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PROFESSIONAL PREPARATION AND APPOINTMENTS

Professional Preparation

Ph.D. Ecology, University of Wyoming, May 2021

Dissertation Title: Behavioral and demographic responses to environmental change in a pond-breeding amphibian

B.S. Environmental Biology, Bloomsburg University, December 2013

Graduated Summa Cum Laude and Top Student in the College of Science and Technology

Thesis Title: Comparative studies of island dwarfism in several amphibian species on Atlantic Coast barrier islands

Appointments

- 2021–*present* **Postdoctoral Research Associate in Quantitative Ecology**
Colorado Natural Heritage Program, Colorado State University
- 2021 **Statistician Technician-Data Scientist (Quantitative Ecology)**
Western EcoSystems Technology, Inc. Environmental & Statistical Consultants
- 2021 **Instructor**
Department of Zoology and Physiology, University of Wyoming
- 2015–2021 **Graduate Research Assistant (Ph.D. Candidate)**
Wyoming Cooperative Fish and Wildlife Research Unit, University of Wyoming
- 2019–2020 **Graduate Teaching Assistant**
Department of Zoology and Physiology, University of Wyoming
- 2014 **Educator**
Chincoteague Bay Field Station of the Marine Science Consortium

SELECTED PUBLICATIONS (*indicates mentored co-author)

Barrile, G. M., Chalfoun, A. D., and Walters, A. W. (2021). Infection status as the basis for habitat choices in a wild amphibian. *The American Naturalist*, 197(1), 128–137. <https://doi.org/10.1086/711927>

Barrile, G. M., Walters, A. W., Webster, M. E.*, and Chalfoun, A. D. (2021). Informed breeding dispersal following stochastic changes to patch quality in a pond-breeding amphibian. *Journal of Animal Ecology*, 90(8), 1878–1890. <https://doi.org/10.1111/1365-2656.1350>

LeCheminant, A. G., **Barrile, G. M.**, Albeke, S. E., and Walters, A. W. (2021). Movement dynamics and survival of stocked Colorado River Cutthroat Trout (*Oncorhynchus clarkii pleuriticus*). *Transactions of the American Fisheries Society*, 150(6), 679–693. <https://doi.org/10.1002/tafs.10322>

Barrile, G. M., Chalfoun, A. D., and Walters, A. W. (2021). Livestock grazing, climatic variation, and breeding phenology jointly shape the disease dynamics and survival in a wild amphibian. *Biological Conservation*, 261:109247. <https://doi.org/10.1016/j.biocon.2021.109247>

Barrile, G. M., Chalfoun, A. D., Estes-Zumpf, W., and Walters, A. W. (2022). Wildfire influences individual growth and breeding dispersal, but not survival and recruitment in a montane amphibian. *Ecosphere*, 13(8), e4212. <https://doi.org/10.1002/ecs2.4212>

Barrile, G. M., Walters, A. W., and Chalfoun, A. D. (2022). Stage-specific environmental correlates of reproductive success in Boreal Toads (*Anaxyrus boreas boreas*). *Journal of Herpetology*, 56(1), 34–44. <https://doi.org/10.1670/21-023>

Barrile, G. M., Augustine, D. J., Porensky, L. M., Duchardt, C. J., Shoemaker, K. T., Hartway, C. R., Derner, J. D., Hunter, E. A., and Davidson, A. D. (*In Review*). A big data–model integration approach for predicting epizootics and population recovery in a keystone species. *Ecological Applications*.

SELECTED PRESENTATIONS (*indicates mentored presenter)

Barrile, G. M., Augustine, D. J., Porensky, L. M., Duchardt, C. J., Shoemaker, K. T., Hartway, C. R., Derner, J. D., Hunter, E. A., and Davidson, A. D. A big data–model integration approach for predicting epizootics and population recovery in a keystone species. North American Congress for Conservation Biology. Reno, Nevada. July 2022.

Barrile, G. M., Chalfoun, A. D., Estes-Zumpf, W., and Walters, A. W. Wildfire influences individual growth and breeding dispersal, but not survival and recruitment in a montane amphibian. Wyoming/Colorado Chapter Meeting of the American Fisheries Society. March 2022.

Barrile, G. M. Shoemaker, K., Augustine, D., Hunter, E., Porensky, L., Hartway, C., Duchardt, C., and Davidson, A. Modeling Colony Growth and Plague Epizootics in Black-Tailed Prairie Dogs Across Eleven National Grasslands. Thunder Basin Research Initiative Annual Symposium. February 2022.

Barrile, G. M. Becker, J., Bernard, R., Dillon, M., Merkle, B., and Wilcox, R. Enhancing our department together: reporting on the 2021 departmental climate survey. University of Wyoming. November 2021.

Barrile, G. M. Lessons from five years of studying boreal toads. Bridger-Teton National Forest Leadership Team Meeting. October 2021. *Invited seminar*.

Barrile, G. M. Behavioral and demographic responses to environmental change in a pond-breeding amphibian. University of Wyoming. December 2020. *Dissertation defense*.

Webster, M. E.*, **Barrile, G. M.**, Chalfoun, A. D., and Walters, A. W. Temporal variation in the number and area of beaver ponds in the Bridger-Teton National Forest, USA during 2006–2018. Wyoming/Colorado Chapter Meeting of the American Fisheries Society. Laramie, Wyoming. February 2020.

Barrile, G. M., Walters, A. W, and Chalfoun, A. D. Buy high, sell low: an ecological investment strategy reduces temporal variability in amphibian abundance. Wyoming Chapter Meeting of The Wildlife Society. Sheridan, Wyoming. November 2019.

Barrile, G. M., Chalfoun, A. D., and Walters, A. W. Host habitat choices provide behavioral immunity in a natural population. Wyoming/Colorado/Utah Chapter Meeting of the American Fisheries Society. Laramie, Wyoming. February 2018. *Best student talk award*

Barrile, G. M., Walters, A. W., and Chalfoun, A. D. Host behavior and thermal profile influence infection risk in a wild amphibian population. Wyoming Chapter Meeting of The Wildlife Society. Jackson, Wyoming. November 2017. *Best student talk award*

Barrile, G. M. Quantitative methods for the analysis of animal movement and habitat selection. Wildlife and Rangeland Workshop. Pinedale, Wyoming. November 2016. *Invited seminar.*

Barrile, G. M., Chalfoun, A. D., and Walters, A. W. Toads, cows, and chytrid: amphibian responses to infectious disease and habitat change. Laramie Audubon Society. Laramie, Wyoming. May 2015.

Barrile, G. M., and Leach, A. L. Time-budgeting behavior in captive versus free-ranging black-handed spider monkeys (*Ateles geoffroyi*). Annual Meeting of the Society for Applied Anthropology. Denver, Colorado. March 2013.

Barrile, G. M., Downs, L. K., Bower, C. D., and Hranitz, J. M. Comparative studies of island dwarfism in Fowlers Toads (*Anaxyrus fowleri*) on several Atlantic Coast barrier islands. Annual Meeting of the Society for Integrative and Comparative Biology. San Francisco, California. January 2013.

COMPETITIVE GRANTS & AWARDS

| | | |
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| 2021 | \$ 1,500 | Honorarium for teaching graduate-level DEI seminar (WY INBRE program) |
| 2020 | \$ 13,000 | Dr. George E. Menkens Memorial Scholarship |
| 2020 | \$ 2,000 | College of Arts & Sciences Dean's Graduate Scholar Award |
| 2020 | \$ 2,000 | Summer Doctoral Augmentation Award, Academic Affairs |
| 2019 | \$ 4,500 | Michael and Linda Tiernan Scholarship and Research Fund |
| 2018 | \$ 4,000 | L Floyd Clarke Fund in Zoology & Physiology |
| 2018 | \$ 500 | Wildlife Federation Dennis Jespersen Memorial Scholarship |
| 2017 | \$ 172,558 | Wyoming Game and Fish Department (PIs: A. Chalfoun, A. Walters) |
| 2017 | \$ 1,000 | WEST Research Award for Quantitative Analysis in Wildlife Ecology |
| 2017 | \$ 4,000 | United States Forest Service Research Grant |
| 2017 | \$ 100 | Best Student Talk Award WY Chapter of The Wildlife Society Meeting |
| 2016 | \$ 1,000 | Biodiversity Institute Occupancy Shortcourse Tuition Remission Award |
| 2016 | \$ 500 | Laramie Audubon Society Small Grants Program |
| 2016 | \$ 1,000 | Clarke Greater Yellowstone Area Award |
| 2015 | \$ 159,898 | Wyoming Game and Fish Department (PIs: A. Chalfoun, A. Walters) |
| 2013 | \$ 4,500 | Undergraduate Research, Scholarship, and Creative Activity Award |

TEACHING EXPERIENCE

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| 2021 | Instructor, Wyoming EPSCoR, Statistical Methods for Estimating Abundance in Ecology Four-day workshop covering methods commonly used to estimate population abundance while accounting for imperfect detection: capture-mark-recapture, binomial N-mixture models, and distance sampling (https://github.com/gbarrile/AbundanceWorkshop). |
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- 2021 Instructor, Wyoming EPSCoR, Microbial Ecology Collaborative, University of Wyoming, Western EcoSystems Technology, **Population Modeling in Ecology**
Created an online course on statistical modeling in population ecology, covering the estimation of abundance, occupancy, survival, recruitment, and dispersal (instructional videos, code, and data are hosted on GitHub: <https://github.com/gbarrile/PopEcoModeling>).
- 2021 Instructor, University of Wyoming, Graduate Seminar: **JEDI in STEM** (ZOO 5890-07)
Seminar course working through literature on Justice, Equity, Diversity, and Inclusion in STEM.
- 2020 Teaching Assistant, University of Wyoming, **General Ecology** (LIFE 3400)
Guest Lectures: Behavioral Ecology, Dispersal and Metapopulation Dynamics, Biogeography
- 2019 Teaching Assistant, University of Wyoming, **General Biology** (LIFE 1010)
Instructed the laboratory portion of the course (12 labs) and supervised research projects
- 2019 Workshop Instructor, Wyoming Cooperative Research Unit, **Population Analysis**
Program R workshop introducing key packages (e.g., RMark, unmarked, rjags) and fundamental models used in fish and wildlife population analysis
- 2014 Educator, Chincoteague Bay Field Station, **Coastal Ecology**
Lecturer and lab/field instructor serving groups of all ages (high school, college, Road Scholars)

MENTORING EXPERIENCE

- 2018–2021 Matthew Webster, Research Technician, Wyoming Cooperative Research Unit
Advised the development of an independent research project, the presentation of research at scholarly conferences, and the preparation of manuscripts for publication
Project title: Temporal variation in the number and area of beaver ponds in the Bridger-Teton National Forest, USA during 2006–2018
- 2015–*present* Provided support/mentorship for the following University of Wyoming graduate students:
C. Brown (M.S. student) – Advised by Dr. Anna Chalfoun (analytical, statistical, writing)
A. LeCheminant (M.S. student) – Advised by Dr. Annika Walters (statistical, writing)
A. Rhea (M.S. student) – Advised by Dr. Anna Chalfoun (statistical, writing)
T. Scherr (M.S. student) – Advised by Dr. Anna Chalfoun (analytical, statistical)
K. Cook (M.S. student) – Advised by Dr. Anna Chalfoun (study design, statistical)
K. Gura (Ph.D. student) – Advised by Dr. Anna Chalfoun (analytical, statistical)
E. Traver (Ph.D. student) – Advised by Dr. Linda van Diepen (analytical, statistical)
A. Tiemann (M.S. student) – Advised by Dr. Annika Walters (analytical, statistical)

SUPERVISORY EXPERIENCE

- 2015–2019 Hired and supervised the following individuals as field technicians on several field crews:
Matthew Webster (2018–2019)
Laurel Downs (2016–2017)
Leah Joyce (2016)
Amanda Leach (2015–2016)
Arwyn Roe (2015)
Lucas Haralson (2015)

PROFESSIONAL & COMMUNITY SERVICE

- 2021–present Peer reviewer for *American Naturalist*, *Ecological Indicators*, *Evolution*, *Landscape Ecology*, *Animal Behaviour*, USGS internal review
- 2021–present Member of the DEI working group in Department of Zoology, University of Wyoming
- 2021 Judge of student presentations, Program in Ecology symposium, University of Wyoming
- 2020–2021 Odyssey committee member, Program in Ecology, University of Wyoming
- 2019–2020 President, Program in Ecology, University of Wyoming
- 2019–2020 Trivia host, Wyoming Chapter Meeting of The Wildlife Society
- 2018–2019 Student representative to faculty, Program in Ecology, University of Wyoming
- 2015–2018 Seminar projectionist, Department of Zoology & Physiology, University of Wyoming
- 2009–present Volunteer at the Bloomsburg Food Cupboard and the Laramie Soup Kitchen

RELEVANT PROFESSIONAL TRAINING

- 2022 Developing interactive web-based decision support tools via Shiny Applications and RStudio
- 2022 Best Practices in Teaching: Inclusive Pedagogy, Colorado State University (TILT-2022SP-01)
- 2022 Best Practices in Teaching: Classroom Climate, Colorado State University (TILT-2022SP-01)
- 2021 GitLab training for project organization, reproducible research, and collaborative science
- 2021 GitHub training, including connecting with repositories through Program R
- 2020 Justice, Equity, Diversity, and Inclusion in STEM: Reading Group
- 2020 Green Dot Training: Sexual Violence Prevention
- 2020 Safe Zone Project: Gender and Sexuality Workshop
- 2019 Bayesian Analysis and Hierarchical Models
- 2018 Population Analysis (Distribution, Abundance, and Species Richness)
- 2017 Quantitative Modeling in Landscape Ecology
- 2017 Capture-Recapture Analysis and Methods
- 2017 Occupancy Modeling Workshop: Patterns and Dynamics of Species Occurrence
- 2016 Elements of GIS for Spatial Ecologists
- 2016 Animal Movement and Habitat Selection Modeling
- 2015 Techniques in Environmental Data Management
- 2015 R Programming for Ecologists

MEDIA & PUBLIC OUTREACH

- [Interview](#) with [UnDisciplined](#), a research-themed program on Utah Public Radio (2021)
- [WyoFile](#) and [Wyoming Tribune Eagle](#): *Some Wyoming toads can clear themselves of deadly fungus* (2020)
- [Cool Green Science](#): *Can Toads Heal Themselves Of Deadly Chytrid Fungus* (2020)
- [WY Public Radio](#): *UW Researchers Investigate Western Toad's Ability To Fight Disease* (2019)
- [WY Public Media](#): *Western Wyoming Toad Deals With A Deadly Disease In A Novel Way* (2019)
- [Wyoming Wildlife Federation](#): *Science Friday: Boreal Toad Project Summary* (2018)