**Dr. Erin Foster Abernethy**

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**Objective**

Through my career with the USFWS as a Fish and Wildlife Biologist, I utilize my leadership and scientific skills to fulfill the mission of the Service to work with others, to conserve, protect and enhance fish, wildlife, and plants and their habitats for the continuing benefit of the American people. To accomplish this, I leverage my experience leading collaborative teams and communicating with diverse groups; designing and performing research experiments and surveys in terrestrial and freshwater ecosystems; and analyzing results and publishing reports. My career objective is to decrease the negative impacts of climate change and racial inequities.

**Education**

Ph.D. Integrative Biology 2020 Oregon State University (4/4)

M.S. Ecology 2015 University of Georgia (3.96/4)

B.S. Biology/Ecology 2011 Appalachian State University (3.69/4)

**Work History**

Portland Area Urban Conservation Coordinator Supervisor: Brendan White

US Fish and Wildlife, Portland, OR Email: brendan\_white@fws.gov

January 2022 – Current

I work 40hrs/wk as a permanent Fish and Wildlife Biologist (GS-0401-11). Working with many of the USFWS programs and community partners, I look for opportunities to advance the Service’s mission within the Portland Metro Area. My work has three focuses: on the ground conservation, science focused outreach, and building partnerships with people and organizations who have been excluded from working with the USFWS.

* Partnership building
* Grant writing
* Cooperative agreement management
* Meeting organizing
* Internship creation and mentoring
* Positive workplace culture change

Courtesy Postdoctoral Scholar Supervisor: Dr. Elizabeth Anderson

Florida International University, Miami, FL Email: epanders@fiu.edu

January 2022 – December 2022

I worked 1hr/wk as a mentor (volunteer, outside USFWS work time) to students affiliated with the Tropical Rivers Lab.

* R code instruction
* Thesis editing
* Job skills mentoring

Postdoctoral Scholar Supervisor: Dr. Elizabeth Anderson

Florida International University, Miami, FL Email: epanders@fiu.edu

December 2020 – December 2021

I worked 40hrs/wk as a paid researcher for the Tropical Rivers Lab. My research explored how power influences environmental flows and examined how to broaden participation in water management.

* Analyzed how power dynamics influence ecosystem management, particularly the setting of minimum flow levels in Florida
* Mentored graduate students studying urban rivers and equity in urban conservation
* Organized virtual scientific conference (Society for Freshwater Science annual meeting)

Directorate Fellows Program Intern Supervisor: Paul Heimowitz

US Fish and Wildlife, Portland, OR Email: paul\_heimowitz@fws.gov

June 2020 – August 2020

I worked 40hrs/wk for 11 weeks (440 hours total) as a paid intern. I worked with a variety of USFWS employees from across programs to summarize how the USFWS is addressing invasive species prevention, management, and eradication in the Pacific Northwest and Pacific Islands (USFWS Regions 9 & 12). I created the following deliverables:

* Developed a strategic plan for invasive species management to insure conservation and enhancement of fish and/or wildlife and their habitat for a diverse geographic area (Invasive Species Strategic Plan for Regions 9 & 12 (2020-2025))
* Worked collaboratively with employees from all USFWS programs
* A report on the status of invasive species management capacity in Regions 9 & 12
* Revised charter, work plan, and strategic plan for the USFWS Pacific Region Invasive Species Team
* An internal webpage for resource sharing, populated with resources, and several short articles describing the platform
* A staff questionnaire and unique R code to analyze results
* A budget analysis on invasive species work and unique R code to analyze results
* Three blog posts and several employee profiles for USFWS social media
* Three presentations, to the Pacific Region Invasive Species Team, a regional USFWS audience, and a headquarters USFWS audience

Ph.D. Teaching Assistant Supervisor: Mark Lavery

Oregon State University, Corvallis, OR Email: mark.lavery@oregonstate.edu

September 2018 – June 2020

September 2020 – December 2020

I worked 16hrs/wk as a paid teaching assistant for 8 terms at OSU. I taught laboratory classes for two sections of approximately 40 students each term. I taught the following three general biology courses: Ecology, Genetics, and Human Anatomy.

Ph.D. Research Fellow Supervisor: Dr. David Lytle

Oregon State University, Corvallis, OR Email: lytleda@oregonstate.edu

August 2015 – August 2018

I worked 40hrs/wk as a paid National Science Foundation research fellow. My research examined how river flows downstream of dams throughout the American Southwest structure aquatic invertebrate communities, through community and genetic analyses.

* Conducted biological and ecological surveys involving complex land and water resource development actions (i.e., dams) to determine the effects on species of concern
* Designed and led large-scale field research projects in remote locations
* Reviewed project impacts (i.e., hydropower) for the involved area (i.e., tailwaters)
* Gained knowledge of the theory, principles and methods of fish and wildlife biology and a working familiarity with related disciplines
* Gained knowledge of Federal environmental laws and Executive Orders (e.g., Endangered Species Act) through a natural resource law course
* Gained ability to research literature, analyze data (e.g., proficient at coding and statistical analysis in R), and apply scientific methods to the formulation of management plans
* Identified aquatic invertebrates to genus
* Completed next generation genetic sequencing and bioinformatics analysis
* Gained ability to communicate orally to inform peers and cooperators/partners, explain results, and present information at meetings (see presentation section below)
* Ability to communicate in writing to prepare correspondence and reports for diverse audiences (see publication section below)

National Science Foundation, Research Internship Supervisor: Dr. Jeff Muehlbauer

US Geological Survey, Flagstaff, AZ Email: jmuehlbauer@usgs.gov

September 2017 – December 2017

I worked 40hrs/wk as a paid National Science Foundation research fellow and received additional scholarships to cover moving expenses for this internship with a federal agency partner (USGS Grand Canyon Monitoring and Research Center). Through this collaboration, I was able to gather and analyze the majority of my dissertation data.

* Build collaborations with scientists within a federal agency (2 peer-reviewed articles)

Masters Research Assistant Supervisor: Dr. Olin E. Rhodes, Jr.

University of Georgia, Athens, GA Email:rhodes@srel.uga.edu

January 2013 – June 2015

I worked 40hrs/wk as a paid graduate research assistant. Through my Masters research, I quantified how invasive and native species carcasses were incorporated into food webs (in other words scavenged) within invaded and relatively uninvaded ecosystems.

* Conducted biological and ecological surveys involving complex land and water resource development actions (i.e., invasive species management) to determine the effects on species of concern
* Reviewed project impacts (i.e., invasive species management) for the involved area (i.e., Hawaiian ecosystems)
* Designed and led large-scale field research projects in remote locations
* Developed a unique game camera set-up with pressure sensitive triggers
* Completed analysis, published results, and grew collaborations (6 peer-reviewed articles)
* Optimized microsatellite markers used in population genetics (1 peer-reviewed article)

Lab Manager Supervisor: Dr. Michael M. Gangloff

Appalachian State University, Boone, NC Email: gangloffmm@appstate.edu

June 2011 – January 2012

I worked 40hrs/wk in this paid position coordinating logistics and assisting with personnel and financial management for environmental contract jobs and graduate student research.

* Surveyed fish (electrofisher), freshwater mussels (snorkel, SCUBA), and invertebrates
* Performed habitat assessments and water quality testing (YSI meters)
* Completed permitting, data entry, analysis, and report writing (2 peer-reviewed articles)
* Managed lab personnel, lab accounts, purchasing, and equipment maintenance

Research Technician Supervisor: Dr. Robert F. Baldwin

Clemson University, Clemson, SC Email: baldwi6@clemson.edu

February 2012 – October 2012

I worked 40hrs/wk as a field research technician in eastern North Carolina on Weyerhaeuser timberlands assessing the habitat selection of a freshwater turtle.

* Worked independently in remote locations using radio telemetry and quantifying habitat

Undergraduate Researcher Supervisor: Dr. Shea Tuberty

Appalachian State University, Boone, NC Email: tubertysr@appstate.edu

January 2011 – May 2011

I received 4hrs of course credit (BIO 3542) for a research project documenting aquatic recovery and movement of polycyclic aromatic hydrocarbons within stream sediments after a toxic spill.

* Surveyed and identified fish and invertebrates to species

Undergraduate Researcher Supervisor: Dr. Michael M. Gangloff

Appalachian State University, Boone, NCEmail: gangloffmm@appstate.edu

August 2009 – May 2011

I received 3hrs of course credit (HON 4010) for completing an Honors Thesis research project. I examined landscape genetics of a freshwater mussel for evidence of population fragmentation.

* Extracted and analyzed genetic data for evidence of population fragmentation
* Completed population genetic analysis and published results (1 peer-reviewed article)

**Collaboration Skills**

* Partnership-Building
* Clear public speaking
* Facilitation
* Negotiation
* Teamwork
* Reasoning

**Long-Range Planning Skills**

* Self-Management
* Effective writing
* Organization
* Decision Making
* Conciseness
* Flexibility

**Theoretical and Experimental Knowledge Skills**

* Conservation theory
* Ecological theory
* Experimental design
* Statistical analysis
* Data management
* R coding

**PhD Leadership Experience**

Co-lead Negotiator, Coalition of Graduate Employees, OSU 2019-2020

I was responsible for renegotiating the graduate student labor union’s collective bargaining agreement with our employer, OSU. I managed a 25-person bargaining team for negotiations.

President, Coalition of Graduate Employees, OSU 2018-2019

In this elected volunteer position, I represented 1800 graduate employees, supervised 1 full-time and 1 half-time employee, and managed a $400k/yr budget. I facilitated difficult conversations, coordinated events and fundraisers, and participated on hiring committees.

Vice-President of Organizing, Coalition of Graduate Employees, OSU 2017

I was responsible for organizing and facilitating union meetings (5-100 people), growing membership, and creating new ways to address the needs of our diverse graduate employees.

Department Steward, Coalition of Graduate Employees, OSU 2016-2017

As my department’s elected representative, I facilitated communication about work-related concerns and union resources. I participated in quarterly union meetings and founded the Diversity and Inclusion Working Group.

**PhD Affiliations, Outreach, and Trainings**

Society for Freshwater Science, Member 2011-present

Invited reviewer for scientific journals: Global Ecology and Biogeography, 2011-present PeerJ, Aquatic Conservation, Biological Invasions, Austral Ecology

Outreach Committee, Integrative Biology, OSU 2015-2018

Scientist for Grand Canyon Youth; Instructor for Wild about Wildlife,

Discovery Days, Outdoor School, Winter Wonderings; science fair judge

LGBTQ Workshop, Society for Freshwater Science 2017

Implicit Bias Training, OSU 2017, 2019

**First-author Publications**

Abernethy, E., J. Muehlbauer, T. Kennedy, K. Dziedzic, H. Elder, M. Burke, D. Lytle. 2022. Population connectivity of aquatic insects in a hydropeaking, desert river. River Research and Applications https://doi.org/10.1002/rra.3972

Abernethy, E., T. Kennedy, J. Muehlbauer, R. Van Drieshe, D. Lytle. 2021 Hydropeaking intensity and dam proximity limit aquatic invertebrate diversity in the Colorado River Basin. Ecosphere. https://doi.org/10.1002/ecs2.3559

Abernethy, E., I. Arismendi, A. Boegehold, C. Colon-Gaud, M. Cover, E. Larson, E. Moody, B. Penaluna, A. Shogren, A. Webster, M. Woller-Skar. 2019. Diverse, equitable, and inclusive scientific societies: Progress and opportunities in the Society for Freshwater Science. Freshwater Science. https://doi.org/10.1086/709129

Abernethy, E., J. Chappell. 2018. A Tale of Two Rivers. Applied Biodiversity Science Perspectives Series. Texas A&M University Libraries. Available electronically from http://hdl.handle.net/1969.1/172922

Abernethy, E., K. Turner, J. Beasley, O. Rhodes. 2017. Scavenging along an ecological interface: utilization of amphibian and reptile carcasses around isolated wetlands. Ecosphere 8: 10.1002/ecs2.1989

Abernethy, E., K. Turner, J. Beasley, T. DeVault, W. Pitt, O. Rhodes. 2016. Carcasses of invasive species are predominantly utilized by invasive scavengers in an island ecosystem. Ecosphere 7: e01496.10.1002/ecs2.1496

Abernethy, E., K. Turner, J. Beasley, T. DeVault, W. Pitt, O. Rhodes. 2014. Impacts of invasive species on ecosystem energy flow on the big island of Hawai’i: Excuse me but are you going to eat that cane toad? Proceedings of the 26th Annual Vertebrate Pest Conference.

Abernethy, E., E. McCombs, L. Siefferman, M. Gangloff. 2013. Effect of small dams on freshwater mussel population genetics in two southeastern USA streams. Walkerana 16: 21-28.

**Co-author Publications**

Johnson, E., E. Abernethy, C. Colon-Gaud. 2022. Decreasing richness and biomass during a flood pulse observed in a southeastern US coastal floodplain following a multi-year, supra-seasonal drought. Wetlands *(In review)*

Silva, A., R. Speakman, B. Barnes, D. Coyle, J. Leaphart, E. Abernethy, K. Turner, O. Rhodes, J. Beasley, K. Gandhi. 2022. Bioaccumulation of contaminants in Scarabidae and Silphidae beetles at sites polluted by coal combustion residuals and radiocesium. *(In prep)*

The Tropical Rivers Lab. 2021. Reflections on negotiating the science-society relationship together. Open Rivers. https://doi.org/10.24926/2471190X.8273

Sebastián‐González, E. et al. 2021. Functional traits driving species role in the structure of scavenger networks. Ecology. https://doi.org/10.1002/ecy.3519

Sebastián‐González, E. et al. 2020. Network structure of vertebrate scavenger assemblages is driven by ecosystem productivity and human impact at the global scale. Ecography. https://doi.org/10.1111/ecog.05083

Silva, A., B. Barnes, D. Coyle, E. Abernethy, K. Turner, O. Rhodes, J. Beasley, K. Gandhi. 2020. Variations in carrion-associated beetles due to trace elements and radiocesium contaminations and associated disturbance. Science of the Total Environment. https://doi.org/10.1016/j.scitotenv.2019.135158

Sebastián‐González, E. et al. 2019. Scavenging in the Anthropocene: Human impact drives vertebrate scavenger species richness at a global scale. Global Change Biology https://doi.org/10.1111/gcb.14708

Geda, S., N. Lujan, M. Perkins, E. Abernethy, M. Sabaj, M Gangloff. 2018. Multilocus phylogeny of the zebra mussel family Dreissenidae (Mollusca: Bivalvia) reveals a fourth Neotropical genus sister to all other genera. Molecular Phylogenetics and Evolution 127: 1020-1033.

Turner, K., E. Abernethy, L. Conner, O. Rhodes, J. Beasley. 2017. Abiotic and biotic factors modulate carrion date and vertebrate scavenging communities. Ecology 98: 2413-2424.

Unger, S., E. Abernethy, S. Lance, R. Beasley, B. Kimball, T. McAuliffe, K. Jones, O. Rhodes. 2015. Development and characterization of 34 novel polymorphic microsatellite markers for the brown tree snake *Boiga irregularis*. BMC Research Notes 8: 658*.*

Gangloff, M., B. Hamstead, E. Abernethy, P. Hartfield. 2013. Genetic distinctiveness of *Ligumia recta*, the black sandshell, in the Mobile River Basin and implications for its conservation. Conservation Genetics 14: 913-916.

**Select Recent Presentations**

Abernethy, E. “To Bring (or not) Your Whole Self to Work.” PRIDE Employee Resource Group, US Fish and Wildlife Service. July 2022. Live Zoom Presentation.

Abernethy, E. “Tales of Queer Scientists.” InQueery Symposium through Oregon State University. May 2021. Live Zoom Presentation. Recording: https://youtu.be/eb\_UjzbkLsA

Abernethy, E., et al. “How do race and gender influence environmental flows in Florida?” Society for Freshwater Science Conference. May 2021. Recorded Zoom Presentation. Recording: https://youtu.be/EJX38XtxDAk

Abernethy, E. “What are we humans doing? Explorations into who is doing freshwater science and how we are altering waterscapes.” PhD Defense Seminar, Oregon State University. December 2020. Live Zoom Presentation. Recording: https://youtu.be/jubeYlQfuLw

Abernethy, E., et al. “Diverse, equitable, and inclusive scientific societies: Progress and opportunities in the Society for Freshwater Science.” Integrative Biology Seminar Series, Oregon State University, Corvallis, OR. May 2019. Verbal Presentation.

Abernethy, E., et al. "Hydropeaking dams facilitate ecological dominance." Society for Freshwater Science Conference, Detroit, MI. May 2018. Verbal Presentation.

**Interviews**

Terrazas, M. 2021. "Seven decades of environmental research at Savannah River Ecology Lab.” UGA Research.

Nicoletti, A. 2020. “New postdoc is ready to run for the rivers." CASE News.

Lundeberg, S. 2017. “Size matters, and so do temperature and habitat, to scavengers and the carcasses they eat.” OSU News and Research Communications.

Platt, J.R. 2017. "Hawai'i is being overrun by invasive cannibals.” Hakai magazine.

Novak, S. 2017. "Invasive Species in Hawaii are eating everything - even themselves.” Sierra.

Sutton-Jackson, V.L. 2016. "Eat and be eaten: Invasive scavengers in Hawaii alter island nutrient cycle." UGA Today.

**Grants and Awards in Federal Service**

Oregon Conservation and Recreation Fund,

Oregon Department of Fish and Wildlife ($50,000) 2022

**Support and Awards in Academia**

Distinguished Postdoctoral Scholarship, Florida International University ($50,000) 2021

Directorate Fellows Program, US Fish and Wildlife Service ($5,500) 2020

Graduate Teaching Assistantship, Oregon State University ($48,000) 2018 – 2020

Integrative Biology Department Research and Travel Funding ($1,200) 2018 – 2020

Summer Institute in Statistical Genetics Scholarship, University of Washington ($575) 2019

Graduate Research Fellowship, National Science Foundation ($105,000) 2014 – 2019

Yerex Fellowship, Oregon State University ($12,000) 2018

Graduate Travel Award, Oregon State University, Graduate School ($500) 2018

Graduate Research Internship Program, National Science Foundation ($5,000) 2017

Graduate Research Assistantship, University of Georgia ($52,500) 2013 – 2015

Vertebrate Pest Management Conference Travel Award ($500) 2014

Graduate Travel Award, University of Georgia, Odum School of Ecology ($300) 2014

Graduate Travel Award, University of Georgia, Graduate School ($250) 2014

Carolina Society of Environmental Toxicology & Chemistry Poster Presentation Winner 2012

Chancellors Undergraduate Scholarship, Appalachian State University ($78,000) 2007 – 2011

Watson-Brown Undergraduate Scholarship, Watson-Brown Foundation ($12,000) 2007 – 2011

Society for Freshwater Science Endowment Award for Undergraduate Research ($600) 2011

Undergraduate Research Assistantship ($1,000) 2011

Undergraduate Research Grant, Appalachian State University ($500) 2010

Undergraduate Travel Award, Appalachian State University ($300) 2010

**References**

Brendan White, Conservation Partnerships Division Manager Email: brendan\_white@fws.gov

US Fish and Wildlife, Portland, OR

Paul Heimowitz, Regional Invasive Species Coordinator Email: paul\_heimowitz@fws.gov

US Fish and Wildlife, Portland, OR

Dr. David Lytle, Professor Email: lytleda@oregonstate.edu

Oregon State University, Corvallis, OR

Dr. Jeff Muehlbauer, Research Ecologist Email: jmuehlbauer@usgs.gov

US Geologic Survey, Fairbanks, AK