500/semester) |

PROFESSIONAL EXPERIENCE

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| 2021 – present | Co-Principal Investigator, University of Washington |
| 2019 – present | Research Associate and Postdoctoral Researcher, Washington Cooperative Fish and Wildlife Research Unit, University of Washington |
| 2013 – 2014 | Student contractor, data technician. U.S. Geological Survey |
| 2012 – 2013 | Student contractor, field crew leader. U.S. Geological Survey |

FIELD AND LABORATORY EXPERIENCE

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| 2021 | Brown treesnake behavioral trials, Guam. |
| 2021 | Brown treesnake visual surveys, Islan Dãno (Cocos Island), Guam. |
| 2019 | Capture-mark-recapture project on invasive rodents, Rota, Mariana Islands. |
| 2015 – 2018 | Capture-mark-recapture project on spotted salamanders, Centre County, PA. |
| 2015 – 2018 | Red-backed salamander capture-mark-recapture cover board surveys, PA, VA. |
| 2017 | Capture-mark-recapture and physiological study of garter snakes, Lassen State Forest, CA. |
| 2015 – 2016 | Shenandoah salamander transect establishment and surveying, Shenandoah National Park, VA. |
| 2012 – 2013 | Boreal toad and boreal chorus frog capture mark recapture and monitoring, Larimer County, CO. Crew leader. |
| 2012 | Columbia Spotted frog DNA extraction and PCR for population genetics, Fort Collins, CO. |
| 2010 – 2011 | Common garden maintenance and data collection, Colorado State University. Yasuni Biological Research Station, Ecuador. |
| 2008 – 2010 | Boreal chorus frog landscape genetics, reproductive ecology, Larimer County, CO. |
| 2007 – 2008 | Black-backed land crab immunohistochemistry and identification of molting hormone pathway. Fort Collins, CO. |

TEACHING EXPERIENCE

- 2020 Instructor (not on record), Independent Graduate Research project
- 2020 Instructor, Cultivating Inclusive Conservation Practices, University of Washington. Seminars available on the [UW School of Aquatic and Fishery Sciences YouTube](#).
- 2020, 2021 Guest Lecturer, Analysis of Ecological and Environmental Data, University of Washington
- 2020 Guest Lecturer, Management of Endangered Species, University of Washington
- 2019 Guest Lecturer, Wildlife Ecology, University of Washington
- 2018 Guest Lecturer, Herpetology, Bucknell University
- 2016 Guest Lecturer, Herpetology, Pennsylvania State University
- 2015, 2016 Graduate Teaching Assistant, Wildlife Management, Pennsylvania State University
- 2011, 2013 Graduate Teaching Assistant, Biology of Organisms, Colorado State University
- 2011, 2012 Graduate Teaching Assistant and Guest Lecturer, Principles of Animal Biology, Colorado State University

WORKING GROUPS AND WORKSHOPS

- 2020 Co-organizer of Amphibian Conservation in the Anthropocene – Challenges, priorities, & Solutions for the Human Epoch. The 9th World Congress of Herpetology. Dunedin, New Zealand. Organized talks and workshop.
- 2018 Co-instructor, workshop: *Methods in Vernal Pond Monitoring and Amphibian Capture Mark Recapture*. Pennsylvania Chapter of The Wildlife Society. State College, PA.
- 2015 Amphibian Research and Monitoring Initiative annual meeting, Washington D.C.
- 2015 USGS Powell Center Annual Meeting of the Amphibian Decline group, Fort Collins, CO.
- 2015 Northeast Amphibian Research and Monitoring Initiative meeting, Turners Falls, MA.
- 2014 USGS Powell Center Annual Meeting of the Amphibian Decline group, Fort Collins, CO.

PROFESSIONAL SERVICE

- 2021 Chair, Equity & Inclusion Committee, University of Washington, School of Aquatic and Fishery Sciences
- 2020 Proposal team. Racial Equity Audit and Cultural Assessment proposal team. University of Washington
- 2020 Panel organizer and moderator. Education and Public Engagement Panel series. University of Washington
- 2020 Graduate research poster judge. The 9th World Congress of Herpetology.
- 2019 – present Associate Editor. Management of Biological Invasions
- 2019 Staff and postdoc lunches organizer. University of Washington
- 2017 – present Steering committee member and survey team co-leader. Partners in Amphibian and Reptile Conservation Diversity, Equity, and Inclusion Task Force

2017 Programming Committee Representative, IGDPE Graduate Student Organization, Penn State University

2017 Webmaster, IGDPE Graduate Student Organization, Penn State University

2016 – 2019 IGDPE Peer Mentor, Penn State University

2016 – 2018 Diversity in Science Initiative Leader and Webmaster, ESM Graduate Student Organization, Penn State University

2016 Novel Ecosystems Seminar Series Organizing Committee, IGDPE, Penn State University

2016 Organizer, Novel Ecosystems Symposium, IGDPE, Penn State University

2016 Secretary, IGDPE Graduate Student Organization, Penn State University

2015 – 2016 Forest Resources Alumni Group Representative and CV Review Panel Organizer, ESM Graduate Student Organization, Penn State University

2015 – 2016 Graduate and Professional Student Association Representative, IGDPE Graduate Student Organization, Penn State University

2015 – 2017 Planning Committee, Science Café, Penn State University

2013 – 2014 Steering Committee, Colorado Partners in Amphibian and Reptile Conservation

OUTREACH

2019 Skype a Scientist. Classroom video chat with scientists.

2020, 2021 Ecology and invasive species. Invited talk at McAuliffe Elementary School.

2019, 2021 Students Explore Aquatic Science. *Our Watery Worlds*. Open House.

2019 Research Square, Lunch and Learn event on Diversity and Inclusion.

2018 Science Pub at Big Springs Distillery. *The Newt-iful Lives of Salamanders*.

2018 4-H Wildlife and Forestry Field Day: Scientific Process. *Pollinator Attraction*.

2017 4-H Wildlife and Forestry Field Day: Research Rocks! Sampling methods for mapping where species live.

2016 Schlow Library Geek Speak and Science Café. *The Science of Beer*.

2016 Science Café at The All-American Rathskeller. *The Science of Beer!*

2016 4-H Wildlife and Forestry Field Day: Forest Birds. *Feather forms and functions*.

2015 4-H Wildlife and Forestry Field Day: Salamanders. *Salamander terrestrial and pond breeding: direct development and metamorphosis*.

2014 Bellefonte Exploration-U. *Why Do Animals Do What They Do? Animal behavior with the Penn State Ecology Program*.

2013 Letters to a Pre-Scientist. Elementary school pen pal program.

2013 Fort Collins Museum of Discovery. Save the Frogs Day. *Amphibian ecology and conservation for all ages*.

2012 City of Fort Collins Natural Areas Department public talk. *Boreal chorus frogs (Pseudacris maculata): a model species for studying evolution and the effects of climate change in our own backyard*. Invited speaker.

2012 Colorado State University Pre-Veterinary Day. *Amphibian handling and diseases in wild and captive animals*.

2012 Rocky Mountain National Park National Geographic Bioblitz. *Amphibian survey techniques for all age groups*.

2011 Cheyenne Mountain High School. *Amphibian conservation research and college research opportunities* for grades 10 and 11.

- 2011 Piñon Valley Elementary School. *Ecology, amphibians, and research opportunities* for grades 1, 3, 4, and 5.
- 2011 Fort Collins Museum. *Amphibian ecology and conservation for all age groups*.
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MEDIA COVERAGE

- 2019 Amburgey, SM. *Finding a Direction in Science*. Stories in Science. <https://storiesinscience.org/2019/09/29/finding-a-direction-in-science/>
- 2017 Ogden LE. 2017. *Dried out: Aquatic biodiversity faces challenges in a changing climate*. *BioScience* 67: 949-956.
- 2017 The Wildlife Society. *Climate change brings varying risks to wood frogs*.
- 2017 Penn State News. *Wood frogs research clarifies risks posed to animals by warming climate*.
- 2016 United News International. *Amphibian Population Declines in U.S. on Par with Global Trend*. <https://www.youtube.com/watch?v=bSx4mcVkY9c>
- 2016 Popular Science. *Amphibians Are Rapidly Disappearing*. <https://www.facebook.com/PopSci/videos/10154202075401411/>