BRYAN B. BOZEMAN, PH.D.

Postdoctoral Research Associate

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Scholar • ResearchGate • LinkedIn

Education

Ph.D.	Integrative Conservation and Forestry & Natural Resources University of Georgia, Athens, Georgia <u>Dissertation</u> : "Fish & Films: Multidimensional Conservation of Freshwater Ecosystems in Southern Appalachia, USA"	2022
M.S.	Forest Resources, Fisheries University of Georgia, Athens, Georgia <u>Thesis</u> : "Velocity, Prey Capture Success, and Microhabitat Selection in Arctic Grayling (<i>Thymallus arcticus</i>)"	2017
B.S.	Honors Geology and Environmental Studies University of Tennessee, Knoxville, Tennessee Thesis: "Spatial Covariation between Distance from Mining Activity and Water Chemistry on East Tennessee's Northern Cumberland Plateau"	2014

Appointments & Research Experience

2022–pres.	Postdoctoral Research Associate , Biodiversity and Ecosystem Health Group, Oak Ridge National Laboratory, Oak Ridge, Tennessee (advisor: P.G. Matson)
	• Investigating the ecological effects of hydropower on freshwater systems to inform ecologically-sound renewable energy production strategies
2017-22	Graduate Research Assistant , Center for Integrative Conservation Research, University of Georgia, Athens, Georgia (advisor: G.D. Grossman)
	• Led research to investigate fish-stream-human relationships in Southern Appalachia, USA, from multiple disciplinary angles across scales of time and space
2021	Consultant, American Rivers, Athens, Georgia
	• Worked with American Rivers' communications and science teams and independent filmmakers to develop, produce, and promote compelling films about America's wild and scenic rivers and river basins
2015–17	Graduate Research Assistant , Warnell School of Forestry & Natural Resources, University of Georgia, Athens, Georgia (advisor: G.D. Grossman)
	• Led research to investigate the foraging behaviour of Arctic Grayling (<i>Thymallus arcticus</i>) and Dolly Varden Charr (<i>Salvelinus malma</i>) from interior Alaska
	• Conducted hundreds of hours of foraging trials in an experimental stream flume to assess fish foraging mechanics in relation to flow
2015	Research Assistant , Trout Unlimited, Knoxville, Tennessee (advisor: J.E. Williams)

- Authored both versions of <u>An Angler's Guide to Water Quality Monitoring</u>, a citizen science water quality monitoring handbook to support angler stewardship of freshwater resources
- 2014 **Research Assistant**, Department of Earth & Planetary Sciences, University of Tennessee, Knoxville, Tennessee (advisor: M.L. McKinney)
 - Conducted research on impacted aquatic ecosystems within the greater Knoxville, TN metro area
 - Projects included water quality monitoring, exploring the use of native mollusks as bioindicators, and mapping mammal activity along urban creek corridors
- 2013–14 **Undergraduate Research Assistant**, United Mountain Defense, Knoxville, Tennessee
 - Collected and analyzed water quality data and conducted primary qualitative research to explore the impacts of acid mine drainage on Cumberland Plateau watersheds and aquatic ecosystems for undergraduate honors thesis
- 2013 **Undergraduate Research Assistant**, Council on International Educational Exchange, Monteverde, Costa Rica
 - Studied tropical ecology and conservation throughout Costa Rica
 - Conducted empirical research to investigate the effects of land use transformation on tropical hummingbird-epiphyte relationships in montane cloud forests

Publications

- 6) **Bozeman, B.B.** & Grossman, G.D. (2024). The Use of Net Energy Intake Models to Predict Microhabitat Selection by Drift-Feeding Fishes: Are Common Assumptions Warranted? In: Lobon-Cervia, J., Budy, P., Gresswell, R. (eds) *Advances in the Ecology of Stream-Dwelling Salmonids*. Fish & Fisheries Series, 44. Springer: <u>https://doi.org/10.1007/978-3-031-44389-3_8</u>.
- 5) **Bozeman, B.B.**, Condit, C.M., & Grossman, G.D. (2022). Do Conservation Films Generate Support for Conservation? A Case Study using Transportation Theory and *Hidden Rivers. Science Communication*, 44(6), 814-842. <u>https://doi.org/10.1177/10755470221141460</u>.
- Gerow, K.G., Bozeman., B.B., & Grossman, G.D. (2021). Response Feature Analysis for Repeated Measures in Ecological Research. *The Bulletin of the Ecological Society of America*, 102(3): e01866. <u>https://doi.org/10.1002/bes2.1866</u>.
- 3) Grossman, G.D., **Bozeman, B.B.**, Sliger, R.W., Simon, T.N., & Matsumoto, G.I. (2020). Open Educational Resource Exercises for Fisheries Classes. *Fisheries*, 46(2): 76-80. <u>https://doi.org/10.1002/fsh.10529</u>.
- 2) **Bozeman, B.B.** & Grossman, G.D. (2019). Foraging behaviour and optimal microhabitat selection in Yukon River Basin nonanadromous Dolly Varden Charr (*Salvelinus malma*). *Ecology of Freshwater Fish*, 28(4): 586-601. <u>https://doi.org/10.1111/eff.12477</u>.
- 1) **Bozeman B.B.** & Grossman G.D. (2019). Mechanics of foraging success and optimal microhabitat selection in Alaskan Arctic Grayling (*Thymallus arcticus*). *Canadian Journal of Fisheries and Aquatic Sciences*, 76(5): 815-830. <u>https://doi.org/10.1139/cjfas-2018-0115</u>.

In Review

Bozeman, B.B., Wenger, S.J., Nibbelink, N.N., & Grossman, G.D. *In Review at Diversity & Distributions*. Landscape and Climatic Influences on Trout Sympatry in Southern Appalachia, USA.

Bozeman, B.B., Matson, P.G., & Pracheil, B.M. *In Review at Reviews in Fish Biology and Fisheries*. The ecological effects of sub-daily flow variability due to hydropower production on riverine fishes: a systematic review.

In preparation

Bozeman, B.B., Matson, P.G., Cameron, A., Chalishazar, V., & Pracheil, B.M. A Review of Instream Flow Requirements from FERC Hydropower Licenses and their Impacts on Operational Flexibility. [Manuscript]

Bozeman, B.B., Matson, P.G., DeRolph, C.R., & DeNeale, S.T. Hydropower Potential – Freshwater Biodiversity Overlap: Evaluating Ecologically-Sound Opportunities for expanding U.S. Hydropower Production. [Manuscript]

Bozeman, B.B. & Matson, P.G. Evaluating Sub-Daily Flow Variability in Hydropeaking, Run-ofriver, and Unregulated Reaches to Assess Hydropower Flexibility Impacts on Flow Regimes. [Manuscript]

Matson, P.G., **Bozeman, B.B.**, DeRolph, C.R., Singh, D., & Oladosu, G. National Fish Passage Database: a database describing fish passage capabilities at U.S. hydropower projects containing information on fish passage facility infrastructure, cost, capabilities, and scheduling. [Dataset]

Bozeman, B.B., Matson, P.G., DeRolph, C.R., & DeNeale, S.T. Continental United States Subbasin Hydropower Potential and Freshwater Biodiversity Dataset: a dataset characterizing non-powered dam and new stream reach development hydropower capacity potential and freshwater biodiversity by subbasin (8-digit hydrologic units). [Dataset]

Research Proposals

Bozeman, B.B. & DeRolph, C.R. (2024). Mapping River Bathymetry and Substrate with Recreation-Grade Sonar. Water Power Technology Office FY24 Seedling Program. \$50K **funded**.

Selected Conference Presentations, Seminars, & Workshops

- The ecological effects of sub-daily flow variability on riverine fishes a systematic review. 15th International Symposium on Ecohydraulics and Fish Passage, Quebec City, Canada
 - Information and engagement session for National Fish Passage Dataset and Cost Analysis Project. US DOE Water Power Technology Office Webinar Series, Virtual
- 2023 The ecological effects of sub-daily flow variability on riverine fishes a systematic review. 153rd American Fisheries Society Annual Meeting, Grand Rapids, Michigan
 - The ecological effects of sub-daily flow variability on riverine fishes a systematic review. Sustainability in Hydropower 2023 Conference, Trondheim, Norway
 - Understanding the ecological effects of hydropower-driven sub-daily flow variability. **Invited speaker** for US Department of Energy Water Power Technologies Office (project sponsor), Virtual
- 2022 Multidimensional Investigations of Freshwater Ecosystems. **Invited seminar** for Biodiversity and Ecosystem Health Group, Oak Ridge National Laboratory, Virtual
 - Searching for Success: Coldwater futures in Southern Appalachia. **Invited speaker** for Pisgah Chapter of Trout Unlimited, Hendersonville, North Carolina
- 2021 Conservation Communication Efficacy: How are films received? Invited speaker for Fuse

Consulting Ltd., Virtual

- Freshwater Conservation in Southern Appalachia. **Invited speaker** for Oconee Chapter of Trout Unlimited, Athens, Georgia
- Assessing the Impact of Conservation Messages. **Invited speaker** for American Rivers Executive Communications Team, Virtual
- 2020 Realism vs. Utility: Evaluating the assumptions of a drift-foraging energetics model for stream fishes. Integrative Conservation Conference, Athens, Georgia
 - Realism vs. Utility: Evaluating the assumptions of a drift-foraging energetics model for stream fishes. Warnell Graduate Student Symposium, Athens, Georgia, **Best Oral Presentation Award**
- 2019 Southern Stream Fish: Communicating Science via Audio and Web Media. Society for Freshwater Science Annual Meeting, Salt Lake City, Utah
 - Social Network Analysis & Georgia Fisheries: A Closer Look at Research Collaborations in ICON 8002. Symposium on Integrative Conservation, Athens, Georgia
- 2018 Storytelling in Science: Crafting your Narrative, a Science Communication Workshop. Integrative Conservation Conference, Athens, Georgia
- 2017 Velocity, Prey-Capture & Microhabitat Selection in Arctic Grayling (*Thymallus arcticus*). Society for Freshwater Science Annual Meeting, Raleigh, North Carolina

Scholarships & Awards

 Pisgah Trout Unlimited William L. Arbuckle Memorial Scholarship (\$1,000) Best Oral Presentation, Warnell Graduate Student Symposium (\$300) Warnell Faculty Graduate Travel Award for Society for Freshwater Science And Meeting (\$500) University of Georgia Graduate School Travel Award for Society for Freshwate Annual Meeting (\$750) University of Georgia Graduate School Communication of Research & Scholars Grant (inaugural recipient, \$1,202) University of Georgia Graduate Student Research Fellowship (est. \$25,000) University of Georgia Graduate Student Research Fellowship (est. \$25,000) 	rces
 Best Oral Presentation, Warnell Graduate Student Symposium (\$300) Warnell Faculty Graduate Travel Award for Society for Freshwater Science Am Meeting (\$500) University of Georgia Graduate School Travel Award for Society for Freshwate Annual Meeting (\$750) University of Georgia Graduate School Communication of Research & Scholars Grant (inaugural recipient, \$1,202) University of Georgia Graduate Student Research Fellowship (est. \$25,000) University of Temperage Pump Edwards Environmental Service Award (insurance) 	
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 2018 University of Georgia Graduate School Communication of Research & Scholars Grant (inaugural recipient, \$1,202) 2015–17 University of Georgia Graduate Student Research Fellowship (est. \$25,000) 2014 University of Tennessee Puen Edwards Environmental Service Award (inaugural) 	er Science
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• University of Tennessee Ryan Edwards Environmental Service Award (maugu- recipient, \$1,000)	ural

Teaching Experience

2021	•	Vertebrate Natural History (WILD/ECOL 3580L) Laboratory Instructor
2020	•	Natural History of Georgia (FANR/GEOG/ECOL 1200) Teaching Assistant
2018–19	•	Ecology (ECOL 3500L) Laboratory Instructor

Overall rating: 99% (94/95) students rated my instructor level as very high (84) or high (10) (1 neutral).

Outreach, Service, & Strategic Communication

2021-22	Conference Chair, 3 rd Annual Integrative Conservation Conference
	President, ICON Network and Cooperative Student Organization
2020-22	• Warnell School of Forestry and Natural Resources Teaching Effectiveness Committee
2020	Organizer, University of Georgia Graduate School Science Communication Workshop (cancelled due to COVID-19)
2018–21	Treasurer, ICON Network & Cooperative Student Organization
2017-18	• Vice President, University of Georgia American Fisheries Society Student Chapter

Strategic Communication

<u>Southern Stream Fish</u>. Multimedia science communication project that tells a story of how fish and humans fit together in a complicated Southern Appalachian landscape with the goal of making science and research more accessible and relevant to nonscientists.

<u>Center for Integrative Conservation Research</u>. Designed, built, and managed the website for the University of Georgia's Center for Integrative Conservation Research. Directed visual design, wrote custom CSS site elements, and implemented content production strategies for a highly trafficked university domain.

Reviewer

• Springer Nature, Scientific Reports, North American Journal of Fisheries Management, Animal Biodiversity and Conservation