

Phillip M. Bumpers

Email: bumpersp@uga.edu

Odum School of Ecology
University of Georgia
Athens, GA 30602

EDUCATION

- 2024 **Ph.D.**, Ecology, Odum School of Ecology, University of Georgia
Advisors: Dr. Amy Rosemond and Dr. Seth Wenger
- 2014 **M.S.**, Ecology, Odum School of Ecology, University of Georgia
Advisor: Dr. Amy Rosemond
- 2010 **B.S.**, Biology, University of Arkansas

RESEARCH AND PROFESSIONAL EXPERIENCE

- 2026-Present **Assistant Research Scientist**, Odum School of Ecology (OSE), University of Georgia, Athens, GA
- 2025- 2026 **Postdoctoral Associate**, OSE, University of Georgia, Athens, GA
Lead interdisciplinary research program to understand causes/consequences of biodiversity declines in the Upper Coosa River, GA, including fish surveys to understand patterns in imperiled fish occurrence
Manage permitting and reporting requirements for state and federal scientific collection permits
Serve as project coordinator of interdisciplinary program quantifying the ecological impact of a large technology park development in GA
Write proposals for extramural funding and lead peer-reviewed publications
Mentor students and supervise research staff
- 2019-2024 **Research Professional III**, OSE, University of Georgia, Athens, GA
Led multiple projects focused on conservation of Upper Coosa River imperiled species
Managed budgets and project deliverables for 4+ concurrent projects
Managed field work, data management, budget for collaborative stream warming project
Prepared manuscripts and reports; co-developed research proposals
Supervised research staff and undergraduates; train and mentor graduate students
- 2014-2018 **Research Professional II**, OSE, University of Georgia, Athens, GA
- 2013-2014 **Graduate Teaching Assistant**, University of Georgia, Athens, GA
- 2011-2013 **Graduate Research Assistant**, OSE, University of Georgia, Athens, GA
- 2010-2011 **Water Quality Lab Technician**, GEI Consultants, Denver, CO
- 2008-2010 **Research Technician**, University of Arkansas, Fayetteville, AR

PUBLICATIONS

Journal publications (**indicates undergraduate 1st author*)

Google Scholar statistics: h-index = 10; i10-index = 10; Citations in 2025: 83; Total citations: 618.

19. Cummins, C.S., A.D. Rosemond, H.M. Halvorson, A.T. Rugenski, N.J. Tomczyk, S.J. Wenger, **P.M. Bumpers**, V. Gulis, P.A. Rogers, J.P. Benstead. 2026. Aquatic insect thermal responses vary by physiological rate and diet. *Freshwater Biology*. In press
18. Chalfin, E.D., **P.M. Bumpers**, C.R. Jackson, S.J. Wenger. 2026. Habitat use of the Etowah bridled darter, a locally endemic fish species. *Environmental Biology of Fishes*. 109:73. <https://doi.org/10.1007/s10641-026-01839-3>
17. **Bumpers, P.M.**, J.P. Benstead, V. Gulis, J.S. Kominoski, J.C. Maerz, D.W.P. Manning, S.J. Wenger, A.D. Rosemond. 2025. Biofilm responses to experimental enrichment of forest streams: light and nutrient interact to increase biomass, and phosphorus alters stoichiometry. *Ecosystems*. 28. <https://doi.org/10.1007/s10021-025-01004-4>
16. Demi, L.M., **P.M. Bumpers**, W.F. Cross, S.L. Eggert, J.S. Kominoski, D.W.P. Manning, A.D. Rosemond, J.B. Wallace, S.J. Wenger, J.P. Benstead. 2025. Resource quantity and quality co-limit consumer production in forest streams. *Ecology*. 106(7), e70163. <https://doi.org/10.1002/ecy.70163>
15. Cummins, C.S., A.D. Rosemond, N.J. Tomczyk, S.J. Wenger, **P.M. Bumpers**, V. Gulis, A.M. Helton, J.P. Benstead. 2024. Temperature dependence of leaf breakdown in streams differs between organismal groups and leaf species. *Ecology*. 105 (10), e4405. <https://doi.org/10.1002/ecy.4405>.
14. Hare, D.K., A.M. Helton, C.S. Cummins, **P.M. Bumpers**, N.J. Tomczyk, P.A. Rogers, S.J. Wenger, E.R. Hotchkiss, A.D. Rosemond, J.P. Benstead. 2024. Litter quality influences how the thermal effect of groundwater modulates current and future leaf litter breakdown phenology in headwater stream networks. *Limnology and Oceanography Letters*. 9: 532-542. <https://doi.org/10.1002/lol2.10423>
13. Freeman, M.C., B. Albanese, **P.M. Bumpers**, M.M. Hagler, A.J. Nagy, B.J. Freeman, S.J. Wenger. 2023. Persistence of native riverine fishes downstream from two hydropower dams with contrasting operations. *Canadian Journal of Fisheries and Aquatic Sciences*. 80:1723-1736. <https://doi.org/10.1139/cjfas-2022-0297>
12. **Bumpers, P.M.**, A.D. Rosemond, D.W.P. Manning, J.S. Kominoski, J.P. Benstead, L.M. Demi. 2023. Experimental nutrient enrichment of forest streams reduces ecosystem nitrogen and phosphorus storage. *Limnology and Oceanography*. 68: 1670-1685. <https://doi.org/10.1002/lno.12376>
11. Tomczyk, N.T., L. Naslund, C. Cummins, E. Bell, **P. Bumpers**, A. Rosemond. 2023. Nonpoint source pollution measures in the Clean Water Act have no detectable impact on decadal trends in nutrient concentrations in U.S. inland waters. *Ambio*. <https://doi.org/10.1007/s13280-023-01869-6>
10. Tomczyk, N.J., A.D. Rosemond, **P.M. Bumpers**, C.S. Cummins, C. Yang, S.J. Wenger. 2022. Differences in respiration rates and abrasion losses may muddle attribution of breakdown to macroinvertebrates versus microbes in litterbag experiments. *River Research Applications*. 38: 1721-1729.
9. Wenger, S.J., E.S. Stowe, K.B. Gido, M.C. Freeman, Y. Kanno, N.R. Franssen, J.D. Olden, N.L. Poff, A.W. Walters, **P.M. Bumpers**, M.C. Mims, M.B. Hooten, X. Lu. 2022. Simple statistical models can be sufficient for testing hypotheses with population time-series data. *Ecology and Evolution*. 12: e9339
8. Prater, C., **P.M. Bumpers**, L.M. Demi, A.D. Rosemond, and P. D. Jeyasingh. 2020. Differential responses of macroinvertebrate ionomes across experimental N:P gradients in detritus-based headwater streams. *Oecologia*. 193: 981-993.
7. Manning DWP, A.D. Rosemond, J.P. Benstead, **P.M. Bumpers**, J.S. Kominoski. 2020. Transport of N 686 and P in U.S. streams and rivers differs with land use and between dissolved and particulate 687 forms. *Ecological Applications*. 30: e02130.
6. Tomczyk, N.J., A. Rosemond, **P.M. Bumpers**, C.S. Cummins, S.J. Wenger, J.P. Benstead. 2020. Ignoring temperature variation leads to underestimation of the temperature sensitivity of plant litter decomposition. *Ecosphere*. 11:e03050
5. *Usher, R.L., J.L. Wood, **P.M. Bumpers**, S.J. Wenger, A.D. Rosemond. 2020. Nutrients stimulate detrital carbon loss across an urbanization gradient. *Freshwater Science*. 39:101-114
4. **Bumpers, P.M.**, A.D. Rosemond, J.C. Maerz, J.P. Benstead. 2017. Experimental nutrient enrichment of forest streams increases energy flow to predators along greener food-web

pathways. *Freshwater Biology*. 62: 1794-1805.

3. Freeman, M.C., M.M. Hagler, **P.M. Bumpers**, K. Wheeler, S.J. Wenger, B.J. Freeman. 2017. Long-term monitoring data provide evidence of declining species richness in a river valued for biodiversity conservation. *Journal of Fish and Wildlife Management*. 8:1-17.
2. Rosemond, A.D., J.P. Benstead, **P.M. Bumpers**, V. Gulis, J.S. Kominoski, D.W.P. Manning, K. Suberkropp, J.B. Wallace. 2015. Experimental nutrient additions accelerate terrestrial carbon loss from stream ecosystems. *Science*. 347:1142-1145.
1. **Bumpers, P.M.**, J.C. Maerz, A.D. Rosemond, J.P. Benstead. 2015. Salamander growth rates increase along an experimental stream phosphorus gradient. *Ecology*. 96:2994-3004.

Articles in review or advanced stages of preparation

- Bumpers, P.M.**, S.J. Wenger, A.D. Rosemond, M.C. Freeman, J.P. Benstead, S.L. Eggert, J.B. Wallace. Climate versus resource-driven variation of a stream invertebrate community. In revision, *Ecosphere*.
- Conn, C.C., **P.M. Bumpers**, M.C. Freeman, S.K. McKay, A.D. Rosemond, S.J. Wenger. Antecedent flow conditions drive patterns of primary producer biomass in a mid-sized temperate river. In prep.

Conference proceedings

- Manning, DWP, R. Brown, **P.M. Bumpers**, B. Giri, S.K. McKay. 2015. Long-term citizen-led monitoring detects biological responses to an acute toxicity event in Trail Creek, Athens, GA, USA. McDowell RJ, CA Pruitt, RA Bahn (eds.), Proceedings of the 2015 Georgia Water Resources Conference, University of Georgia, Athens.

Book chapters

- Rosemond, A.D., **P.M. Bumpers**, S.L. Eggert, and M.J. Paul. 2021. Chapter 14: Ecoregion 8.4.4 Blue Ridge: Coweeta Hydrologic Laboratory, North Carolina. In. Biological responses to stream nutrients: a Synthesis of science from experimental forests and ranges. Ryan, Douglas F, ed. .Gen Tech. Rep. PNW GTR_981. Portland, OR: U.S. Department of Agriculture, forest Service. Pacific Northwest Research Station. 522p.

Datasets

- Bumpers, P.M.** 2025. W53 Temporal Community Turnover [Data set].
Zenodo. <https://doi.org/10.5281/zenodo.16782374>
- Bumpers, P.M.** 2025. bumpersp/Biofilm-nutrientenrichment [Data set].
Zenodo. <https://doi.org/10.5281/zenodo.16414999>
- Bumpers, P.M.**, D. Hare. 2024. Coweeta Creek Watershed Organic Carbon Sampling 2017-2019, HydroShare, <http://www.hydroshare.org/resource/96373768e610437087e1d414e101fbb0>
- Cummins, C.S., **P.M. Bumpers**. 2023. Data and data analysis for consumer group and leaf species alter the Temperature dependence of leaf litter breakdown. Hydroshare.
<http://www.hydroshare.org/resource/c622182c293f4491a8b334bca7b75f4e>

Non-peer reviewed technical reports

- Bumpers, P.M.**, A. Blalock, S. Wenger, B. Freeman. 2025. Assessing status of aquatic species in the Conasauga River system. Final report to GA Department of Natural Resources. October 2025.
- Bumpers, P.M.**, A. Blalock, A. Escobar, B. Albanese, C. Vargas, S. Wenger. Ecological conditions in the Holly Creek Watershed: Years 6-8. Final report to National Fish and Wildlife Foundation. September 2025.
- Bumpers, P.M.**, M. Hallmark, B.J. Freeman. 2024. Assessing status of aquatic species in the Conasauga River system. Final report to the GA Department of Natural Resources. April 2024.

- Bumpers, P.M.** M. Hallmark, B.J. Freeman. 2022. Assessing persistence of federally listed and petitioned fishes and baseline ecological conditions in the upper Etowah River system. Final report to GA Department of Natural Resources. October 2022.
- Bumpers, P.M.**, A. Escobar, B. Albanese, M. Hallmark, M. Martinez, S. Wenger. Ecological conditions in the Holly Creek Watershed. Report to National Fish and Wildlife Foundation. September 2021.
- Bumpers, P.M.**, M. Hallmark, M. Martinez, B.J. Freeman. 2021. Assessing status of aquatic species in the Conasauga River system. Final Report to Georgia Department of Natural Resources, September 2021.
- Bumpers, P.M.** and B. J. Freeman. 2020. Assessing persistence of federally listed and petitioned fishes and baseline ecological conditions in the upper Etowah River System. Final Report to Georgia Department of Natural Resources, December 2020
- Bumpers, P.**, A. Popp, S.J. Wenger. 2019. Ecological conditions in the Holly Creek Watershed. Final Report to National Fish and Wildlife Foundation. November 2019.
- Bumpers P.M.**, J. Skaggs and B. J. Freeman. 2019. Assessing the status and trends of fishes and water quality in the Conasauga River. Final Report to Georgia Department of Natural Resources. May 2019.
- Freeman, B.J. and **P.M. Bumpers**. 2018. Development of an eDNA protocol for the Coosa Madtom, *Noturus* sp. cf. *munitus*. Report to Georgia Department of Natural Resources, December 2018.
- Bumpers, P.M.**, and B. J. Freeman. 2017. Assessing causes of decline of aquatic species in the Conasauga River system. Final report to Georgia Department of Natural Resources, December 2017.
- Bumpers, P.M** and B. J. Freeman. 2016. Assessing the status and trends of fishes and water quality in the Etowah River. Final Report to Georgia Department of Natural Resources, December 2016.
- Freeman, B. J., M.M. Hagler, and **P. M. Bumpers**. 2015. Assessing Causes of decline of aquatic species in the Conasauga River system. Final Report to Georgia Department of Natural Resources, December 2015.

GRANTS & CONTRACTS

*Prior to receiving a PhD, I could not submit grants as a PI. Thus, I have denoted grants in which I drafted the proposal as lead or co-PI but was not listed as a PI on the submitted proposal.

17. USDA NRCS to **P. Bumpers** (Lead PI), N. Gaur, S. Wenger. 2026. From Tiles to Tributaries: Using saturated buffers for nutrient management to improve drainage water quality, increase farmable acreage, and improve habitat for federally listed aquatic species. UGA: \$768,442. Subaward from Limestone Valley RC&D. Pending.
16. US Department of Interior. S. Wenger, **P. Bumpers**, M. Chambers. Mapping shoal habitat in the Coosawattee River. \$49, 970. Pending.
15. GA Department of Natural Resources to **P. Bumpers** (Lead PI), S. Wenger. 2026. Assessing persistence of federally listed species and petitioned species of fishes in the Etowah River system and baseline ecological conditions in the upper Etowah River System, 2026 assessment. \$37,000. Pending.
14. National Fish and Wildlife Foundation to **P. Bumpers** (Lead PI), P. Hazelton, S. Wenger. C. Atkinson. 2026-2028. Stocking Alabama rainbow and comprehensive monitoring of endemic native fishes and mussels in the Conasauga River. Total award. \$369,947.64; UGA: \$268,100.
13. Grady Co, GA to S. Wenger, **P. Bumpers** (Co-PI). 2025-2028. Assessment of water quality and quantity conditions in Tired Creek Lake, Grady Co, GA. \$76,874.

12. *National Fish and Wildlife Foundation via GA Department of Natural Resources. PIs: B. Albanese, S. Wenger, **P. Bumpers**, A. Escobar. 2025-2027. Holly Creek Fish Sampling Surveys and Report-Years 7-8. UGA: \$64,148.
11. *GA Department of Natural Resources to B. Freeman, S. Wenger, **P. Bumpers** (Key personnel). 2024-2026. Assessing status of aquatic species in the Conasauga River system. \$31,000.
10. *GA Department of Natural Resources to B. Freeman, S. Wenger, **P. Bumpers** (Key personnel). 2024-2025. Assessing status of aquatic species in the Conasauga River system. \$30,000.
9. *Georgia Water Resources Institute to S. Wenger, **P. Bumpers**, B. Freeman. 2024-2025. Evaluating longitudinal declines in water quality in the Conasauga River using aquatic macroinvertebrates: Year 2. \$20,995.
8. *National Fish and Wildlife Foundation via GA Department of Natural Resources. PIs: B. Albanese, S. Wenger, **P. Bumpers**, A. Escobar. 2023-2024. Holly Creek fish Sampling Surveys and Report Years 6-7. UGA: \$54,374.
7. *Georgia Water Resources Institute to S. Wenger, **P. Bumpers**, B. Freeman. 2023-2024. Evaluating longitudinal declines in water quality in the Conasauga River using aquatic macroinvertebrates. \$20,854.
6. *GA DNR to B. Freeman, S. Wenger, **P. Bumpers** (Senior personnel). 2022-2023. Assessing status of aquatic species in the Conasauga River system. \$32,000.
5. *National Fish and Wildlife Foundation to S. Wenger, B. Bledsoe, B.J. Freeman, **P. Bumpers** (key personnel), A. Escobar. 2022-2024. Nature-based restoration of Conasauga River Shoals. \$204,392.
4. *Georgia Water Resource Institute to S. Wenger, B.J. Freeman, **P.M. Bumpers**. 2022-2023. Assessing dissolved oxygen concentrations in the Conasauga River. \$17,996.
3. *National Fish and Wildlife Foundation via GA Department of Natural Resources. PIs: B. Albanese, S. Wenger, **P. Bumpers**, A. Escobar. 2019-2020. Holly Creek fish Sampling Surveys and Report-Years 4-5. UGA: \$58,031.
2. *Georgia Water Resource Institute to S. Wenger, A.D. Rosemond, J. Dowd, **P.M. Bumpers**. 2018-2019. Developing real-time sensor networks for monitoring stream water quality to improve water resource management Year 2. (\$17,997).
1. *Georgia Water Resource Institute to S. Wenger, A.D. Rosemond, J. Dowd, **P.M. Bumpers**. 2017-2018. Developing real-time sensor networks for monitoring stream water quality to improve water resource management. (~\$18,000).

MENTORING AND ADVISING

Supervision of graduate student research

2026-present: Emily Chalfin (PhD. Ecology, UGA; co-advisor)

2026-present: Alivia Mayes (M.S. Ecology, UGA; co-advisor)

Graduate Student Committee membership

2025-Present: Sara Mateo Ozorio (M.S. Ecology, UGA)

Undergraduate mentorship

Academic credit

Emma Mainer (2025); Jessica Mitchell (2020-2022; 4 semesters of academic credit; co-directed senior thesis); Ashley Boston (2018); Noah Felsberg (2017); Callie Manna (2016-2017); Emma Spiegel (2017)

NSF Research Experience for Undergraduates

Maggie England, 2018

Garrett Frandson, 2016

Young Dawgs Program, University of Georgia

Alexander Nichols, 2013

Provided ecology field and lab experience, discussed ecological literature, and career mentoring.

TEACHING EXPERIENCE

Teaching Experience

2020 Guest lecturer, Freshwater Ecosystems (ECOL 4310/6310), Odum School of Ecology.
2019 Guest lecturer, Ecology, ECOL 3500, Odum School of Ecology.
2018 Freshwater Ecosystems (ECOL 4310/6310), University of GA. Listed as co-instructor on syllabus. Lead instructor: Dr. Alan Covich. Lectured on stream ecosystems. Helped develop exams.
2013-2014 Graduate Teaching Assistant, BIOL 1108, University of Georgia. Writing-intensive organismal biology lab for majors. Designed lecture and lab discussions based on core guidelines for the class. Developed and administered exams.

Pedagogical training

2013 Pedagogy of Writing-intensive courses, University of Georgia
2013 Graduate Seminar in teaching, University of Georgia

HONORS AND AWARDS

Odum School of Ecology, Meyer-Helfman Graduate Travel Award, Spring 2024
Odum School of Ecology Graduate Student Symposium Presentation Award: 2nd Place 2013
Odum Endowment Research Grant, Fall 2012
Odum Endowment Research Grant, Spring 2012
Arkansas Game and Fish Commission Scholarship, 2006-2010

PROFESSIONAL PRESENTATIONS

Invited Presentations

U.S. EPA Nutrient Pollution Science Seminar Series. Nutrient enrichment changes energy flow pathways in headwater streams. 14 June 2018.

Selected Conference Presentations

> 50 total presentations. 16 first author presentations. *indicates undergraduate 1st author.

P.M. Bumpers, M.C. Freeman, B. Freeman, S. Wenger. 2026. Quantifying the effects of interannual variation in flow and temperature on the abundance of fishes in two biodiverse southern Appalachian Rivers. Society for Freshwater Science Annual Meeting. Spokane, WA.

- Blalock, A., **P.M. Bumpers**, B.J. Freeman, S. Wenger. 2026. Spatiotemporal trends in nutrients in two biodiverse rivers. Society for Freshwater Science Annual Meeting. Spokane, WA.
- Wenger, S., C. van Rees, **P. Bumpers**, E. Walther, A. Fowler, L. Rack, M. Freeman, S. Stowe. 2026. Opportunities for accelerating flow regime restoration. Society for Freshwater Science Annual Meeting. Spokane, WA.
- Vargas, C., A.D. Rosemond, S. Wenger, **P. Bumpers**. 2025. Using macroinvertebrate functional traits to support rare species conservation in the Conasauga River Basin (GA, USA). Society for Freshwater Science. Puerto Rico.
- Blalock, A., **P.M. Bumpers**, S. Wenger, B. Freeman. 2025. Long-term trends in nutrient concentrations in the Etowah and Conasauga Rivers: Monitoring two biodiverse rivers to support imperiled aquatic species. Georgia Water Resources Conference. Athens, GA.
- Bumpers, P.M.**, M. Chambers, B. Bledsoe, B. Freeman, M. Freeman, S. Wenger. 2025. Harnessing positive interactions: Testing nature-based restoration to achieve conservation outcomes in the Conasauga River. Georgia Water Resources Conference. Athens, GA.
- Bumpers, P.M.**, S. Wenger, A. Rosemond, J.P. Benstead, M. Freeman, S. Eggert, B. Wallace. 2024. Climate-versus resource-driven variation in a southern Appalachian stream invertebrate community. Society for Freshwater Science. Philadelphia, PA.
- Rosemond, A.D., **P.M. Bumpers**, J.S. Kominoski, J.P. Benstead, V. Gulis, J.C. Maerz. 2024. Assessing algal response metrics in forested streams: How much, how, and when do benthic algae respond to enrichment? Society for Freshwater Science. Philadelphia, PA.
- Bumpers, P.M.**, S.J. Wenger, M.C. Freeman, B.J. Freeman. 2022. Multi-pronged approach to fish conservation in the Conasauga River basin. Southeastern Fishes Council Annual Meeting. Athens, GA.
- *Mitchell, J.M., **P.M. Bumpers**, A.D. Rosemond. 2022. Observing leaf pack-associated macroinvertebrate community shifts due to experimental stream warming. Joint Aquatic Sciences Meeting. Grand Rapids, MI.
- Bumpers, P.M.**, S. Wenger, A.D. Rosemond, J.P. Benstead, M. Freeman, S. Eggert, J.B. Wallace. 2021. Climate-driven variation in a southern Appalachian stream invertebrate community differs by habitat type. Society for Freshwater Science Annual meeting.
- Bumpers, P.M.**, S. Wenger, A.D. Rosemond, J.P. Benstead, M.C. Freeman, J.B. Wallace. 2020. Using long-term data to assess the effects of climate variation on stream invertebrate community structure. ASLO-SFS Joint Meeting 2020. Madison, WI. Cancelled due to COVID-19 Pandemic. Abstract published.
- Bumpers, P.M.** A. Popp, M.C. Freeman, S.J. Wenger. 2019. Establishing a fish and mussel monitoring program in the Holly Creek Watershed. Georgia Water Resources Conference. Athens, GA.
- *Usher, R., **P.M. Bumpers**, A.D. Rosemond, J. Wood, S.J. Wenger. 2018. Stoichiometry of standardized wood substrates is an effective tool for detecting nutrient pollution in streams. Society for Freshwater Science Annual meeting, Detroit, MI, USA. Presenting author. Poster.
- *Bell, M., CC. Conn., **P.M. Bumpers**, A.D. Rosemond. 2018, April. What are Aquatic Plants Made of? Determining Elemental Content of Podostemum ceratophyllum. Center for Undergraduate Research Opportunities Symposium. Athens, GA.
- Bumpers, P.M.**, M.C. Freeman, M.M. Hagler, B.J. Freeman, S. J. Wenger. 2017. High summer flows correlate with lower population growth of shoal fishes in the current year, but higher growth in the next year. Southeastern Fishes Council annual meeting, Chattanooga, TN, USA.
- Bumpers, P.M.**, A.D. Rosemond, J.P. Benstead, L. Demi, J.S. Kominoski, J.C. Maerz, D.W.P. Manning. 2017. A little bit of algae goes a long way: Nutrient enrichment stimulates algal growth in heavily shaded streams. 63rd Annual Society for Freshwater Science Annual meeting, Raleigh, NC, USA.
- *Frandsen, G., A.D. Rosemond, **P.M. Bumpers**. 2017. Predicting warming effects on litter breakdown rates using forested and urban streams. 63rd Annual Society for Freshwater Science Annual meeting, Raleigh, NC, USA.
- Johnson, E.M., S.J. Wenger, A.D. Rosemond, **P.M. Bumpers**. 2017. Testing the efficacy of patterns in conductivity as a tool for watershed management. 63rd Annual Society for Freshwater Science Annual meeting, Raleigh, NC, USA.

- *Usher, R. A.D. Rosemond, J. Wood, **P.M. Bumpers**. 2016. Determining how streams “work” in cities: nutrients associated with watershed urbanization stimulated microbial respiration and breakdown of C. 62nd Annual Society for Freshwater Science meeting, Sacramento, CA, USA.
- Bumpers, P.M.**, D.W.P. Manning, A.D. Rosemond, B. Giri. 2017. Long-term trends in the Upper Oconee watershed using the Upper Oconee Watershed Network’s citizen-science data. Georgia Water Resources Conference. Athens, GA. Presented on behalf of Upper Oconee Watershed Network.
- Johnson, E.J, S.J. Wenger, A.D. Rosemond, **P.M. Bumpers**. 2017. Conductivity as an indicator of disturbance and tool for watershed management. Georgia Water Resources Conference. Athens, GA.
- Bumpers, P.M.** J. Spencer, S. Wenger, A.D. Rosemond. 2016. Temporal patterns and drivers of conductivity in urban Piedmont streams of Georgia, USA. 62nd Annual Society for Freshwater Science meeting, Sacramento, CA, USA.
- Bumpers, P.M.**, A.D. Rosemond, J.C. Maerz, J. P. Benstead. 2015. Experimental nutrient enrichment of headwater streams alters foodweb pathways to larval salamanders. 61st Annual Society for Freshwater Science Meeting, Milwaukee, WI, USA
- Bumpers, P.M.**, A.D. Rosemond, J.C. Maerz, J. P. Benstead. 2014. Larval salamanders shift diet in response to experimental nutrient enrichment. Joint Aquatic Sciences Meeting, Portland, OR, USA.
- Bumpers, P.M.**, Maerz, J.C., Rosemond, A.D., Benstead, J.P., Kominoski, J.S. 2013. Nutrient enrichment of detritus-based headwater streams stimulates growth of a vertebrate top predator. Society for Freshwater Science, Jacksonville, FL.
- Bumpers, P. M.**, Rosemond, A.D., Maerz, J.C., Kominoski, J.S., Benstead, J.P. 2012. Predicting effects of differing N:P enrichment ratios on two larval salamander species based on diet composition, life history, and stoichiometry. Society for Freshwater Science, Louisville, KY. Poster.
- ***Bumpers, P.M.**, Evans-White, M.A. 2010. Ecosystem metabolism responses to flood events in Ozark Highlands forested, urban and agricultural streams. North American Benthological Society, Santa Fe, NM. Poster.

SERVICE

Journal reviews

Hydrobiologia, Freshwater Biology, Freshwater Science, Ecological Indicators

Grant reviews (Ad-hoc)

2026: Connecticut Institute of Water Research. External reviewer of USGS 104b proposal.

OUTREACH

Invited guest speaker, Oconee Rivers chapter, Trout Unlimited, Monthly membership meeting. Athens, GA. June 2024

Member, Partnership for the Upper Coosa, 2018-present

Provide expertise on conservation of imperiled fishes in the Upper Coosa River

Present UGA-based research at semi-annual symposiums

Invited guest speaker, Etowah River Alliance, Annual Member Appreciation Banquet, Canton, GA, April 2022

Board Member and Science Chair, Upper Oconee Watershed Network, Aug 2015-December 2020

Planned and organized quarterly water quality monitoring events

Analyzed data, submitted local policy statements

Science and Monitoring Committee, Upper Oconee Watershed Network, Athens, GA: Aug 2013-2020

Watershed Science classroom educator, EcoReach, Barrow Elementary, Athens, GA, Feb 2014

Volunteer, Environmental Science Merit Badge Day, EcoReach, Odum School of Ecology, Athens, GA March 2013, 2015

MEDIA

- Baxter, S. 2025. Monitoring aquatic systems: How science drives waterway management in northwest Georgia. Environmental Monitor. (9 July 2025). <https://www.fondriest.com/news/monitoring-aquatic-ecosystems-how-science-drives-waterway-management-in-northwest-georgia.htm>
- Georgia Magazine, November 2023. Parts of the Clean Water Act not effective in controlling nutrient pollution. <https://www.newswise.com/articles/parts-of-clean-water-act-not-effective-in-controlling-nutrient-pollution>.
- Shearer, L. 2017. Athens streams show 15-year decline; leaky sewers, runoff likely culprits. (2 May 2017). <http://onlineathens.com/local-news/2017-05-02/athens-streams-show-15-year-decline-leaky-sewers-runoff-likely-culprits>
- Shearer, L. 2016. Health of Athens streams declining, monitor finds (2 October 2016). <http://onlineathens.com/local-news/2016-10-02/health-athens-clarke-streams-declining-monitors-find>

Media coverage related to our 2015 Science publication:

Our 2015 *Science* paper was covered by at least 11 media outlets, including NSF, Science Daily, WUGA, and multiple local and regional news providers around the nation.

PROFESSIONAL SKILLS SUMMARY

Fish identification (proficient in identification of fishes in the Coosa River basin)

Proficiency with aquatic macroinvertebrate identification

Experience conducting research on stream salamanders

Federal and state scientific collection permitting and reporting

Proficiency with a range of linear regression modeling, MARSS models, community analyses including NMDS, and temporal turnover, ANOVA, and other frequentist statistical approaches in *R*

Proficiency with database management in *R*, Filemaker, Excel

Proficiency with geographic information systems, particularly ArcGIS and ArcPro

Proficiency with various aquatic ecology field and lab research methods (e.g., nutrient and isotopic analysis, data sondes)

Certifications: Wilderness and Remote First Aid; CPR

PROFESSIONAL AFFILIATIONS

Society for Freshwater Science, Southeastern Fishes Council, Partnership for the Upper Coosa