

Curriculum Vitae for Byron J. Freeman

Georgia Museum of Natural History
University of Georgia
Athens, Georgia
Cell: (706) 201-9814
Work: (706) 542-1663
Email: budfree@uga.edu

Research Activities and Objectives

Efforts focus on measuring, describing and preserving native species diversity and animal abundance in southeastern streams and rivers, in service to resource managers and community planners, as well as providing training in applied ecology. Primary activities involve describing distributions and abundances of fishes endemic to southeastern systems, in the context of preserving species diversity and function in streams and rivers increasingly affected by human population development. Associated activities include the use of remote sensing and other technologies to quantify basin characteristics in southeastern watersheds harboring remnant endemic communities, and systematics and taxonomy of southeastern freshwater fishes. On a daily basis I serve as an expert point of contact for federal (U.S. Fish and Wildlife Service, U. S. Geological Survey, U. S. Army Corps of Engineers, U. S. Environmental Protection Agency) and state (Georgia Department of Natural Resources, GA Department of Transportation, Tennessee Wildlife Resources Agency) resource management and regulatory agencies, community governments and private consultants. Ongoing projects include investigation of effects of water supply development on threatened and endangered species, studies of systematics and recovery of threatened populations of catostomid fishes, and development of distributional databases of fishes in the Apalachicola and Mobile Basins in Georgia. My research and service activities provide opportunities for undergraduate and graduate student involvement in conservation related projects.

Personal

Birthplace—28 July 1950, Newnan, GA
Address—1061 Bud Freeman Road, Royston, Georgia 30662

Education

Ph. D. Zoology—1980 University of Georgia, Athens, Georgia
MS. Biology—1974 Samford University, Birmingham, Alabama
BS. Microbiology—1972 University of Georgia, Athens, Georgia

Current Professional Experience

Senior Public Service Associate 2001 to present, Odum School of Ecology

Previous Professional Experience

Director and Curator of Zoology 2004 to 2024, Georgia Museum of Natural History
Assistant Director and Curator of Zoology 2002 to 2003, Georgia Museum of Natural History
Curator of Zoology 2000 to 2002 Georgia Museum of Natural History
Assistant Research Scientist—1987 to 2001 Institute of Ecology
Acting Curator Vertebrates—1997 to 2000 Georgia Museum of Natural History, University of Georgia
Research Associate and Data Manager—1982-1986 Okefenokee Ecosystems Investigations, Institute of Ecology
Research Associate—1981 Museum of Natural History, University of Georgia
Assistant Project Director—1979 to 1980 Endangered Species Investigations, Museum of Natural History, UGA
Assistant Curator of Zoology—1976 to 1978 Museum of Natural History, University of Georgia
Research and Teaching Assistant—1974 to 1976 Department of Zoology, University of Georgia
Laboratory Instructor—1972 to 1973 Department of Biology, Samford University, Birmingham, Alabama

Previous Contracts and Grants

- 1980-83. Status survey of the trispot darter and the amber darter. Contract from USFWS. Contract No 14-16-0004-81-048. Byron J. Freeman – PI.
1985. Status survey of the trispot darter. Contract from USFWS Unit cooperative agreement No: 14-16-0009-1551. Byron J. Freeman – PI.
- 1987-1990. Development of an ecological risk assessment database. U.S. Environmental Protection Agency. Byron J. Freeman – PI.
- 1987-1990. Survey of selected freshwater sites at Cape Romain National Wildlife Refuge, in relation to air quality. U.S. Fish and Wildlife Service. Byron J. Freeman – PI.
- 1987-1991. Population and life history studies on the amber darter and the Conasauga logperch. Georgia Department of Natural Resources and Tennessee Wildlife Resources Agency. Byron J. Freeman – PI.
1990. Survey of fishes of the Tallapoosa and Little Tallapoosa River systems in Georgia. Georgia Department of Natural Resources. Byron J. Freeman – PI.
- 1992-1993. Identification of Chattahoochee River fishes. Georgia Department of Natural Resources. Byron J. Freeman - PI.
1993. Fishes of the Apalachicola basin. 6 months. U.S. Geological Survey. Byron J. Freeman - PI.
- 1991-1994. Population and life history studies on the amber darter and the Conasauga logperch. 3 years. Tennessee Wildlife Resources Agency. Byron J. Freeman - PI.
- 1991-1995. Studies of air quality and amphibian populations at Cape Romain National Wildlife Refuge. U.S. Fish and Wildlife Service. Byron J. Freeman - PI.
- 1994-1996. Studies on spawning behavior and early development of the amber darter and Conasauga logperch. Georgia Department of Natural Resources. Byron J. Freeman - PI.
- 1994-1996. Status of the undescribed Halloween darter in the ACF basin. U. S. Fish and Wildlife Service. Byron J. Freeman - PI. \$11,000.
- 1994-1999. Threat Analysis and Solution Development for the Conasauga River of Tennessee and Georgia— Identification and Mapping of Critical Habitats in the Conasauga River Corridor. Tennessee Wildlife Resources Agency, Georgia Department of Natural Resources. Byron J. Freeman - PI. \$62,000.
1994. Identification of Oconee River fishes. Georgia Department of Natural Resources. Byron J. Freeman - PI.
- 1995-1996. Culture Techniques and Ecological Studies of the Robust Redhorse *Moxostoma robustum*. C. A Jennings, J. L. Shelton Jr, B. J. Freeman and G. L. Looney. Co-PIs Georgia Power Company.
- 1995-1996. Suspended sediments and Georgia's fishes: an analysis of existing information. J. L. Meyer, and B. J. Freeman. Co-PIs. USDI-USGS Ga Wat Res Prog.
- 1995-1998. Status of the goldline darter in the Coosawattee River system. 3 years. Georgia Department of Natural Resources. Byron J. Freeman - PI. \$46,500.
- 1995-1998 Identification and Mapping of Critical Habitats in the Etowah River Corridor. 3 years. Georgia Department of Natural Resources. B. J. Freeman - PI. \$46,500
- 1996-1999 Status of the introduced population of the robust redhorse in the Broad River system, Georgia. 3 years. Georgia Department of Natural Resources. B. J. Freeman - PI. \$55,300.
- 1997-1998. Survey of threatened and endangered fishes in the Oostanaula, Coosawattee and Etowah Rivers. U. S. Fish and Wildlife Service. Byron J. Freeman - PI. \$52,300.
- 1997-1998. Ecological studies on the robust redhorse (*Moxostoma robustum*) in the Oconee and Broad River systems, Georgia. US Fish and Wildlife Service. Byron J. Freeman - PI. \$65,000.
- 1997-1998. Effects of sedimentation on biodiversity in rivers and streams of the southeastern United States. J.L. Meyer, and B. J. Freeman. Co-PIs. USDI-USGS Ga Wat Res Prog.
- 1997-2000. Status of the Asian rice eel, *Monopterus albus*, in the Chattahoochee River system, Fulton County, Georgia. Byron J. Freeman - PI. \$30,000.
1997. Preparation of accounts for aquatic species for A Guide to Protected Animals. Georgia Department of Natural Resources. Byron J. Freeman - PI. \$11,000.
- 1999-2000. Study and production of prioritized list of Etowah watershed streams for restoration and preservation, based on location of listed fish/species of concern populations. US Fish and Wildlife Service. Byron J. Freeman - PI. \$20,500

- 1999-2000. Identification and Mapping of Critical Habitats in the Etowah River Corridor. Georgia Department of Natural Resources. Byron J. Freeman - PI. \$21,500
- 1999-2000. Status of the introduced population of the robust redbreast in the Broad River system, Georgia. Georgia Department of Natural Resources. Byron J. Freeman - PI. \$18,554.
- 1999-2000. Threat Analysis and Solution Development for the Conasauga River of Tennessee and Georgia. Identification and Mapping of Critical Habitats in the Conasauga River Corridor. Georgia Department of Natural Resources. Byron J. Freeman - PI. \$21,500
- 1999-2000. Studies on in stream flow requirements for Georgia streams and rivers. Georgia Department of Natural Resources. Byron J. Freeman - PI. \$14,000.
- 1998-2002. Land Use and Geomorphic Indicators of Biotic Integrity in Piedmont Streams. U. S. Environmental Protection Agency. D. S. Leigh, B. J. Freeman, M. C. Freeman, E. A. Kramer, C. M. Pringle, and A. D. Rosemond. Co-PIs. \$781,000.
- 2000-2001. Conservation status and life history aspects of benthic, spring, and large river fishes in the upper Coosa River System, Georgia and Tennessee. N.M.Burkhead, H. L. Jelks, S. J. Walsh, M. C. Freeman[USGS], B. J. Freeman [UGA], C S Skelton [GDNr] \$79,960. multi-agency cooperator proposal submitted to USGS-BRD Species at Risk Program.
- 2001-2002. Assessing conservation improvements in the Conasauga River System of Georgia and Tennessee. Georgia Department of Natural Resources. Byron J. Freeman - PI. \$21,000
- 2001-2002. Assessing baseline ecological conditions in the Upper Etowah River system of Georgia. Georgia Department of Natural Resources. Byron J. Freeman - PI. \$22,000.
- 2001-2002. Assessing distributions of fishes and mussels in the upper Mobile River Basin in Georgia. Georgia Department of Natural Resources. Byron J. Freeman - PI. \$20,650.
- 2001-2002. Conservation status of fish and other aquatic resources in the upper Tallapoosa River system, Georgia and Alabama. US Fish and Wildlife Service. Byron J. Freeman - PI. \$25,967.
- 2001-2002. Development of a Habitat Conservation Plan for Imperiled Aquatic Species of the Upper Etowah River Basin. Georgia Department of Natural Resources. Laurie Fowler and Byron J. Freeman Co-PIs. \$158,050.
- 2000-2003. Status surveys for frecklebelly madtom and freckled darter in the Etowah River watershed. US Fish and Wildlife Service. Byron J. Freeman - PI. \$23,667.
- 2000-2003. Water withdrawals in the Upper Conasauga and Etowah River Basins: Are they a threat to recovery of listed aquatic species? US Fish and Wildlife Service. Byron J. Freeman - PI. \$20,000.
- 2002-2003. Responses of aquatic fauna to cumulative effects. Byron J. Freeman, PI. USDA Forest Service \$40,000.
- 1999-2004. Threat Analysis and Solution Development for the Conasauga River of Tennessee and Georgia. Identification and Mapping of Critical Habitats in the Conasauga River Corridor. Tennessee Wildlife Resources Agency. Byron J. Freeman - PI. \$62,000.
- 2003-2004. Development of a Habitat Conservation Plan for Imperiled Aquatic Species of the Upper Etowah River Basin. Georgia Department of Natural Resources. Laurie Fowler and Byron J. Freeman Co-PIs. \$281,934.
- 2001-2004. Aquatic Gap: Regional analysis of biodiversity in the ACT/ACF basins. US Geological Survey. James. T. Petersen, Byron J Freeman, Elizabeth A. Kramer Co-PIs. \$248,000.
- 2003-2004. Assessing baseline ecological conditions in the upper Etowah River system. Georgia Department of Natural Resources. B. J. Freeman P.I. \$22,000.
- 2003-2004. Effects of surface water withdrawals and water supply reservoirs on stream fish assemblages in the Georgia Piedmont during non-drought. Georgia Department of Natural Resources. B. J. Freeman and M. C. Freeman [USGS] Co-PIs. \$43,869.
- 2004-2005. Assessing conservation improvements in the Conasauga River system. Georgia Department of Natural Resources. B. J. Freeman P.I. \$25,000.
- 2004-2005. Assessing baseline ecological conditions in the upper Etowah River system. Georgia Department of Natural Resources. B. J. Freeman P.I. \$30,000.
- 2004-2005. Development of a Habitat Conservation Plan for Imperiled Aquatic Species of the Upper Etowah River Basin. Georgia Department of Natural Resources. Laurie Fowler and Byron J. Freeman Co-PIs. \$355,634.
- 2000-2005. Ecological importance and conservation status of river shoal habitat in the southeastern U.S., including habitat requirements of selected shoal-dependent species. U.S. Fish and Wildlife Service. Byron. J. Freeman and Mary. C. Freeman [USGS] Co-PIs. \$40,000.

- 2001-2005. Genetic structure and life history studies on the federally threatened Cherokee darter. US Fish and Wildlife Service. Byron J Freeman and Brady Porter Co-PIs. \$128,327.
- 2001-2005. Conservation status of shoal dependent aquatic communities of the Flint River GA. US Fish and Wildlife Service. Byron J Freeman and Mary Freeman [USGS] Co-PIs. \$60,000.
- 2003-2004. Assessing conservation improvements in the Conasauga River system. Georgia Department of Natural Resources. B. J. Freeman P.I. \$21,000.
- 2003-2005. Ecological investigations of the Asian Rice Eel, *Monopterus albus*, in the Chattahoochee River system, Fulton County, Georgia. US National Park Service. B. J. Freeman and J. Shelton Co-PIs. \$150,000.
- 2004-2005. Listed Fishes In the Upper Coosa, Upper Chattahoochee, Upper Savannah and Upper Tennessee River Basins of Georgia. B. J. Freeman P.I. Georgia Department of Natural Resources. \$12,257.
- 2004-2005. Survey for the bluenose shiner, *Pteronotropis welaka*. Georgia Department of Natural Resources. B. J. Freeman P.I. \$7,075.
- 2004-2005. Assistance in field sampling and identification of fishes. US Geological Survey. B. J. Freeman, P.I. \$5000.
- 2005-2006. Genetic integrity of shoal bass (*Micropterus cataractae*) isolated by Morgan Falls dam, Chattahoochee River, NRA. US National Park Service. B.J. Freeman P.I. \$28,974.
- 2004-2006. Assessing genetic population structure of the federally protected Etowah darter. Georgia Department of Natural Resources. Byron J Freeman and Brady Porter Co-PIs. \$45,245.
- 2005-2006. Assessing conservation improvements in the Conasauga River system. Georgia Department of Natural Resources. B. J. Freeman P.I. \$25,000.
- 2005-2006. Assessing baseline ecological conditions in the upper Etowah River system. Georgia Department of Natural Resources. B. J. Freeman P.I. \$25,000.
- 2005-2006. Development of a Habitat Conservation Plan for Imperiled Aquatic Species of the Upper Etowah River Basin. Georgia Department of Natural Resources. Laurie Fowler and Byron J. Freeman Co-PIs. \$392,608.
- 2004-2007. Invasion Dynamics of the Red Shiner (*Cyprinella lutrensis*) in Southeastern U.S. Watersheds. US EPA. B. J. Freeman P.I. \$71,085.
- 2006-2007. Assessing conservation improvements in the Conasauga River system. Georgia Department of Natural Resources. B. J. Freeman P.I. \$22,260.
- 2006-2007. Assessing baseline ecological conditions in the upper Etowah River system. Georgia Department of Natural Resources. B. J. Freeman P.I. \$27,260.
- 2006-2007. Development of a Habitat Conservation Plan for Imperiled Aquatic Species of the Upper Etowah River Basin. Georgia Department of Natural Resources. Laurie Fowler and Byron J. Freeman Co-PIs. \$98,398.
- 2007-2008. Assessing conservation improvements in the Conasauga River system. Georgia Department of Natural Resources. B. J. Freeman and Seth Wenger, PIs \$27,000.
- 2007-2008. Assessing baseline ecological conditions in the upper Etowah River system. Georgia Department of Natural Resources. B. J. Freeman and Seth Wenger, PIs \$27,260.
- 2005-2008. Atlas of Georgia Freshwater Fishes. Georgia Department of Natural Resources. B. J. Freeman P.I. \$76,914.
- 2006-2008. Herpnet – 5th Year Award to GMNH. National Science Foundation. Byron J Freeman, PI. \$16,749.
- 2008-2009. Assessing conservation improvements in the Conasauga River system. Georgia Department of Natural Resources. B. J. Freeman and Seth Wenger, PIs \$27,000.
- 2008-2009. Assessing baseline ecological conditions in the upper Etowah River system. Georgia Department of Natural Resources. B. J. Freeman and Seth Wenger, PIs \$27,260.
- 2009-10 Assessing causes of Decline of Aquatic Species in the Conasauga River, Georgia. Georgia Department of Natural Resources. B. J. Freeman PI \$47,001.
- 2007-2010 Development Of A Habitat Conservation Plan For Imperiled Aquatic Species of the Etowah River Basin: Funding For Transition To Implementation. Georgia Department of Natural Resources (DOI). Seth Wenger- PI, David Radcliffe, David Leigh, Catherine Pringle, Timothy Carter, Byron Freeman, Amy Rosemond Co-PIs. \$217,772.
- 2009-10. Development Of A Marine Mammal Stranding Database. Georgia Department of Natural Resources. B. J. Freeman PI \$35,363.

- 2006-2011. GEPR: Maize Transposable Elements: Discovery, Description and Functional Characterization. National Science Foundation. S. Wessler, J. Bennetzen, R. Dawe, N. Jiang, P. SanMiguel, B. Freeman Co-PIs. \$3,982,101. Subaward to B.J. Freeman \$147,848 Year 1 and 2.
2011. Development Of A Marine Mammal Stranding Database. Georgia Department of Natural Resources. B. J. Freeman PI \$29,555.
- 2010-11. Assessing causes of decline of aquatic species in the upper Etowah River system fishes and identification of targets for conservation improvements. Georgia Department of Natural Resources. B. J. Freeman PI \$47,000.
- 2011-12. Assessing Causes Of Decline Of Aquatic Species In The Conasauga River System. Georgia Department of Natural Resources. B. J. Freeman, PI \$53,130.
- 2006-2012. Genetic structure and gene flow between isolated habitats of the federally endangered amber darter (*Percina antesella*). U.S. Fish and Wildlife Service., B. J. Freeman and Brady Porter, PIs. \$95,000.
- 2008-2012. Assessing population status and recruitment of *Moxostoma robustum* in the Broad River, Georgia. Georgia Department of Natural Resources. B. J. Freeman, PI \$243,039.
- 2008-2012. Determining current threats to protected and rare aquatic species of the Conasauga River system. Georgia Department of Natural Resources. B. J. Freeman PI \$90,000.
- 2011-12 Development Of A Standardized Sampling Protocol For Endangered And Threatened Fishes--How Do We Assess Population Status When Electrofishing May Harm The Species. B.J. Freeman, PI. U.S. Department of the Interior. \$20,000.
- 2012-2013 Early detection of exotic bark beetles - north zone. B.J. Freeman, PI. US Department of Agriculture. \$19,000.
- 2011-13. Assessing Status of Fish Species In The Upper Etowah River System And Identification Of Targets For Conservation Improvements. Georgia Department of Natural Resources. B. J. Freeman, \$56,522.
- 2015-2016. Assessing status of fish species in the upper Etowah River system and identification of targets for conservation improvements. Georgia Department of Natural Resources. B. J. Freeman, \$50,000.
- 2013-2016. Enhanced Emerald Ash Borer monitoring in New England. B. J. Freeman, PI. USDA Forest Service, \$22,500.
- 2014-2017. Assessing status of aquatic species in the Conasauga River system. Georgia Department of Natural Resources. B. J. Freeman, \$29,000.
- 2013-16. WSC category 3: collaborative research: water sustainability under near-term climate change: a cross-regional analysis incorporating socio-ecological feedbacks and adaptations. National Science Foundation. Subaward to B Freeman, \$40,000.
- 2017-2017. Utilizing existing eDNA technology to document the existence of Frecklebelly Madtom in the Conasauga and Coosawattee River systems, Georgia. Georgia Department of Natural Resources. B. J. Freeman, \$10,000.
- 2017-2017. Review of Special Provisions and Other Conditions Placed on GDOT Projects for Imperiled Aquatic Species Protection (Scoping Phase). Georgia Department of Transportation. Seth Wenger, Brian Bledsoe, B.J. Freeman, \$82,248.
- 2018-2019. Assessing status of aquatic species in the Conasauga River system. Georgia Department of Natural Resources. B. J. Freeman. \$25,000.
- 2013-2018. Early detection of exotic bark beetles - north zone. B. J. Freeman, PI. US Department of Agriculture. \$46,000.
- 2013-2018. Georgia caps survey: targeting specific exotic plant pests identified as threats to U.S. agriculture and forestry. B. J. Freeman, PI. Georgia Dept. of Agriculture, \$43,000.
- 2017-2018. Assessing persistence of federally listed species and proposed candidate species of fishes in the Etowah River system and baseline ecological conditions in the upper Etowah River System. Georgia Department of Natural Resources. B. J. Freeman, \$29,000.
- 2018-2019 Georgia caps survey: targeting specific exotic plant pests identified as threats to U.S. agriculture and forestry. B. J. Freeman, PI. Georgia Dept. of Agriculture, \$13,000.
- 2018-2020. Wenger, S., B. Bledsoe, B. Freeman, R. Bringolf, K. Hill, J. Calabria, R. Vick. P/E Review of Special Provisions and Other Conditions Placed on GDOT Projects for Imperiled Aquatic Species Protection (Main Project Phase). Georgia Department of Transportation. \$658,492.
- 2019-2020. Assessing persistence of federally listed species and proposed candidate species of fishes in the Etowah River system and baseline ecological conditions in the upper Etowah River System. Georgia Department of Natural Resources. B. J. Freeman, \$29,000.

- 2019-2020. Revamping the Georgia Museum of Natural History Internship Program. 2018. S. Birch and B. Freeman. Office of University Experiential Learning. UGA. \$26,720.
- 2020-2021. GMNH Marine Mammal Website. Georgia Department of Natural Resources, B. J. Freeman PI. \$8,500.
- 2020-2021. Assessing persistence of federally listed species and proposed candidate species of fishes in the Etowah River system and baseline ecological conditions in the upper Etowah River System. Georgia Department of Natural Resources. B. J. Freeman, \$28,000
- 2019-2021. Assessing status of aquatic species in the Conasauga River system and evaluating causes of decline. Georgia Department of Natural Resources. B. J. Freeman, \$28,000.
- 2019-2022. Development of eDNA markers for detecting the rare Robust Redhorse (*Moxostoma robustum*). Submitted to GDNR and SCDNR. \$38,864.
- 2021-2022. Assessing Dissolved Oxygen Concentrations in the Conasauga River. Ga Institute of Technology, Water Resources Institute. B. Freeman, S. Wenger, and P. Bumpers, P, Co-PIs. \$17,996

2017-2023. Identification, analysis, and reporting of faunal remains excavated from sites excavated by the AMNH on St. Catherine's Island, GA (continuation). American Museum of Natural History. \$30,992.

This project is BJF serving as PI of Record for administrative purposes.

Current Contracts and Grants

- 2022-2023. Assessing status of aquatic species in the Conasauga River system and evaluating causes of decline. Georgia Department of Natural Resources. B. J. Freeman, \$32,000.
- 2020-2024. Basin-wide planning for "Bartram's" Redeye Bass in the Savannah River. PIs: Mark Scott, Tanya Darden, Brett Albanese, Brandon Peoples, Byron Freeman. Multi State – USFWS State Wildlife Grants Program. University of Georgia Component, B. J. Freeman, PI \$94,181.
- 2023-2024. Early detection of exotic bark beetles - north zone. B. J. Freeman, PI. US Department of Agriculture. \$45,000.
- 2022-2024. Nature-Based Restoration of Shoals in the Conasauga River (GA, TN). National Fish and Wildlife Foundation. \$213,340. S.J.Wenger, B. Bledsoe, B.J.Freeman, Co-PIs.
- 2022-2023. Assessing Persistence of Federally Listed Species of Fishes & Baseline Ecological Conditions In The Upper Etowah River System. Georgia Department of Natural Resources. B. J. Freeman, \$37,000.
- 2023-2024. Marine Mammal Stranding Database Maintenance. Georgia Department of Natural Resources. B. J. Freeman. \$22,300.
- 2023-2023. Georgia CAPS Survey: Targeting Specific Exotic Plant Pests Identified As Threats To U.S. Agriculture And Forestry. Ga Department of Agriculture. B. J. Freeman, \$15,000.
- 2023-2026. Assessment and Monitoring of the Garwood Dam Removal on Imperiled Aquatic Organisms and their Habitats. Ga Department of Transportation. Seth Wenger- PI, Rhett Jackson, Jon Calabria, B.J.Freeman, J.P.Schmidt Co-PIs , \$226,295.

Submitted Contracts and Grants

Submitted Grants with Notice of Award from Agency

- 2024-2025. Assessing status of aquatic species in the Conasauga River system and evaluating causes of decline. Georgia Department of Natural Resources. B. J. Freeman and Seth Wenger \$30,000.
- 2024-2026. Assessing status of aquatic species in the Conasauga River system and evaluating causes of decline. Georgia Department of Natural Resources. B. J. Freeman and Seth Wenger \$31,000.

Submitted Grants with Notice of Rejection

2022

- 2023-2026. Implementation of monitoring and research-related recovery actions for Upper Coosa species. \$287,963. submitted to USFWS. S.J. Wenger PI. Co-Pi's M.C. Freeman, B. J. Freeman, P. Hazelton, B. Irwin, K. Robinson, J.P. Wares.

2021

- 2020-2024. Conserving Southeastern Biodiversity through Digitizing the Georgia Museum of Natural History Vertebrate Collections. National Science Foundation. Birch, S., B. Freeman. 1,804,679.

2020.

- 2020-2022. *Prioritizing Nutrient and Sediment Management for Aquatic Conservation in the Upper Conasauga Basin.* Seth J. Wenger PI, B.J. Freeman, B. Bledsoe, A. Rosemond Co-PIs. \$154,338.
- 2020-2022. *Conasauga River Shoal Restoration NATL FISH & WILDLIFE FDN* S. Wenger, Bledsoe, B., Bumpers, P., Freeman, B. Co-PIs \$216,100.

2019

- 2019-2023. Digitization TCN: Conserving Southeastern Biodiversity through Digitizing the Georgia Museum of Natural History Vertebrate Collections. National Science Foundation. Birch, S., B. Freeman, C. Hadden Co-PIs. 1,826,040.
- 2019-2021. Assessing eDNA Methods and Detection for *Moxostoma robustum* in Rivers in Georgia. Submitted to GDNR. \$61,596. USFWS Funding withheld from GDNR
- 2005-2008. Consortium for Maize Genomics: a combined strategy to sequence and annotate the maize genome. National Science Foundation. J. Bennetzen, P. Rabinowicz, B. Barbazuk, B. Freeman Co-PIs. \$30,443,519. DECLINED.
- 2006-2010. Biological Indicators of Land Use and Climate Change: Next-Generation GLOBE as the Integrating and Instructional Framework. National Science Foundation. Marguerite Madden PI, E. Kramer, T. Jordan, D.A.Crossley, Jr., B.J. Freeman, R. Hill Co-PIs. \$1,301,673. DECLINED.
- 2010-2011. Project Climate Change (Pc2): Changing Learning And Instructional Models As Teachers And The Public Explore Climate Change In The SE US. NSF. Sally Walker PI, Rene Bobe, Byron Freeman, Tommy Jordan Co-PIs. \$963,869. DECLINED.
- 2017-2019. Assessing persistence of federally listed species and proposed candidate species of fishes and mussels, baseline ecological conditions and their response to improvements from adoption of Best Management Practices in the upper Coosa River System of Georgia and Tennessee. USFWS/GDNR. PI Byron Freeman. \$870,609. DECLINED.

- 2017-2019. Needs Statement: eDNA detection of Aquatic Species. Submitted to Georgia Department of Transportation. B. J. Freeman and J.P. Wares, \$500,000. REQUESTED RESUBMISSION
- 2018-2019. Development of eDNA markers for detecting the rare Robust Redhorse (*Moxostoma robustum*). Submitted to GDNR and SCDNR. \$82,600.

Publications

- Laerm, J., B. J. Freeman, L. Vitt, and L. Logan. 1980. Vertebrates of the Okefenokee Swamp. *Brimleyana*, December: 47-73.
- Freeman, B. J., H. S. Greening, and J. Douglas Oliver. 1984. Comparison of three methods for sampling fishes and macroinvertebrates in a vegetated freshwater wetland. *J. Freshwater Ecology* 2(6): 603-609.
- Laerm, J., B. J. Freeman, L. Vitt, and L. E. Logan. 1984. Checklist of the vertebrates of the Okefenokee Swamp. pp 682-701. In A. D. Cohen, D. J. Cassagrande, M. S. Andrejko, and G. R. Best, eds. *Okefenokee Swamp: Its natural History, geology, and geochemistry. Wetland Surveys*. Los Alamos.
- Freeman, Byron J. and Mary C. Freeman. 1985. Production of fishes in a subtropical blackwater ecosystem: the Okefenokee Swamp. *Limnology and Oceanography* 30:686-692.
- Laerm, J. and B. J. Freeman. 1986. *Fishes of the Okefenokee Swamp*. University of Georgia Press. 128 pp. Athens, Georgia.
- Freeman, B. J. 1989. Okefenokee Swamp Fishes: abundance and production dynamics in an aquatic macrophyte prairie. pp 529-540. In: *Freshwater Wetlands and Wildlife*, R. R. Sharitz and J. W. Gibbons (Eds.). CONF-8603101, DOE Symposium Series, No. 61.
- Wiegert, Richard G. and Byron J. Freeman. 1990. Tidal salt marshes of the SE. Atlantic Coast: A community profile. USFWS Biological Report 85(7.29) 70 pp.
- Winkler, K., M. Freeman, and B. Freeman. 1990. Studies under way to recover two Conasauga River fishes. *Endangered Species Technical Bulletin*. Vol. XV, No. 2.
- Burkhead, N. M., J. D. Williams, and B. J. Freeman. 1992. A river under siege. *Georgia Wildlife* 2(2):10-17.
- Freeman, B. J. and M. C. Freeman. 1994. Habitat use by an endangered riverine fish and implications for species protection. *Ecology of Freshwater Fish*. 3:49-58.
- Freeman, B. J., G. W. Benz, D. E. Collins. 1996. A stakeholder's guide to the Conasauga River of Georgia and Tennessee. Cons. Bull No. 1. Southeast Aquatic Research Institute, Chatt. TN.
- Bryant, Richard T., J. W. Evans, R. E. Jenkins, and B. J. Freeman. 1996. The Mystery Fish. *Southern Wildlife*. 1(2): 27-35.
- Anderson, P. G., B. G. H. Browne, and B. J. Freeman. 1997. Monitoring the effects of reservoir creation on federally listed fish species in the southeast. pp 337-341. IN *Proceedings of the 1997 Georgia Water Resources Conference*. K. Hatcher (ed). Institute of Ecology University of Georgia, Athens, Georgia.
- Barnes, K. H., J. L. Meyer, and B. J. Freeman. 1997. Suspended sediments and Georgia's fishes: an analysis of existing information and future research. pp 139-143. IN *Proceedings of the 1997 Georgia Water Resources Conference*. K. Hatcher (ed). Institute of Ecology University of Georgia, Athens, Georgia.
- DeVivo, J. C., C. A. Couch, and B. J. Freeman. 1997. Use of a preliminary index of biotic integrity in urban streams around Atlanta, Georgia. pp 119-122. IN *Proceedings of the 1997 Georgia Water Resources Conference*. K. Hatcher (ed). Institute of Ecology University of Georgia, Athens, Georgia.
- Burkhead, N. M., S. J. Walsh, B. J. Freeman, J. D. Williams. 1997. Status and restoration of the Etowah River, an imperiled southern Appalachian ecosystem. in G.W. Benz and D.E. Collins (ED) *Aquatic Fauna in Peril: The Southeastern Perspective*. Special publication 1, Southeast Aquatic Research Institute, Lenz Design and Communications, Decatur, Georgia.
- Jenkins, R. E., and B. J. Freeman. 1997. "Sicklefin Redhorse" *Moxostoma* sp., p. 89. In: *Endangered, threatened, and rare fauna of North Carolina. Part IV. A reevaluation of the freshwater fishes*. E. F. Menhinick and A. L. Braswell 9eds.). *Occasional Papers of the North Carolina Museum of Natural Sciences and the North Carolina Biological Survey* No. 11.

- Freeman, B. J. 1999. Fishes (55 accounts) pp 106-202. IN Protected animals of Georgia. Georgia Department of Natural Resources. 247 pp.
- Freeman, B. J. 1999. Invertebrates (10 accounts) pp 203-235. IN Protected animals of Georgia. Georgia Department of Natural Resources. 247 pp.
- Meyer, Judy, Andrew Sutherland, Kevin Barnes, David Walters and Byron Freeman. 1999. A scientific basis for erosion and sediment standards in the Blue Ridge physiographic province. IN Proceedings of the 1999 Georgia Water Resources Conference. K. Hatcher (ed). Institute of Ecology University of Georgia, Athens, Georgia.
- Rosemond, Amy D., David S. Leigh, Byron J. Freeman, Mary C. Freeman, Elizabeth A. Kramer, Michael J. Paul, and Catherine M. Pringle. 1999. Development of a scientific understanding of the effects of changing landuse on stream ecosystems. IN Proceedings of the 1999 Georgia Water Resources Conference. K. Hatcher (ed). Institute of Ecology University of Georgia, Athens, Georgia.
- Leigh, David S., Mary C. Freeman, Byron J. Freeman, Elizabeth A. Kramer, Catherine M. Pringle, Amy D. Rosemond, Michael J. Paul, David M. Walters, Allison Roy, and C. P. Lo. Overview of land cover and geomorphic indicators of biotic integrity in the Etowah River basin, Georgia. IN Proceedings of the 1999 Georgia Water Resources Conference. K. Hatcher (ed). Institute of Ecology University of Georgia, Athens, Georgia.
- Walters, D. M and B. J. Freeman. 2000. Distribution of *Gambusia* (Poeciliidae) in a southeastern river system and the use of fin ray counts for species determination. *Copeia* 2000 (2), pp. 555-559.
- Pringle, C. M., M. C. Freeman, B. J. Freeman. 2000 Regional effects of hydrologic alterations on riverine macrobiota in the New World: Tropical-Temperate Comparisons. *Bioscience*. 50:807-823.
- Warren, M. L. Jr., B. M. Burr, S. J. Walsh, H. L. Bart, Jr., R. C. Cashner, D. A. Etnier, B. J. Freeman, B. R. Kuhajda, R. L. Mayden, H. W. Robison, S. T. Ross, and W. C. Starnes 2000. Diversity, Distribution, and Conservation Status of the Native Freshwater Fishes of the Southern United States. *Fisheries* 25(10)7-29.
- Freeman, M. C., C. M. Pringle, E. A. Greathouse and B. J. Freeman. 2003. Ecosystem-level consequences of migratory faunal depletion caused by dams. In: K. E. Limburg and J. R. Waldman (editors) *Biodiversity and Conservation of Shads Worldwide*, American Fisheries Society Symposium Series 35, Bethesda, Maryland. 370pp.
- Walters, D. M., D. S. Leigh, M. C. Freeman, B. J. Freeman and C. M. Pringle. 2003. Geomorphology and fish assemblages in a Piedmont river basin, U.S.A. *Freshwater Biology* 48:1950-1970.
- Suttkus, Royal D., Brady A. Porter, and Byron J. Freeman. 2003. The status and infraspecific variation of *Notropis stonei* Fowler. *Proceedings of the American Philosophical Society*. Vol. 148, No. 4.354-376.
- Freeman, M. C., E. R. Irwin, N. M. Burkhead, B. J. Freeman and H. L. Bart, Jr. 2005. Status and conservation of the fish fauna of the Alabama River system. Pp. 557-585 In: J. N. Rinne, R. M. Hughes and R. Calamusso (editors), *Historical Changes in Large River Fish Assemblages of the Americas*, American Fisheries Society Symposium 45, Bethesda, Maryland.
- Roy, A. H., M. C. Freeman, B. J. Freeman, S. J. Wenger, W. E. Ensign and J. L. Meyer. 2005. Investigating hydrologic alteration as a mechanism of fish assemblage shifts in urbanizing streams. *Journal of the North American Benthological Society* 24:656-678.
- Walters, D. M., M. C. Freeman, D. S. Leigh, B. J. Freeman, and C. M. Pringle. 2005. Urbanization effects on fishes and habitat quality in a southern Piedmont river basin. In: L. R. Brown, R. M. Hughes, R. Gray and M. R. Meador (editors), *Effects of Urbanization on Stream Ecosystems*, American Fisheries Society Symposium 47:0000, Bethesda, Maryland.
- Roy, A.H., M.C. Freeman, B.J. Freeman, S.J. Wenger, J.L. Meyer, and W.E. Ensign. 2006. Importance of riparian forests in urbanizing watersheds contingent on sediment and hydrologic regimes. *Environmental Management* vol 37:pp 523-539.
- Reinert, T. R., C. A. Straight, B. J. Freeman. 2006. Effectiveness of Antimycin-A as a toxicant for control of invasive Asian swamp. *North American Journal of Fisheries Management*, vol 26:pp949-952.
- Storey, C. M., B. A. Porter, M. C. Freeman and B. J. Freeman. 2006. Analysis of spawning behavior, habitat, and season of the federally threatened *Etheostoma scotti*, Cherokee darter (Osteichthyes: Percidae). *Southeastern Naturalist* vol 5(3):pp 413-424.

- Albanese, Brett, James T. Peterson, Byron J. Freeman and Deborah H. Weiler. 2007. Accounting for incomplete detection when estimating population site occupancy of bluenose shiner (*Pteronotropis welaka*) in southwest Georgia. *Southeastern Naturalist* vol 6(4):657-668.
- Gabel, Jennifer M. Elizabeth E. Dakin, Byron J. Freeman and Brady A. Porter. 2007. Isolation and identification of eight microsatellite loci in the Cherokee darter (*Etheostoma scotti*) and their variability in other members of the genera *Etheostoma*, *Ammocrypta*, and *Percina*. *Molecular Ecology Resources*. DOI:10.1111/j.1471-8286.2007.01903.x.
- Roy, A. H., B. J. Freeman and M. C. Freeman. 2007. Riparian influences on stream fish assemblage structure in urbanizing streams. *Landscape Ecology* 22:385-402.
- Walters, David M., Mike J. Blum, Brenda Rashleigh, Byron J. Freeman, Brady A. Porter and Noel M. Burkhead. 2008. Red shiner invasion and hybridization with blacktail shiner in the upper Coosa River, USA. *Biological Invasions*. Vol 10, No 8. Pages 1229-1242.
- Wenger, Seth J., James T. Peterson, Mary C. Freeman, Byron J. Freeman, and D. David Homans. 2008. Stream fish occurrence in response to impervious cover, historic land use and hydrogeomorphic factors. *Canadian Journal of Fisheries and Aquatic Sciences*. Vol. 65, 1250-1264.
- Benton, Paul D., William E. Ensign and Byron J. Freeman. 2008 The effect of road crossings on fish movements in small Etowah basin streams. *Southeastern Naturalist* vol 7(2):301-310.
- Freeman, M. C., B. J. Freeman, N. M. Burkhead and C. A. Straight. 2008. A new species of *Percina* (Perciformes: Percidae) from the Apalachicola River drainage, southeastern United States. *Zootaxa* 1963: 25-42.
- Norman, J. R., M. M. Hagler, M. C. Freeman and B. J. Freeman. 2009. Application of a multistate model to estimate culvert effects on movement of small fishes. *Transactions of the American Fisheries Society* 138: 826-838.
- Argentina, J. E., M. C. Freeman, B. J. Freeman. 2009. The response of stream fish to local and reach-scale variation in the occurrence of a benthic aquatic macrophyte. *Freshwater Biology*. Published Online: Sep 17 2009 11:16PM DOI: 10.1111/j.1365-2427.2009.02301.x
- Wenger, S. J., M. M. Hagler, B. J. Freeman. 2009. Prioritizing areas of the Conasauga River sub-basin in Georgia and Tennessee for preservation and restoration. *Southeastern Fishes Council Proceedings*. No 51: 31-38.
- Wenger, S.J. Freeman, M.C., Fowler, L.A., Freeman, B.J., Peterson J.T. 2010 Conservation planning for imperiled aquatic species in an urbanizing environment, *Landscape and Urban Planning*, Vol 97(1) 11-21.
- Blum, M.J., Walters, D.M., Burkhead, N.M., Freeman, B.J., Porter, B.A. 2010. Reproductive isolation and the expansion of an invasive hybrid swarm. *Biological Invasions*. Vol 12 (8) 2825-2836
- Argentina, J.E, Freeman, M.C., Freeman, B.J. 2010. [The response of stream fish to local and reach-scale variation in the occurrence of a benthic aquatic macrophyte](#). *Freshwater Biology*. 55(3) 643-653
- Argentina, J.E, Freeman, M.C., Freeman, B.J. 2010. Predictors of Occurrence of the Aquatic Macrophyte *Podostemum ceratophyllum* in a Southern Appalachian River. *Southeastern Naturalist*. 9(3) 465-476.
- Hagler, M.M., Freeman, M.C., Wenger, S.J., Freeman, B.J., Rakes, P.L., and Shute, J.R. 2011. Use of recent and historical records to estimate status and trends of a rare and imperiled stream fish, *Percina jenkinsi* (Percidae). *Can. J. Fish. Aquat. Sci.* 68(5):739-748.
- Anderson, G.B., M.C. Freeman, M.M. Hagler, and B. J. Freeman. (2012) Occupancy Modeling and Estimation of the Holiday Darter Species Complex within the Etowah River System. *Transactions of the American Fisheries Society* 141:1, 34-45
- Anderson, G.B., M.C. Freeman, B. J. Freeman, C. A. Straight, M.M. Hagler, and J.T. Peterson. 2012. Dealing with uncertainty when assessing fish passage through culvert road crossings. *Environmental Management*. Volume 50, Issue 3 (2012), Page 462-477.

- Ward, Jessica L., Blum, Mike J., Walters, David M., Porter, Brady A., Burkhead, Noel, Freeman, Byron. 2012. Discordant introgression in a rapidly expanding hybrid swarm. *Evolutionary Applications*, 5: 380-392.
- Hoebeke, E.R., W. Huffmaster, B.J. Freeman. 2014. PeerJ PrePrint. *Nephila clavata* L. Koch, the Joro Spider of East Asia, newly recorded from North America (Araneae: Nephilidae). PeerJ. doi:10.7287/peerj.preprints.632v4.
- Straight, C.A., B. J. Freeman, M.C. Freeman. 2014. Passive Acoustic Monitoring to Detect Spawning in Large-bodied Catostomids. *Transactions of the American Fisheries Society*. Vol 143, (3) 595-605.
- Dakin, E. E., B. A. Porter, B. J. Freeman, and J. M. Long. 2015. Hybridization threatens Shoal Bass populations in the upper Chattahoochee River basin. Pages 491-501 in M. D. Tringali, M. S. Allen, T. Birdsong, and J. M. Long (eds), *Black Bass Diversity: Multidisciplinary Science for Conservation*. Proceedings of the Symposium Black Bass Diversity: Multidisciplinary Science for Conservation Held in Nashville, Tennessee, February 8-10, 2013. American Fisheries Society, Bethesda, Maryland.
- Freeman, B. J., A. Taylor, K. J. Oswald, J. Wares, M. C. Freeman, J. Quattro, and J. Leitner. 2015. Shoal basses, a clade of cryptic identity. Pages 449-466 in M. D. Tringali, M. S. Allen, T. Birdsong, and J. M. Long (eds), *Black Bass Diversity: Multidisciplinary Science for Conservation*. Proceedings of the Symposium Black Bass Diversity: Multidisciplinary Science for Conservation Held in Nashville, Tennessee, February 8-10, 2013. American Fisheries Society, Bethesda, Maryland.
- Oswald, K.J., J. K. Leitner, D. Rankin, D. H. Barwick, B. J. Freeman, T. Grieg, M. Bangs, J. M. Quattro. 2015. Evolutionary genetic diversification, demography, and conservation of Bartram's Bass. Pages 601-613 in M. D. Tringali, M. S. Allen, T. Birdsong, and J. M. Long (eds), *Black Bass Diversity: Multidisciplinary Science for Conservation*. Proceedings of the Symposium Black Bass Diversity: Multidisciplinary Science for Conservation Held in Nashville, Tennessee, February 8-10, 2013. American Fisheries Society, Bethesda, Maryland.
- Hoebeke, E.R., W. Huffmaster, B.J. Freeman. 2015. *Nephila clavata* L. Koch, the Joro Spider of East Asia, newly recorded from North America (Araneae: Nephilidae). *PeerJ* 3:e763 <http://dx.doi.org/10.7717/peerj.763>.
- Straight, C.A., C.R. Jackson, B.J. Freeman, M.C. Freeman. 2015. Diel Patterns and Temporal Trends in Spawning Activities of Robust Redhorse *Moxostoma robustum* and River Redhorse *M. carinatum* in Georgia, Assessed Using Passive Acoustic Monitoring. Vol 144 (3) 563-576. *Transactions of the American Fisheries Society*.
- Pugliares, K.R., T.W. French, G.S. Jones, M. Niemeyer, L.A. Wilcox, B. J. Freeman. 2016. First records of the Short-Finned Pilot Whale (*Globiocephala macrorhynchus*) in Massachusetts, USA: 1980 and 2011. *Aquatic Mammals* 2016, 42(3), 357-362, DOI 10.1578/AM.42.3.2016.357.
- Freeman MC, 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(2):418-435; e1944-687X. doi: 10.3996/122016-JFWM-090.
- Stowe, E., S.J. Wenger, M.C. Freeman, B.J. Freeman. 2020. Incorporating spatial synchrony in the status assessment of a threatened species with multivariate analysis. *Biological Conservation*. 248: 108612.
- McPherson, Megan, Byron J. Freeman and Suzanne E. Pilaar Birch. 2020. Uncovering the early history of the Georgia Museum of Natural History, 1785-1900. *Journal of the History of Collections*. <https://doi.org/10.1093/jhc/fhaa025>
- 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*, 80:1. <http://dx.doi.org/10.1139/cjfas-2022-0297>.

First Records of *Vespa velutina* (Lepelletier) (Color form *Nigrithorax*) (Hymenoptera: Vespidae) in North America, an Invasive Pest of Domesticated Honeybees

Authors: Hoebeke, E. Richard, Bartlett, Lewis J., Evans, Mike, Freeman, Byron E., and Wares, John P.

Source: Proceedings of the Entomological Society of Washington, 126(2) : 193-205

Published By: Entomological Society of Washington URL: <https://doi.org/10.4289/0013-8797.126.2.193>

2025 accepted 2024 Ichthyology and Herpetology

Description of the Sicklefins Redhorse (Catostomidae: Moxostoma)

Robert E. Jenkins¹, Scott D. Favrot², Byron J. Freeman³, Brett Albanese⁴, and Jonathan W. Armbruster⁵

Recent Reports

Freeman, B. J. 1985. Final report on the status of the trispot darter, *Etheostoma trisella*, in the upper Coosa River System in AL, GA, TN. Final report to the U.S. Fish and Wildlife Service (unit cooperative agreement No:14-16-0009-1551).

Freeman, B. J. 1990. Acidic precipitation effects on amphibians at Cape Romain National Wildlife Refuge. Research Information Bulletin, USFWS 90-37.

Freeman, B. J. 1990. Report on fishes of the Tallapoosa River drainage system in Georgia. Final Report to Georgia Department of Natural Resources.

Freeman, B. J. 1990. Life History Studies on the Amber Darter (*Percina antesella*) and the Conasauga Logperch (*Percina jenkinsi*) in the Conasauga River in Georgia and Tennessee. Summary Report to TWRA and GDNR.

Freeman, B. J. 1991. Survey of selected fresh water sites in relation to air quality at Cape Romain National Wildlife Refuge. Final Report to U.S. Fish and Wildlife Service.

Freeman, B. J. 1991. Studies on the Amber Darter (*Percina antesella*) and the Conasauga Logperch (*Percina jenkinsi*). Summary Report to TWRA and GDNR.

Freeman, B. J. 1992. Annotated list of fish species recommended for protected status in Georgia. Report to Georgia Department of Natural Resources.

Freeman, B. J. 1992. Report on assessment of potential impacts of the proposed Haig Mill Creek reservoir on downstream populations of protected species. Golder Associates, Inc.

Freeman, B. J. 1992. Report on protected species survey of the proposed West Cobb Loop: Fishes. Garrow and

Associates, Inc.

- Freeman, B. J. 1992. Interim report on biological assessment of potential impacts of the proposed Yellow Creek reservoir on downstream populations of the amber darter, *Percina antesella*.
- Freeman, M. C. and B. J. Freeman, 1992. Ichauway Fishes: Species occurrence and a study of movements by individuals relative to instream habitat. Final report submitted to J.W.Jones Ecological Research Center. 40pp.
- Freeman, B. J. 1992. Results of protected species survey of Brasstown Creek. Final report to Georgia Department of Natural Resources.
- Burr, B. M. and B. J. Freeman. 1993. A review of the taxonomic and population status of the Alabama Sturgeon, *Scaphirhynchus suttkusi* Williams & Clemmer, 1991. Final Report of the Alabama Sturgeon Scientific Review Panel, to the USFWS, Washington, D.C.
- Freeman, B. J. 1994. Report on protected species in the ACT and ACF Basin in Georgia. Interim report to Georgia Department of Natural Resources.
- Freeman, B. J. 1994. Results of protected species surveys in Noonday Creek. Final reports to Lowe Environmental Services.
- Couch, C. A, J. C. DeVivo and B. J. Freeman. 1995. U. S. Geological Survey National Water quality Assessment Program: What fish live in the streams of metropolitan Atlanta? U. S. Geological Survey Fact Sheet FS-091-95, 4p.
- Jennings, C. A., J. L. Shelton Jr., B. J. Freeman and G. L. Looney. 1996. Culture Techniques and Ecological Studies of the Robust Redhorse *Moxostoma robustum*. Annual Report to Georgia Power Company, Environmental Affairs Division. 40 p.
- Freeman, Byron J. 1996. Survey for threatened and endangered fish species in various tributaries of the Etowah River within the boundary of the proposed FSL landfill development, Forsyth County, Georgia. Report to Environmental Services, Inc. 8 p.
- Freeman, Byron J. 1996. Fisheries Survey for the Proposed Harbor View Development. Report to JRC/Townelake, Ltd. 8 pp.
- Freeman, Byron J. 1996. Fisheries survey for the proposed sewer line on Blankets Creek in Cherokee County Georgia. Report to Eco-South, Inc. 3pp.
- Freeman, Byron J. and D. M. Walters. 1996. Identification and mapping of critical habitats in the Conasauga River Corridor of Georgia and Tennessee. Section VI, Annual Report. Georgia Department of Natural Resources. 15 p.
- Freeman, Byron J. and D. M. Walters. 1996. Identification and mapping of critical habitats in the Conasauga River Corridor of Georgia and Tennessee. Section VI, Annual Report. Tennessee Wildlife Resources Agency. 78pp.
- Freeman, Byron J. and K. H. Barnes. 1996. Identification and mapping of critical habitats in the Etowah River Corridor of Northern Georgia with emphasis on distribution of sensitive fishes. Section VI, Annual Report. Georgia Department of Natural Resources. 12 p.
- Freeman, Byron J. and P. T. Frizzelle. 1996. Status of the goldline darter *Percina aurolineata* in the Coosawattee River System of Northern Georgia. Section VI, Annual Report. Georgia Department of Natural Resources. 28pp.
- Barnes, K. H., J. L. Meyer, and B. J. Freeman. 1996. Suspended sediments and Georgia's fishes: an analysis of existing information. Technical completion report for project #14-08-0001-G2013 (04). USDI-USGS Ga Wat Res Prog.124 pp.
- Anderson, P. G., B. G. H. Browne, M. H. Hughes, B. J. Freeman and Z. E. Kovats. 1997. Conasauga Baseline Monitoring Pre-Operation of The River Road Reservoir, Dalton, Georgia. Prepared for the U.S. Army Corps of Engineers, Atlanta, Georgia, by Golder Associates, Inc. Project No. 883-3613 84 pp. + 6 Append.
- Freeman, B. J. and B. Gregory. 1997. Stocking and monitoring efforts for the robust redhorse (*Moxostoma robustum*) in the upper Broad River system of northeastern Georgia. Section VI, Annual Report. Georgia Department of Natural Resources. 38pp.
- Freeman, Byron J. and D. M. Walters. 1997. Identification and mapping of critical habitats in the Conasauga River

- Corridor of Georgia and Tennessee. Section VI, Annual Report. Georgia Department of Natural Resources and Tennessee Wildlife Resources Agency. 242pp.
- Freeman, B. J. and H.S. Weyers. 1997. Life History and Status of the goldline darter *Percina aurolineata* in the Coosawattee River System of Northern Georgia. Section VI, Annual Report. Georgia Department of Natural Resources. 57pp.
- Freeman, B. J. and K. H. Barnes. 1997. Current research on the upper Etowah River system of Northern Georgia. Section VI, Annual Report. Georgia Department of Natural Resources. 76pp.
- Sutherland, A. B., K. H. Barnes, J. L. Meyer, D. M. Walters and B. J. Freeman. 1998. Effects of sedimentation on biodiversity in southern Appalachian rivers and streams. Technical completion report for project #B 02-626-G1. USDI-USGS Ga Wat Res Prog. 110pp.
- Freeman, B. J. 1998. Status of the introduced population of the robust redhorse (*Moxostoma robustum*) in the Broad River system, GA. Section VI, Annual Report. Georgia Department of Natural Resources. 25pp.
- Freeman, Byron J. 1998. Survey of threatened and endangered fishes in the Oostanaula, Coosawattee and Etowah rivers. Final Report to U.S. Fish and Wildlife Service. USGS/BRD Unit Cooperative Agreement No. 1434-HQ97-RU-01551, Research Work Order No. 41. 31pp.
- Freeman, Byron J. 1998. Ecological studies on the robust redhorse (*Moxostoma robustum*) in the Oconee and Broad river systems, GA. Final Report to U.S. Fish and Wildlife Service. USGS/BRD Unit Cooperative Agreement No. 1434-HQ97-RU-01551, Research Work Order No. 37. 31pp.
- Freeman, Byron J., David. M. Walters and Brian C. Toth. 1999. Identification and mapping of critical habitats in the Conasauga River Corridor of Georgia and Tennessee. Section VI, Annual Report. Georgia Department of Natural Resources and Tennessee Wildlife Resources Agency. 64pp.
- Freeman, B. J. and D. M. Walters and B.C. Toth. 1999. Identification and mapping of critical habitats in the Conasauga River Corridor of Georgia and Tennessee. Section VI, Annual Report. Georgia Department of Natural Resources and Tennessee Wildlife Resources Agency. 54pp.
- Freeman, B. J. and B. C. Toth. 1999. Identification and mapping of critical habitats in the Etowah River system. Section VI, Annual Report. Georgia Department of Natural Resources. 66pp.
- Freeman, B. J. and H.S. Weyers. 1999. Life History and Status of the goldline darter *Percina aurolineata* in the Coosawattee River System of Northern Georgia. Section VI, Annual Report. Georgia Department of Natural Resources. 80 p
- Freeman, B. J. 1999. Identification and mapping of critical habitats in the Conasauga River Corridor of Georgia and Tennessee. Section VI, Annual Report. Georgia Department of Natural Resources and Tennessee Wildlife Resources Agency. 45pp.
- Freeman, B. J. and Seth Wenger. 2000. Identification and mapping of critical habitats in the Etowah River system. Section VI, Annual Report. Georgia Department of Natural Resources. 70pp.
- Freeman, B. J. and Seth Wenger. 2000. Prioritizing streams for buffer preservation and restoration in the Etowah River basin. Report to USFWS. 98pp.
- Freeman, B. J. and T.N. Burgess. 2000. Status of the Asian Rice Eel, *Monopterus albus*, in the Chattahoochee River System, Fulton County Georgia. Final Report to US National Park Service. 41pp.
- Freeman, B. J. 2000. Results of a protected species survey on tributaries to the Little Pumpkinvine Creek, Paulding County, Georgia. Report to Register and Associates, Inc.
- Freeman, B. J. and J. Knight. 2000. Results of a protected species survey on tributaries to the Etowah River, Dawson County, Georgia. Report to Welker and Associates, Inc.
- Leigh, D. S., B. J. Freeman, M. C. Freeman, E. A. Kramer, M. J. Paul, C. M. Rosemond, R. Cifaldi, A. Roy, and D. Walters. 2000. Land use and geomorphic indicators of biotic integrity in piedmont streams. Proceedings 2000 STAR Ecosystem Indicators Progress Review Workshop, EPA/600/R-00/017
- Freeman, B. J. and M. C. Freeman. 2001. Criteria for suitable spawning habitat for the robust Redhorse *Moxostoma robustum*. Report to USFWS. 16pp.

- Freeman, B. J. and S. J. Wenger. 2001. Identification and mapping of critical habitats in the Conasauga River Corridor of Georgia and Tennessee. Section VI, Annual Report. Georgia Department of Natural Resources and Tennessee Wildlife Resources Agency. 47pp.
- Freeman, B. J. and C. A. Straight, J. R. Knight and C. M. Storey. 2002. Evaluation of robust redhorse (*Moxostoma robustum*) introduction into the Broad River, GA spanning years 1995-2001. Section VI, Annual Report. Georgia Department of Natural Resources. 70pp.
- Freeman, B. J. and M. Hagler. 2002. Survey for protected fishes, mussels, and snails in streams along SR20 in Bartow County, Georgia Project number STP-012-1(87). PI number 621710. 63pp.
- Freeman, B. J. and M. Hagler. 2002. Survey for protected fishes in an unnamed tributary to Canton Creek in the vicinity of State Route 20 in Cherokee County, Georgia. Report to GDOT. GDOT Project numbers STP-012-1(107) Task Order Number 199 PI number 632790. 8pp.
- Freeman, B. J. and M. C. Scott 2002. Assessing the Distributions Of Sensitive Fish Species in the Upper Mobile River Drainage in Georgia. Annual report for 2001 and 2002. Georgia Department of Natural Resources. 28pp.
- Freeman, B. J. and C.A. Straight. 2002. Collection database and distributions of selected native fishes in the Upper Chattahoochee River Basin. Unpublished report submitted to the Upper Chattahoochee River Keeper for the Chattahoochee Headwaters Aquatic Biodiversity Assessment and Conservation Project. 38pp.
- Freeman, B. J., M. C. Freeman, and C. A. Straight. 2002. Status Survey of the Undescribed Halloween darter, *Percina* sp., in the Apalachicola River Drainage in Alabama and Georgia. Final Report to US Fish and Wildlife Service. 20pp.
- Freeman, B. J., M. Hagler, and E. Curry. 2002. Survey for protected fishes, mussels and snails in Rock Creek at County Route 153/ Rock Creek Road in Gilmer County, Georgia Gilmer County County Route 153 Bridge Replacement Project GDOT Project numbers STP-0000-00(847) PI number 0000847 Task Order Number 219. 25pp.
- Freeman, B. J., M. Hagler, and E. Curry. 2002. Survey for protected fishes, mussels and snails in Ruff Creek at County Route 325/The Narrows Picnic Road in Chattooga County, Georgia Chattooga County County Route 325 Bridge Replacement Project GDOT Project number PFH-0000-00(846) PI number 0000846 Task Order Number 219. 27pp.
- Freeman, B. J., M. Hagler, and H. Gerstung. 2002. Survey for protected fishes, mussels, and snails in seven unnamed tributaries in the vicinity of SR113 in Bartow County and Polk County, Georgia Project number STP-179-1(8) (10) PI numbers 621430 and 621440. 53pp.
- Freeman, B. J., M. Hagler, and S. Wegner. 2002. Fish community analysis of Proctor Creek Watershed, Etowah River Basin, Cobb County GA. Report prepared for U.S. Army Corps of Engineers, Mobile District and Entrix, Inc. 11pp.
- Freeman, B.J., M. Hagler and P. Yokely, Jr. 2002. Survey for protected fishes, mussels, and snails in Richland and Raccoon Creeks in the vicinity of State Route 113 in Bartow County, Georgia GDOT Project numbers BHF-179-1(11) and BRF-179-1(12) PI numbers 621445 and 621760. 44pp.
- Freeman, B. J., J. Rogers, and M. Hagler. 2002. Survey for protected fishes and mussels in Rock Creek at County Road 4/ Dennis Mill Road in Murray County, Georgia GDOT Project Numbers BR-000-00(687) Task Order Number 191. PI Number 0000687. 27pp.
- Freeman, B. J., J. Rogers, and M. Hagler. 2002. Fish community analysis of Allatoona Creek Watershed, Etowah River Basin, Cobb County GA. Report prepared for U.S. Army Corps of Engineers, Mobile District and Entrix, Inc. 25pp.
- Freeman, B. J., C. Straight, and M. Hagler. 2002. Survey for protected fishes and mussels in streams in the vicinity of proposed 4-lane highway (Eastern Section of the Northern Arc; Section 9) in Gwinnett and Forsyth Counties, Georgia. Report to GDOT. GDOT Project number EDS-500 (9) Task Order Number 206 PI number 162010
- Freeman, B. J., C. Straight, and M. Hagler. 2002. Survey for protected fishes and mussels in Williamson Swamp Creek in the vicinity of State Route 24 in Washington County, Georgia GDOT Project numbers BR-STP-2837(3) Task Order Number 199 PI number 245140 41pp.
- Freeman, B. J., C. Straight, and M. Hagler. 2002. Survey for protected fishes and mussels in streams 1, 2, 3, and 6,

unnamed tributary to Mulberry Creek, Gin Creek, Lazar Creek and Irvin Creek, in the vicinity of State Route 36 in Upson and Talbot Counties, Georgia GDOT Project numbers STP-157-1(8) Task Order Number 199. PI number 332900. 11pp.

- Freeman, B. J., S. Wegner, and M. Hagler. 2002. Fish community analysis of Butler Creek Watershed, Etowah River Basin, Cobb County GA. Report prepared for U.S. Army Corps of Engineers, Mobile District and Entrix, Inc. 22pp.
- Freeman, B. J., C. A. Straight, J. R. Knight, and C. M. Storey. 2002. Evaluation of robust redhorse (*Moxostoma robustum*) introduction into the Broad River, GA spanning years 1995-2001. Section VI, Annual Report. Georgia Department of Natural Resources. 70pp
- Freeman, B.J., S. Wenger, S. McClurg and C. Straight. 2002. Etowah River basin stressors analysis. Report to USFWS. 60pp.
- Freeman, B. J., M. Hagler, M. Scott and S. Wenger. 2003. Identification and Mapping of Critical Habitats in the Etowah River System With An Emphasis on the Distribution of Sensitive Species of Fishes, 2001-2002 Annual Report. Section VI, Annual Report. Georgia Department of Natural Resources. 64pp.
- Freeman, B. J., S. J. Wenger and J. E. Rogers. 2003. Identification and Mapping of Critical Habitats in the Conasauga River Corridor of Georgia and Tennessee 2001-2002 Annual Report. Section VI, Annual Report. Georgia Department of Natural Resources and Tennessee Wildlife Resources Agency. 73pp
- Leigh, D. S., D. M. Walters, A. H. Roy, Byron J. Freeman, M. C. Freeman, E. A. Kramer, M. J. Paul, C. M. Pringle, and A. D. Rosemond. 2003. Landscape indicators of biotic integrity in Piedmont streams of the Etowah River basin, North Georgia, USA. Final Technical Report Submitted to the United States Environmental Protection Agency to Fulfill Requirements of a Science to Achieve Results (STAR) Grant (#R826597-01-0).
- C. A. Straight, M. Hagler, and B. J. Freeman. 2003. Protected species survey for Flat Creek, Hall County, Georgia. Report prepared for Troutman Sanders, LLP. 19pp.
- Freeman, Byron J., Seth Wenger, Jane Rogers and Megan Hagler. 2003. Fish Community Analysis of Allatoona, Butler and Proctor Creek Watersheds, Etowah River Basin, Cobb County, Report prepared for U.S. Army Corps of Engineers, Mobile District and Entrix, Inc. 55pp.
- Freeman, Byron J. and Carrie Straight. 2003. Conservation Status of Fish and Other Aquatic Resources in the Upper Tallapoosa River System, Georgia and Alabama. Final Report. Cooperative Agreement No. 1434-HQ-97-RU-01551 RWO No. 70. 83pp.
- Freeman, Byron J., Carrie A. Straight, Paula A. Marcinek, Seth Wegner, Megan Hagler and Mary Freeman. 2003. Distribution and status of the "Coosa" madtom (*Noturus* sp. cf. *N. munitus*) and freckled darter (*Percina lenticula*) in Georgia. Report to USGS Cooperative Agreement: 1434-HQ-97-RU-01551 RWO 60. 59pp.
- Hagler, Megan, Carrie Straight, and Bud Freeman. 2003. Historical and current collections and distributions of selected native fishes in the Upper Chattahoochee River Basin. Report prepared for Upper Chattahoochee River Keeper. 47pp.
- Freeman, Byron J., Casey Storey, and Jane Rogers. 2003. Results of protected species survey on an unnamed tributary to an unnamed tributary to the Etowah River at The Park at River Green. Report to Walden Ashworth and Associates, Inc. 7pp.
- Freeman, Byron J., Jane Rogers, Jennifer Harper, and Megan Hagler. 2003. Fish survey results for the watershed assessment conducted for the city of Arlington, GA. Report to Watershed Assessment Group, UG Agricultural Engineering Department. 12pp.
- Scott, Mark C. and Byron J. Freeman. 2003. Responses of aquatic fauna to cumulative sediment effects. Final report to USFS, SRS 02-CA-11330139-046. 22pp.
- Peterson, J.T., B.J. Freeman, E. Kramer, E. Irwin, M.C. Freeman, C.A. Straight, A. Wimberley, and J.C. Ruiz. 2003. Aquatic Gap: Regional Analysis of Biodiversity in the ACT/ACF Basins. Final Draft Report. GAP Analysis Program.
- Freeman, B. J., M. M. Hagler, and R. L. Machyousky. 2004a. Results of a fish survey of Canton Creek, Cherokee County, GA, conducted May 2004, Pages 8. Athens, Institute of Ecology and Georgia Museum of Natural History, University of Georgia.

- Freeman, B. J., M. M. Hagler, J. H. Melgey, and J. E. Rogers. 2004b. Fish survey results of a watershed assessment conducted for the City of Gray, GA, Pages 13. Athens, Institute of Ecology and Georgia Museum of Natural History, University of Georgia.
- Freeman, B. J., M. M. Hagler, J. E. Rogers, and R. L. Machyousky. 2004c. Results of the Yellow Creek Reservoir monitoring project for the fall of 2003, Condition 26 and Condition 24, Pages 35. Athens, Institute of Ecology and Georgia Museum of Natural History, University of Georgia.
- Freeman, B. J., and P. A. Marcinek. 2004. Assessing the Distributions of Sensitive Darter Species in the Upper Coosa River Drainage in Georgia: annual report for 2004 to the Georgia Department of Natural Resources, Atlanta, Pages 18. Athens, Georgia Museum of Natural History and Institute of Ecology, University of Georgia.
- Freeman, B. J., T. R. Reinert, J. Shelton, C. A. Straight, and J. H. Melgey. 2004d. Ecological Investigations of the Asian rice eel, *Monopterus* sp., in the Chattahoochee River system, Fulton County, Georgia. Interim Report, June 2004, Pages 19. Athens, Institute of Ecology, Warnell School of Forest Resources and Georgia Museum of Natural History, University of Georgia.
- Freeman, B. J., J. E. Rogers, M. M. Hagler, and C. A. Straight. 2004e. Identification and mapping of critical habitats in the Conasauga River corridor of Georgia and Tennessee: 2003 annual report to the Georgia Department of Natural Resources, Atlanta, Pages 87. Athens, Institute of Ecology and Georgia Museum of Natural History, University of Georgia.
- Freeman, B. J., J. Shelton, C. A. Straight, and J. H. Melgey. 2004f. Ecological Investigations of the Asian rice eel, *Monopterus albus*, in the Chattahoochee River system, Fulton County, Georgia. Interim Report, May 2004, Pages 9. Athens, Institute of Ecology, Warnell School of Forest Resources and Georgia Museum of Natural History, University of Georgia.
- Freeman, B. J., J. Shelton, C. A. Straight, T. R. Reinert, J. H. Melgey, and R. L. Machyousky. 2004g. Ecological Investigations of the Asian rice eel, *Monopterus* sp., in the Chattahoochee River system, Fulton County, Georgia. Interim Report, September 2004, Pages 31. Athens, Institute of Ecology, Warnell School of Forest Resources and Georgia Museum of Natural History, University of Georgia.
- Freeman, B. J., and C. A. Straight. 2004a. Tracking of robust redhorse (*Moxostoma robustum*) released on 19 March 2002 on the Ocmulgee River below Lloyd Shoals Dam. Prepared for NFWF, December 2004, Pages 14. Athens, Institute of Ecology and Georgia Museum of Natural History, University of Georgia.
- . 2004b. Tracking of robust redhorse (*Moxostoma robustum*) released on 19 March 2002 on the Ocmulgee River below Lloyd Shoals Dam. Prepared for NFWF, September 2004, Pages 16. Athens, Institute of Ecology and Georgia Museum of Natural History, University of Georgia.
- Freeman, B. J., C. A. Straight, M. M. Hagler, J. E. Rogers, and C. M. Storey. 2004h. Identification and mapping of critical habitats in the Etowah River system with and emphasis on the distribution of sensitive species of fishes: 2002-2003 annual report to the Georgia Department of Natural Resources, Atlanta, Pages 96. Athens, Institute of Ecology and Georgia Museum of Natural History, University of Georgia.
- Hagler, M. M., and B. J. Freeman. 2004. Results of a fish survey of an unnamed tributary to Talona Creek in Pickens County, GA. Report to Environmental Services, Inc., Pages 9. Athens, Institute of Ecology and Georgia Museum of Natural History.
- Freeman, B. J. and M. Hagler. 2004. Protected fish species likely to be affected by installation of a sewer line downstream of Old Federal Road in Forsyth County. Report to Hayes, James Associates. Pages 9. Athens, Institute of Ecology and Georgia Museum of Natural History, University of Georgia.
- Freeman, B. J., M. M. Hagler, and C. Storey. 2005. Protected fish species likely to be affected by construction of a water supply reservoir on Russell Creek in Dawson County. Report to Infratec Consultants, Inc. Pages 13. Athens, Institute of Ecology and Georgia Museum of Natural History, University of Georgia.
- Freeman, B. J., M. M. Hagler, and R. L. Machyousky. 2005. Results of the Yellow Creek Reservoir monitoring project for the fall of 2004, Condition 26 and Condition 24, Pages 34. Athens, Institute of Ecology and Georgia Museum of Natural History, University of Georgia.
- Freeman, B. J., J. E. Rogers, M. M. Hagler, 2005. Identification and mapping of critical habitats in the Conasauga River corridor of Georgia and Tennessee: 2004 annual report to the Georgia Department of Natural Resources,

- Atlanta, Pages 86. Athens, Institute of Ecology and Georgia Museum of Natural History, University of Georgia.
- Freeman, B. J., C. A. Straight, T. R. Reinert, J. Shelton. 2005. Ecological Investigations of the Asian swamp eel, *Monopterus* sp. cf. *M. albus*, in the Chattahoochee Nature Center and adjacent marsh, Fulton County, Georgia. Final Report, August 2005, Pages 146. Submitted to the USFWS and USNPS, Piedmont – South Atlantic Coast Cooperative Ecosystems Study Unit Cooperative Agreement Number H5000 03 5040 Task Order J5340 03 0503. Athens, Institute of Ecology, Warnell School of Forest Resources and Georgia Museum of Natural History, University of Georgia.
- Freeman, B. J., and M. Hagler. 2005. Identification and mapping of critical habitats in the Etowah River system with and emphasis on the distribution of sensitive species of fishes: 2004-2005 annual report to the Georgia Department of Natural Resources, Atlanta, Pages 104. Athens, Institute of Ecology and Georgia Museum of Natural History, University of Georgia.
- Marcinek, P. A., P. J. Gagnon, M. C. Freeman, C. A. Straight, M. D. Merrill, and B. J. Freeman. 2005 Ecological Importance and Conservation Status of Southeastern River Shoal Habitat. Final Report submitted to USFWS. Agreement 1448-40181-00-G-087. Pages 29. Athens, Institute of Ecology and Georgia Museum of Natural History, University of Georgia.
- Marcinek, P. A., M. C. Freeman, and B. J. Freeman. 2005. Fish species occurrence and habitat affinities in shoals of the upper Flint River, GA. Final Report submitted to USFWS. Agreement 1448-40181-00-G-087. Pages 27. Athens, Institute of Ecology and Georgia Museum of Natural History, University of Georgia.
- B. J. Freeman and P.A. Marcinek. 2006. Protected fish species surveys on unnamed tributaries to Little River, in the vicinity of Birmingham Highway and Freemanville Road, Fulton County, Georgia. Report to Environmental Sciences, Inc. Pages 9. Athens, Institute of Ecology and Georgia Museum of Natural History, University of Georgia.
- Freeman, B. J., B. A. Porter, C.M. Storey, J. Gabel. M. M. Hagler, and B. Dakin. 2006. Genetic Population Structure and Life History Studies on the Federally Threatened Cherokee Darter (*Etheostoma scotti*). Final report submitted to: U.S. Geological Survey. Cooperative Agreement: 1434-HQ-97-RU-01551 RWO 66. Pages 165. Athens, Institute of Ecology and Georgia Museum of Natural History, University of Georgia and Department of Biological Sciences, Duquesne University, Pittsburgh. PA.
- Freeman, B. J., B. A. Porter, S. Ritchea, C. Straight, and B. Dakin. 2006. Genetic Population Structure of the Federally Endangered Etowah Darter, *Etheostoma etowahae*, and Subsequent Range Modification. Final Report to Georgia Department of Natural Resources. Pages 163. Athens, Institute of Ecology and Georgia Museum of Natural History, University of Georgia and Department of Biological Sciences, Duquesne University, Pittsburgh. PA.
- Freeman, B. J., J. Argentina, M. M. Hagler, 2006. Identification and mapping of critical habitats in the Conasauga River corridor of Georgia and Tennessee: 2005 annual report to the Georgia Department of Natural Resources, Atlanta, Pages 110. Athens, Institute of Ecology and Georgia Museum of Natural History, University of Georgia.
- Freeman, B. J., M. Hagler, J. R. Norman, and P. M. Marcinek 2006. Identification and mapping of critical habitats in the Etowah River system with and emphasis on the distribution of sensitive species of fishes: 2005-2006 annual report to the Georgia Department of Natural Resources, Atlanta, Pages 80. Athens, Institute of Ecology and Georgia Museum of Natural History, University of Georgia.
- Freeman, B. J., M. Hagler, Seth J. Wenger and Rachel A. Katz 2007. Identification and mapping of critical habitats in the Etowah River system with and emphasis on the distribution of sensitive species of fishes: 2006-2007 annual report to the Georgia Department of Natural Resources, Atlanta, Pages 53. Athens, Institute of Ecology and Georgia Museum of Natural History, University of Georgia.
- Freeman, Byron J., Megan Hagler, Seth Wenger, Greg Anderson and Rachel Katz. 2007. Identification and mapping of critical habitats in the Conasauga River corridor of Georgia and Tennessee: 2006 annual report to the Georgia Department of Natural Resources, Atlanta, Pages 84. Athens, Institute of Ecology and Georgia Museum of Natural History, University of Georgia.
- Wenger, Seth. J and Byron. J. Freeman. 2007. Mitigation planning for Russell Creek reservoir, estimated take and potential mitigation options. Report to Infratec Consultants, Inc. Pages 10. Athens, Institute of Ecology, University of Georgia.

- Wenger, Seth. J and Byron. J. Freeman. 2007. Impacts of the propose Russell Creek reservoir on imperiled fish species and potential mitigation options. Report to Infratec Consultants, Inc. Pages 21. Athens, Institute of Ecology, University of Georgia.
- Freeman, B. J. Norman, J., M. Hagler. 2008. Applied Research for the Development of an HCP for Imperiled Aquatic Species of the Etowah River Basin, including an Evaluation of the Efficacy of Reasonable and Prudent Measures (RPMs) used in Biological Opinions. Pages 169. Report submitted to: U.S. Geological Survey, Research Work Order 79.
- Freeman, Byron J., Megan M. Hagler, Seth J. Wenger, Greg B. Anderson. 2008. Identification and mapping of critical habitats in the Conasauga River corridor of Georgia and Tennessee: 2007 annual report to the Georgia Department of Natural Resources, Atlanta, Pages 69. Athens, Institute of Ecology and Georgia Museum of Natural History, University of Georgia.
- Freeman, B. J., Gregory B. Anderson, Megan M. Hagler, and Seth J. Wenger. 2008. Assessing baseline ecological conditions in the Etowah River System of Georgia. 2007 annual report to the Georgia Department of Natural Resources, Atlanta, Pages 47. Athens, Institute of Ecology and Georgia Museum of Natural History, University of Georgia.
- Dakin, Elizabeth, Brady Porter, Bud Freeman. 2008. Genetic structure and gene flow between isolated habitats of the federally endangered amber darter (*Percina antesella*). Interim Report for Project 033991-01, Georgia Department of Natural Resources, Atlanta, Pages 11. Department of Biological Sciences, Duquesne University, Athens, Institute of Ecology and Georgia Museum of Natural History, University of Georgia.
- Freeman, B.J., G. B. Anderson, M. M. Hagler and N. A. Pontzer. 2009. Assessing Baseline Ecological Conditions in the Etowah River System of Georgia 2008. Annual report to the Georgia Department of Natural Resources, Atlanta, Pages 90. Athens, Institute of Ecology and Georgia Museum of Natural History, University of Georgia.
- Freeman, B.J., M. M. Hagler and N. A. Pontzer. 2009. Identification and Mapping of Critical Habitats in the Conasauga River Corridor of Georgia and Tennessee 2008. Annual report to the Georgia Department of Natural Resources, Atlanta, Pages 45. Athens, Institute of Ecology and Georgia Museum of Natural History, University of Georgia.
- Freeman, B.J., M. M. Hagler. 2009. Relocation of federally threatened Cherokee darters (*Etheostoma scotti*) from Hickory Log Creek to Bannister-Brewton Creek in summer 2009. Report to Cobb Marietta Water Authority. Pages 13. Athens, Institute of Ecology and Georgia Museum of Natural History, University of Georgia.
- Freeman, B. J., M. M. Hagler, G. B. Anderson. 2009. Update and revision of selected protected species accounts for the Georgia Protected Species Guide including *Etheostoma brevirostrum*, *Etheostoma etowahae*, *Etheostoma scotti*, *Etheostoma trisella*, *Moxostoma robustum*, *Noturus munitus*, *Percina antesella*, *Percina aurolineata*, *Percina jenkinsi*, and *Percina lenticula*. Report to the Georgia Department of Natural Resources, Atlanta. Athens, Institute of Ecology and Georgia Museum of Natural History, University of Georgia.
- Freeman, B. J. and C. A. Straight. 2010. Assessment of robust redhorse populations and reproduction in the Broad River (Georgia) system. Annual Report to Georgia Department of Natural Resources, September 2010.
- Freeman, B. J. and M. M. Hagler. 2010. Determining current threats to protected and rare aquatic species of the Conasauga River system. Interim Report to the Georgia Department of Natural Resources, December 2010.
- Freeman, B. J. and M. M. Hagler. 2010. Assessing causes of decline of aquatic species in the upper Etowah River system and identification of targets for conservation improvements. Interim report to the Georgia Department of Natural Resources, December 2010.

- Freeman, B. J., M. M. Hagler, and C.L. Baker. 2011. Assessing causes of decline of aquatic species in the Conasauga River system. Report to the Georgia Department of Natural Resources, March 2011.
- Freeman, B. J. and M. M. Hagler. 2011. Preliminary report with the results of reconnaissance at 25 locations and fish surveys at four locations within the proposed Highway 411 corridor near Cartersville, Georgia. July 2011.
- Hagler, M.M and B. J. Freeman. 2012 Assessing Causes of decline of aquatic species in the Conasauga River system. Final Report to the Georgia Department of Natural Resources, Report to the Georgia Department of Natural Resources, December 2012.
- Freeman, B. J. and M. M. Hagler. 2012. Report on the federally protected aquatic species and results of 2011 stream surveys within the proposed Highway 411 corridor near Cartersville, Georgia, December 2012.
- Straight, C.A. and B. J. Freeman. 2013. Status and Assessment of Robust Redhorse (*Moxostoma robustum*) in the Broad River System, Georgia. Final Report to Georgia Department of Natural Resources, January 2013.
- Hagler, M. and B. Freeman. 2014. Brief Review of the Effects of Anti-ice and Deicing Chemicals used at Airports on Surface Waters and Aquatic Biota.
- Hagler, M. and B. Freeman. 2014. Summary of Fish Survey Results for Streams in the vicinity of the Paulding Northwest Atlanta Airport, Bluffy Creek watershed.
- 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.
- Byron J. Freeman, Karen Bobier, Kelly Petersen and John Wares. 2016. Status of *Nothonotus* darters in the Lower Etowah River and Raccoon Creek. Report Submitted To CH2M Hill, Birmingham, AL 21pp.
- P. M. Bumpers 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.
- P. M. Bumpers and B. J. Freeman. 2016. Assessing status of Aquatic Species in the Conasauga River system. Interim Report to Georgia Department of Natural Resources, December 2016.
- P.M. Bumpers 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.
- 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.
- P.M. Bumpers and B. J. Freeman. 2018. Assessing status of aquatic species in the Conasauga River system Interim Report to Georgia Department of Natural Resources, December 2018.
- P. M. Bumpers, 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.
- P. M. Bumpers, M. Hallmark, and 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 Georgia Department of Natural Resources. October 2022.

P. M. Bumpers, M. Hallmark, and B. J. Freeman. 2024. Assessing status of aquatic species in the Conasauga River System. Final report to the Georgia Department of Natural Resources. Pursuant to award F21AP03565, April 29, 2024.

Freeman, B. J. 2024. Basin-wide Planning for “Bartram’s” Redeye Bass in the Savannah River; Final Report. Submitted to Georgia DNR and South Carolina DNR. October 2024.

P. M. Bumpers, A. Blalock, M. Hallmark, and B. J. Freeman. 2024. Assessing persistence of federally listed species of fishes and baseline ecological conditions in the upper Etowah River System. Final report to the Georgia Department of Natural Resources Pursuant to award F22AP01196-0. 22 November, 2024

Affiliations

American Fisheries Society
American Society of Ichthyologists and Herpetologists
Georgia Chapter American Fisheries Society
Puerto Rico Chapter American Fisheries Society
Southeastern Fishes Council
Robust Redhorse Conservation Committee

Recent Presentations

1993

Freeman, B. J. 1993. Suckers I have known, or Georgia's protected fishes. Departmental Seminar, Institute of Ecology, May 1993.

Freeman, B. J. 1993. Georgia's protected fishes: the need for basin-wide management Presentation at the 1993 Georgia Water Resources Conference, held April 20 and 21, 1993, at The University of Georgia, Athens, Georgia.

Jenkins, R. E. and B. J. Freeman. 1993. Systematics of the molar-toothed redhorse suckers *Moxostoma carinatum* and the rediscovered *Moxostoma robustum* (Pisces, Catostomidae). Paper presented at the annual meeting of ASIH in Austin, TX, May 1993.

1994

Freeman, B. J. 1994. Status of the robust redhorse. Paper presented at the annual meeting of the Georgia Chapter of the American Fisheries Society.

Freeman, B. J. 1994. Siltation and threats to aquatic communities in the southern Appalachians. Invited Speaker at the 1994 Siltation Symposium of the Southeast Region of Trout Unlimited, held in Dillard Georgia.

Freeman, B. J. 1994. Endangered and Threatened Species Protection: ESA Reauthorization and other Current Issues. Invited Panelist at the 1994 Red Clay Conference, University of Georgia School of Law. held in Athens, Georgia.

Jenkins, R. E., B. J. Freeman and J. W. Evans. 1994. Case History: Robust Redhorse *Moxostoma robustum*, of the south-Atlantic slope-rediscovered just before extinction? Paper presented at the Tennessee Aquarium Symposium on Aquatic Fauna in Peril, the Southeastern Perspective, held in Chattanooga, TN.

Burkhead, N. M., S. J. Walsh, B. J. Freeman, and J. D. Williams. 1994. The Etowah River as a model for riverine ecosystem restoration. Paper presented at the Tennessee Aquarium Symposium on Aquatic Fauna in Peril, the Southeastern Perspective, held in Chattanooga, TN.

Couch, C. A. and B. J. Freeman. 1994. Patterns in fish distributions in watersheds having various land uses in the Apalachicola-Chattahoochee-Flint River basin. Paper presented at the annual meeting of the Association of Southeastern Biologists held in Orlando, FL.

1995

DeVivo, J. C., and B. J. Freeman. 1995. Impact of introduced *Cyprinella lutrensis* on stream fish assemblages in Georgia. Paper presented at the annual meeting of the Association of Southeastern Biologists held in Greenville, SC.

1996

Freeman, B. J. 1996. Spawning behavior of the robust redhorse. Paper presented at the annual meeting of the Georgia Chapter of the American Fisheries Society, Brunswick, GA.

Freeman, B. J. 1996. Ecosystem management in the headwaters of the Coosa: Involving all the players. Paper presented at the annual meeting of the Alabama Fisheries Association, Gulf Shores, Alabama.

Couch, C.A., J. C. DeVivo, and B. J. Freeman. 1996. The role of floodplain wetlands in the short-term response of a coastal plain stream fish assemblage to flooding caused by tropical storm Alberto. Paper presented at the annual meeting of the Association of Southeastern Biologists held in Statesboro, Georgia.

Freeman, B. J. and D. M. Walters. 1996 Burying behavior in the percid subgenus *Imostoma*. Paper presented to the American Fisheries Society midyear meeting. Mobile, Alabama.

Walters, D. M. and B. J. Freeman. 1996. Spawning behavior of the amber darter, *Percina antesella*. Paper presented to the American Fisheries Society midyear meeting. Mobile, Alabama.

Walters, D. M. and B. J. Freeman. 1996. Spawning behavior of the Robust Redhorse, *Moxostoma robustum*. Poster Presentation for the American Society of Ichthyologists and Herpetologists. New Orleans, Louisiana. USA.

1997

Freeman, B. J. 1997. Jewels of the Appalachians-North Georgia's Fishes. Invited Presentation for Weekend for Wildlife, Georgia Department of Natural Resources. February 1997

J. W. Evans, B. J. Freeman, C. A. Jennings, G. L. Looney, T. L. Shelton 1997. Distributional and population status of the robust redhorse, *Moxostoma robustum*. Paper presented at the annual meeting of the GA Academy Science April 1997.

Walters, D. M. and B. J. Freeman. 1997. Status of *Gambusia* in the Conasauga River system of Georgia and Tennessee. Paper presented at the annual meeting of the American Society of Ichthyologists and Herpetologists. June 1997.

1999

Jenkins, R. E., B. J. Freeman, and J. W. Evans. 1999. Discovery, rediscovery, and distribution of the robust redhorse *Moxostoma robustum*. Paper presented at the annual meeting of the American Fisheries Society in Charlotte, NC August 1999.

Jenkins, R. E., M. D. Clements, S. C. Moore, J. W. Evans, G. L. Looney, and B. J. Freeman. 1999. Age, growth, and maturation of the River and Robust Redhorses *Moxostoma carinatum* and *M. robustum*. Paper presented at the annual meeting of the American Fisheries Society in Charlotte, NC August 1999.

Meyer, Judy, Andrew Sutherland, Kevin Barnes, David Walters and Byron Freeman. 1999. A scientific basis for erosion and sediment standards in the Blue Ridge physiographic province. IN Proceedings of the 1999 Georgia Water Resources Conference. K. Hatcher (ed). Institute of Ecology University of Georgia, Athens, Georgia.

Rosemond, Amy D., David S. Leigh, Byron J. Freeman, Mary C. Freeman, Elizabeth A. Kramer, Michael J. Paul, and Catherine M. Pringle. 1999. Development of a scientific understanding of the effects of changing landuse on stream ecosystems. IN Proceedings of the 1999 Georgia Water Resources Conference. K. Hatcher (ed). Institute of Ecology University of Georgia, Athens, Georgia.

Leigh, David S., Mary C. Freeman, Byron J. Freeman, Elizabeth A. Kramer, Catherine M. Pringle, Amy D. Rosemond, Michael J. Paul, David M. Walters, Allison Roy, and C. P. Lo. Overview of land cover and geomorphic indicators of biotic integrity in the Etowah River basin, Georgia. IN Proceedings of the 1999 Georgia Water Resources Conference. K. Hatcher (ed). Institute of Ecology University of Georgia, Athens, Georgia.

2000

Freeman, M. C., E. R. Irwin and B. J. Freeman. Native fishes below dams: working with what we have. Invited symposium paper, American Fisheries Society, Midyear Meeting of the Southern Division, Savannah, GA, February 2000.

Warren, M. L. Jr., B. M. Burr, S. J. Walsh, H. L. Bart, Jr., R. C. Cashner, D. A. Etnier, B. J. Freeman, B. R. Kuhajda, R. L. Mayden, H. W. Robison, S. T. Ross, W. C. Starnes. 2000. Diversity, distribution and conservation status of freshwater fishes of the southern United States. Paper presented at the southern division of American Fisheries Society mid-year meeting. February 2000.

Leigh, D.S., D. M. Walters, M.J. Paul, C.P. Lo, B. J. Freeman, and M.C. Freeman. Geomorphology and land cover as indicators of fishes in Piedmont streams. 2000. Paper presented at annual meeting of Association of American Geographers, New York, NY. April 2000.

Jenkins, R. E., M. D. Clements, B. J. Freeman. 2000. Hybridization in redhorse suckers, genus *Moxostoma*. Paper presented at Ethology, Evolutionary Ecology and Conservation of Fishes. May 2000.

Walters, D. M., B. J. Freeman, M. C. Freeman, E. A. Kramer, D. I. Leigh, M. J. Paul, C. M. Pringle, and A. D. Rosemond. 2000. A multi-scale approach to predicting stream fish assemblages. Paper presented at Ethology, Evolutionary Ecology and Conservation of Fishes. May 2000.

Leigh, D. S., B. J. Freeman, M. C. Freeman, E. A. Kramer, M. J. Paul, C. M. Rosemond, R. Cifaldi, A. Roy, and D. Walters. 2000. Land use and geomorphic indicators of biotic integrity in piedmont streams. Paper presented at 2000 STAR Ecosystem Indicators Progress Review Workshop, May 2000.

Freeman, B. J. and S. J. Wenger. A rapid prioritization method for protecting imperiled streams. Poster presented at annual meeting of Society for Conservation Biology. June 2000.

Leigh, D.S., D. M. Walters, M. C. Freeman, B. J. Freeman, and M. J. Paul. 2000. Stream slope and bed sediment as indicators of fish communities in the Etowah River Basin, North Georgia. Paper presented at the Geological Society of America National Meeting Reno NV. November 2000.

2001

Freeman, M. C., C. M. Pringle, E. A. Greathouse and B. J. Freeman. 2001. Ecosystem-level effects of dams resulting from losses of diadromous fishes and other organisms. Shad 2001: A conference on the status and conservation of shads worldwide. May 20-23, Baltimore, MD.

Freeman, M. C., M. D. Merrill and B. J. Freeman. Ecological considerations for reservoir planning in north Georgia. 2001 Georgia Water Resources Conference, Athens, GA March 2001.

Merrill, M.D., M.C. Freeman, B.J. Freeman, E.A. Kramer and L.M. Hartle. 2001. Stream loss and fragmentation due to impoundments in the upper Oconee watershed. IN Proceedings of the 2001 Georgia Water Resources Conference. K. Hatcher (ed). Institute of Ecology University of Georgia, Athens, Georgia.

Walters, D.M., M.C. Freeman, D.S. Leigh, B.J. Freeman, M.J. Paul, and C.M. Pringle. 2001. Bed texture and turbidity as indicators of fish biotic integrity in the Etowah River system. IN Proceedings of the 2001 Georgia Water Resources Conference. K. Hatcher (ed). Institute of Ecology University of Georgia, Athens, Georgia.

Walters, D.M., M.C. Freeman, D.S. Leigh, B.J. Freeman, M.J. Paul, and C.M. Pringle. 2001. Sediment and stream fishes in the Etowah River system. Georgia Chapter of the American Fisheries Society. Athens, GA.

Pringle, C. M., M. Freeman, and B. Freeman. 2001. The transmission of disturbance in streams and emerging biotic patterns on landscape scales. Invited paper in special session on "landscape perspectives in fish ecology" held at the Annual meetings of the North American Benthological Society, LaCrosse, WI. June 2001.

Porter, B. A. and B. J. Freeman. 2001. Investigation of potential hybrid origin of the "Sicklefin Redhorse" (*Moxostoma* sp.). Paper presented at annual SEEPAGE meeting in NC. July 2001.

2002

Freeman, B. J. 2002. Environmental Perspective: Savannah River Compact Summit. Invited Speaker, Savannah River Compact Meeting held in Augusta Georgia April 2002.

Burkhead, N. M., B. Freeman, S. J. Walsh, H. L. Jelks, C. Skelton, M. E. Freeman. 2002. Death by hybridization? Crevice cuckoldry? *Cyprinella lutrensis* (red shiner) inundates the Upper Coosa River System. Paper presented at the annual meeting of the American Society of Ichthyologists and Herpetologists. July 2002.

Storey, C., B. A. Porter, B. J. Freeman. 2002. A preliminary genetic investigation of the Cherokee darter: implications for conservation and Management. Paper presented at the annual meeting of the American Society of Ichthyologists and Herpetologists. July 2002.

2003

Storey, Jesslyn C., Carrie A. Straight, Byron J. Freeman, James Peterson, Elise R. Irwin, and Mary C. Freeman. 2003. Distribution of Endemic and Imperiled Fauna of the Tallapoosa River System of Georgia. Proceedings of the 2003 Georgia Water Resources Conference, held April 23-24 2003, at the University of Georgia. Kathryn J. Hatcher, editor, Institute of Ecology, The University of Georgia, Athens, Georgia.

Straight, Carrie A. and Byron J. Freeman. 2003. Status of Robust Redhorse (*Moxostoma robustum*): Reintroduction efforts and preliminary results of sonic-tracking in the Ocmulgee River. Proceedings of the 2003 Georgia Water Resources Conference, held April 23-24 2003, at the University of Georgia. Kathryn J. Hatcher, editor, Institute of Ecology, The University of Georgia, Athens, Georgia.

Marcinek, Paula A., Mary C. Freeman, Byron J. Freeman. 2003. Distribution and abundance of three endemic fishes in shoals of the upper Flint River system. . Proceedings of the 2003 Georgia Water Resources Conference, held April 23-24 2003, at the University of Georgia. Kathryn J. Hatcher, editor, Institute of Ecology, The University of Georgia, Athens, Georgia.

Wenger, Seth, Laurie Fowler, Byron Freeman. 2003. Etowah Habitat Conservation Plan. Proceedings of the 2003 Georgia Water Resources Conference, held April 23-24 2003, at the University of Georgia. Kathryn J. Hatcher, editor, Institute of Ecology, The University of Georgia, Athens, Georgia.

Hrabovsky, Steven, R. Harvey, C. Jernigan, I. Bergerson, G. Coffee, D. Jones, P. Leonard, E. Dilts, A. Bearden, B. Freeman, D. Dilks and T. Naperalala 2003. USACE Section 206 ecosystem restoration program and development of restoration alternatives to support projects in Cobb County, Georgia. Proceedings of the 2003 Georgia Water Resources Conference, held April 23-24 2003, at the University of Georgia. Kathryn J. Hatcher, editor, Institute of Ecology, The University of Georgia, Athens, Georgia.

2004

Wenger, Seth J, Freeman, Mary C; Freeman, Byron J; Burkhead, Noel M; Roy, Allison H. 2004. Changes in fish assemblages in urbanizing watersheds. Paper presented at the annual Meeting of the American Fisheries Society, August 2004, Madison, WI.

Roy, Allison H, Freeman, Mary C, Freeman, Byron J; Wenger, Seth J., Ensign, William E. 2004. Evaluating fish assemblages along a gradient of hydrologic alteration in small, urbanizing streams. Paper presented at the annual Meeting of the American Fisheries Society, August 2004, Madison, WI.

2005

Reinert, T.R., C. A. Straight, and B.J. Freeman. 2005. Status of the Asian Swamp Eel at the Chattahoochee Nature Center and adjacent marshes of the Chattahoochee River, GA. Paper presented at the annual meeting of the Georgia Chapter of the American Fisheries Society, January 2005, George Bagby State Park, Georgia.

D.M. Walters, M. Blum, N.M. Burkhead, B.J. Freeman, B. Rashleigh, and B.A. Porter. Invasion Dynamics of Red Shiner (*Cyprinella lutrensis*) in Southeastern Rivers. Paper presented at the annual Meeting of the American Fisheries Society, September 2005, Anchorage, AK.

2006

Burkhead, N. M., M. Blum, D. M. Walters, B. A. Porter, B. J. Freeman, and J. A. Billmeier, 2006. Hybrid Swarms, Aggressive Hybridization, and the Red Shiner: Miscues or Mystery? American Fisheries Society XX 2006. NY.

Freeman, B. J., C. A. Straight, T.R. Reinert. 2006. An update on the status of the Asian swamp eel in Georgia. Gulf and South Atlantic Regional Panel on Aquatic Invasive Species. April 2006, Atlanta Georgia.

Dakin, Elizabeth E., Brady A. Porter, James M. Long, and Byron J. Freeman. 2006. Population structure of shoal bass (*Micropterus cataractae*) in the Chattahoochee River System. American Society of Ichthyologists and Herpetologists, July 2006.

Gabel, Jennifer M., Brady A. Porter, Elizabeth E. Dakin, and Byron J. Freeman. 2006. Gene flow and population fragmentation analysis of the federally threatened Cherokee Darter. American Society of Ichthyologists and Herpetologists, July 2006.

Shane B. Ritchea, Brady A. Porter, and Byron J. Freeman. 2006. Phylogeographic analysis of the federally endangered Etowah Darter. American Society of Ichthyologists and Herpetologists, July 2006.

Straight, C.A., B. J. Freeman, B. Albanese. M. C. Freeman. 2006. Fishes of Georgia Atlas Project. American Society of Ichthyologists and Herpetologists, July 2006.

Straight, C.A., B. J. Freeman, and T. Reinert. 2006. Control and containment options for a Georgia population of Asian swamp eels (*Monopterus* sp. cf. *M. albus*). American Society of Ichthyologists and Herpetologists, July 2006.

Wenger, S. J., M.C. Freeman, J.T. Peterson, B.J. Freeman¹, and D.D. Homans. 2006. Estimating effects of impervious cover on occurrence of stream fishes to guide management policies. Annual Meeting North American Benthological Society, June 2006.

Gabel, J. M., B. E. Dakin, B. J. Freeman, and B. A. Porter. 2006. Population genetics of the federally threatened Cherokee darter using microsatellite analysis. Annual SouthEastern Population Ecology and Evolutionary Genetics meeting, NC. September 2006.

2007

Hagler, Megan and B. J. Freeman. 2007. Effects of Natural Flow Variability on the Occurrence of Shoal-Dependent Fishes Over Nine Years in the Etowah River, Georgia, USA. Annual Meeting North American Benthological Society, June 3-7, Columbia, SC..

Wenger, S. J. L. Fowler and B. J. Freeman. 2007. Integrating predictive modeling and land use policy to manage for imperiled stream fishes. Annual Meeting North American Benthological Society, June 3-7, Columbia, SC.

Freeman, M. C., S. J. Wenger, L. A. Fowler and B. J. Freeman. 2007. Adaptive management in the HCP context. Annual Meeting of the North American Benthological Society, June 3-7, Columbia, SC.

Dakin, Elizabeth E., Brady A. Porter, Byron J. Freeman, and James M. Long. 2007. Genetic integrity of an isolated population of shoal bass (*Micropterus cataractae*) in the upper Chattahoochee River Basin. POSTER presented at Piedmont – South Atlantic Coast Cooperative Ecosystem Studies Unit, Annual Meeting September 2007.

Freeman, Byron J., Carrie A. Straight, Thomas R. Reinert, and Jay Shelton. 2007. Asian swamp eel, *Monopterus* sp. cf. *M. albus*, in the Chattahoochee Nature Center and adjacent marsh, Fulton County, Georgia. POSTER presented at Piedmont – South Atlantic Coast Cooperative Ecosystem Studies Unit, Annual Meeting September 2007.

Hagler, Megan M., Byron J. Freeman, Seth J. Wenger, and Mary C. Freeman. 2007. Declines of several shoal-dependent fish species in the Conasauga River over the last Decade - potential mechanisms and future research needs. Annual meeting of the Southeastern Fishes Council, Chattanooga, TN. November 2007.

Wenger, Seth J., Laurie A. Fowler, Byron J. Freeman. 2007. The Etowah Aquatic Habitat Conservation Plan. Annual meeting of the Southeastern Fishes Council, Chattanooga, TN. November 2007.

2008

George, Anna L., David A. Neely, Megan Hagler, Byron J. Freeman. 2008. SFC Desperate Dozen: Conasauga Logperch (*Percina jenkinsi*). Annual meeting of the Southeastern Fishes Council, Chattanooga, TN. November 2008.

Porter, Brady, Jennifer Gabel, Shane Ritchea, Beth Dakin, Casey Storey and Byron J. Freeman. 2008. Comparative phylogeography of three imperiled darter species in the upper Coosa River system. Annual meeting of the

Southeastern Fishes Council, Chattanooga, TN. November 2008.

Hagler, Megan Mary Freeman, and Bud Freeman. 2008. Using occupancy to estimate population status of the Conasauga logperch *Percina jenkinsi*. Annual meeting of the Southeastern Fishes Council, Chattanooga, TN. November 2008.

Straight, Carrie A., Byron J. Freeman, and Mary C. Freeman. 2008. Fishes of Georgia: Coming Soon to an Internet Connection Near You!! Annual meeting of the Southeastern Fishes Council, Chattanooga, TN. November 2008.

2009

Freeman, Byron J. and Andrew Taylor. 2009. Taxonomy of the redeye bass complex. *Special symposium Endemic Black Bass Species in Southern U.S.* Annual meeting of the American Fisheries Society, Nashville, TN September 2009.

Quattro, Joseph, Kenneth Oswald, Jean Leitner, and Byron Freeman. 2009. Molecular systematic relationships of redeye bass. *Special symposium Endemic Black Bass Species in Southern U.S.* Annual meeting of the American Fisheries Society, Nashville, TN September 2009.

Porter, Brady, Jennifer Gabel, Casey Storey, Elizabeth Dakin, and Byron J. Freeman. 2009. Comparative phylogeography of three imperiled darter species in the upper Coosa River system. Annual meeting of the American Fisheries Society, Nashville, TN September 2009.

Anderson, Gregory B., Mary C. Freeman and Byron J. Freeman. 2009. Occupancy estimation and modeling of the *Etheostoma brevirostrum* species complex within the Etowah River system of Northern Georgia. Annual meeting of the Southeastern Fishes Council, Chattanooga, TN. November 2009.

2010

Freeman, B. and Carrie Straight. Update on robust redhorse populations and reproduction in the Broad River (Georgia). Annual Meeting of Robust Redhorse Conservation Committee, Webb Center, South Carolina, September 2010.

2011

Albanese, B., D. Weiler, M. Camp, and B. Freeman. Status and habitat use of the goldline darter (*Percina aurolineata*) in the Coosawattee River system of northwest Georgia. Annual Meeting Southern Division American Fisheries Society, Tampa FL. January 2011.

2013

Hagler, Megan, M. Freeman, B. Freeman. The difficult problem of detecting population trends of rare fishes that occur in big rivers. Annual Meeting Southern Division American Fisheries Society, Nashville, Tennessee, February 8-10, 2013.

Dakin, E. E., B. A. Porter, B. J. Freeman, and J. M. Long. Hybridization threatens Shoal Bass populations in the upper Chattahoochee River basin. Annual Meeting Southern Division American Fisheries Society, Nashville, Tennessee, February 8-10, 2013.

Freeman, B. J., A. Taylor, K. J. Oswald, J. Wares, M. C. Freeman, J. Quattro, and J. Leitner. Shoal basses, a clade of cryptic identity. Annual Meeting Southern Division American Fisheries Society, Nashville, Tennessee, February 8-10, 2013.

Oswald, K. J. Leitner, B. Freeman, and J. Quattro. Evolutionary Conservation Genetics and Historical Demography of Bartram's Bass (*Micropterus* sp. cf. *M. coosae*) . Annual Meeting Southern Division American Fisheries Society, Nashville, Tennessee, February 8-10, 2013.

Freeman, B. J., A. Taylor, K. J. Oswald, J. Wares, M. C. Freeman, J. Quattro, and J. Leitner. Shoal basses, a clade of cryptic identity. Annual Meeting American Fisheries Society, Little Rock, Arkansas, September 8-12, 2013.

2015

Straight, C.A., C.R. Jackson, M.C.Freeman, and B.J.Freeman. Using Passive Acoustic Monitoring to Assess Diel Patterns and Temporal Trends in Spawning Rates of Robust Redhorse (*Moxostoma robustum*). Annual Meeting Southern Division American Fisheries Society, Savannah, Georgia, January 29-February1st, 2015.

2016

Freeman, B. J. and T. Kwak—Status of the Chattahoochee Bass in Puerto Rico. Annual Meeting Puerto Rico Chapter of the American Fisheries Society. Jan 8 2016 Ponce, Puerto Rico.

Freeman, B.J. Black Bass. Presentation to the UGA Student Chapter of the American Fisheries Society. September 15 2016.

2017

Bumpers, Phillip M., Mary C. Freeman , Megan M. Hagler , Byron J. Freeman, Seth J. Wenger. High summer flows correlate with lower population growth of shoal fishes in the current year, but higher growth in the next year. Presentation to Annual Meeting of Southeastern Fishes Council held in Chattanooga TN, 16-17 November 2017.

Stowe, Edward, Seth Wenger, Mary Freeman, Byron Freeman. Assessing fish species declines from 1996 to 2016 in the Conasauga and Etowah rivers, GA. Presentation to Annual Meeting of Southeastern Fishes Council held in Chattanooga TN, 16-17 November 2017.

Wheeler, Kit, James H. Roberts, Mary C. Freeman, Byron J. Freeman, Paul L. Angermeier. How well does the flow-trait framework predict short-term fish community dynamics in unregulated rivers? Presentation to Annual Meeting of Southeastern Fishes Council held in Chattanooga TN, 16-17 November 2017.

2018

Freeman, Byron J. Black Bass Diversity in Georgia. Invited presentation to the annual meeting of the North American Native Fish Association held in Young Harris, GA.

2019

Bennett, Jared and B. J. Freeman. 2019. Identification and Distribution of Greenbreast (*Etheostoma jordani*) and Etowah Darters (*Etheostoma etowahae*) in the Etowah River System in Georgia. CURO Symposium Poster, Athens, GA. 8-9 April 2019.

Dwoskin, Elijah and B. J. Freeman. 2019. Hybridization in Chattahoochee Bass. CURO Symposium Poster, Athens, GA. 8-9 April 2019.

McPherson, Megan, S.P. Birch and B. J. Freeman. 2019. Mysteries of the Museum: Uncovering the History of the Georgia Museum of Natural History. CURO Symposium Poster, Athens, GA. 8-9 April 2019.

Freeman, M. C. and B. J. Freeman. 2019. Evidence of spatial and temporal changes in benthic habitat conditions in the Conasauga River mainstem. Georgia Water Resources Conference, Athens, GA, 16-17 April 2019.

2021

Bayona, N. J. and B. J. Freeman. Exploratory species delimitations among cryptic black basses. Virtual Black Bass Symposium, Southern Division American Fisheries Society, 7 April 2021.

2024

Hou, Richard , Budnik, David , Freeman, Byron J., Pierson, Todd W. , and Bayona-Vásquez, Natalia J. Assessing the genetic diversity and evolution of a recently introduced species in the Southeastern US: The Joro Spider, *Trichonephila clavata* (Araneidae) 30 July 2024, Third Joint Congress on Evolutionary Biology.

Freeman, Byron J., Freeman, Mary C., Hilburn Bryson G., Bennett, Jared ,Petersen, Kelly, Bayona-Vásquez, Natalia, Wares, John P. On the validity of *Percina crypta*. 22 November 2024, Annual Meeting of the Southeastern Fishes Council

Undergraduate Student Education

- 2016 Research Mentor for Chris Tucker, Warnell School of Forestry and Natural Resources
Senior Thesis Research Mentor for Chris Tucker, WSFNR
CURO Advisor Spring 2016 Guy Eroh, Odum School of Ecology
- 2017 Senior Thesis Research Mentor for Steven Meyer, Warnell School of Forestry and Natural Resources
Research Advisor for Steven Meyer (ECOL 4960), WSFN undergraduate
Research Advisor for Sean Kelley (ECOL 4960), OSE undergraduate.
Research Advisor for Kaitlyn Chambers (GENE 4960) deceased
- 2018 Research Adviser for Alana Hagley (BIOL 4960), BIOL undergraduate
- 2019 Research Advisor for Jared Bennett (ECOL 4960) Spring, Fall, CURO Advisor Spring, Summer, Fall
Research Advisor for Elijah Dwoskin (ECOL 4960) Spring, CURO Advisor Spring
Research Advisor for Emily Noakes (ECOL 4960) Summer
Museum of Natural History Internship Advisor (ECOL 4261)
Emily Noakes
Ivy Francis
Diane Klement
- 2020 Research Advisor for Jared Bennett (ECOL 4960) Spring
- 2021-Senior Thesis Research Mentor Jamon Jordan, WSFNR
Curo Advisor Spring 2021-Jamon Jordan —
Co-Graduate Advisor Double Dawg Jared Bennett
Honors Option Advisor- James Secor Ichthyology Fall 2021GA
- 2022 Young Dawg Advisor Spring 2022. Chloe Graham

Graduate Student Education

Graduate students I have provided primary or secondary support for

- 1995 Joe DeVivo
- 1996 Kevin Barnes, Joe Devivo, David Walters, Andy Willats
- 1997 Kevin Barnes, David Walters, Andy Willats, Deborah Kane
- 1998 Andy Willats, David Walters
- 1999 David Walters, Lee Hartle
- 2000 David Walters, Lee Hartle, Michael Merrill
- 2001 David Walters, Casey Storey, Paula Marcinek, Wendy Parisi
- 2002 David Walters, Casey Storey, Paula Marcinek, Allison Roy
- 2003 Allison Roy, Seth Wenger

2004 Allison Roy, Seth Wenger, Jane Rogers, James Norman, Will Duncan
2005 Seth Wenger, Jane Rogers, James Norman, David Homans, Justin Ellis
2006 Seth Wenger, Jane Rogers, James Norman, David Homans
2007 Greg Anderson, Rachel Katz, Carrie Straight
2008 Greg Anderson, Rachel Katz, Carrie Straight
2009 Greg Anderson, Rachel Katz, Carrie Straight, Christina Baker
2010 Rachel Katz, Carrie Straight, Christina Baker
2011 Carrie Straight, Christina Baker
2012 Carrie Straight, Christina Baker
2013 Carrie Straight
2014 Carrie Straight
2021- Jared Bennett
2022- Jared Bennett

Graduate students on whose committees I have served or provided substantial guidance on research

Graduated

Patrick Pierce, Joe DeVivo, Kevin Barnes, David Walters, Andy Willats, Michael Merrill, Casey Storey, Paula Marcinek, Megan Hagler, Jane Rogers, David Homans, Seth Wenger, Wendy Parisi, Greg Anderson, Sarah Bergh, Christina Baker, Carrie Straight, Rachel Katz, Katie Bockrath, Nick Troendle, Adam Clause, Karen Bobier, Will White, Jacob Tyler, Jared Bennett

Current 2024

Bryson Hilburn

Committees and Assignments

Previous

Member, Seminar Committee Odum School of Ecology
Chair, Facilities Committee, Odum School of Ecology
Co-Chair Search Committee for River Basin Center Science Policy Director 2013
Chair, University Facilities Committee as Representative of Odum School of Ecology 2016-2023
Member University Facilities Committee as Representative of Odum School of Ecology 2023-2026
Member, University Council Executive Committee, Representative of Odum School of Ecology 2023-2026
Member, University Facilities Committee Representative of Odum School of Ecology
Member, Precinct Plan Steering Committee, GMNH, Interdisciplinary Stem Building One. 2017- 2021
Member, University Wide Committee to hire Facilities AVP. 2021.
Member Search Committee— Curator UGA Herbarium 2022-23.

Post-Doctoral Fellows

Brady Porter
Mark Scott
Tom Reinert

Service Requests

Reviews 2020

Conservation Genetics Resources

Freshwater Biology

Marine and Freshwater Research

Reviews 2021

Conservation Genetics

Served as endangered species expert at Georgia House of Representatives Committee hearing summer 1992 at request of GDNR Fisheries.

Served as endangered species expert at GDNR Board of Natural Resources meeting, August 1992 at request of Department of Natural Resources. Served as endangered species expert and testified at GDNR Board of Natural Resources meeting, October 1992 at request of Department of Natural Resources.

Appointed to Committee to propose legislative changes to Georgia's protected species legislation. January 1993, by Joe Tanner, GDNR commissioner.

Testified at Georgia Senate Committee hearing on Soil Erosion and Sedimentation Legislation summer 1993 at request of State Senate.

Panel Member, Technical Advisory Group for the West Georgia Regional Water Supply Project. 1993. at request of Georgia Department of Natural Resources.

Alabama Sturgeon Scientific Review Panel member, at the request of the U.S. Department of the Interior. 1993.

Panel Member, Robust Redhorse Recovery Team. at request of Georgia Department of Natural Resources. 1994 through 2002.

Appointed to Regents Committee to determine statutory changes to Georgia's Soil Erosion and Sedimentation Legislation. 1994, at request of the Georgia State Senate.

Chairman, Fisheries Workgroup, Rivercare 2000 River Assessment Team, at request of Georgia Department of Natural Resources. 1996-1998

Panel Member, Minimum In-stream Flow Workgroup, 1996-1998, at request of Georgia Department of Natural Resources.

Expert Witness at the request of Georgia Attorney General and Georgia Department of Natural Resources. 1998.

Member, Technical Advisory Committee, Southeastern Fishes Council 1998-2001.

Member, Georgia Nongame Advisory Committee, at request of Georgia Department of Natural Resources. 1998-2001

Member Special committee to evaluate "DeadHead" logging in Georgia, at request of Georgia Department of Natural Resources. 1999-2001

Member, Executive Committee, River Basin Science and Policy Center 2000-2002

Invited Speaker, Savannah River Compact Meeting held in Augusta Georgia April 2002.

Invited participant, ACT-ACF Biological Monitoring Planning Workshop at request of The Nature Conservancy and US Geological Survey, held in Albany Georgia April 2002.

Invited resource specialist, Institute for Georgia Environmental Leadership, sponsored by Governor's Environmental Advisory Council and J.W. Fanning Institute for Leadership, November 2002.

Invited resource specialist, Georgia DNR State Wildlife Assessment Program Technical meeting, held at Georgia Wildlife Federation Office, January 2014.

Member, Executive Committee, Robust Redhorse Conservation Committee 2016-2025.

Community Service

Member, Board of Directors, Madison County Chamber of Commerce 1990-1992

Founder and Member, Board of Directors Broad River Watershed Association 1992-1998, 2008-2011

Member, Citizens Task Force to develop the Madison County Comprehensive Land Use Plan 1992-1998

Solid Waste and River Corridor Consultant to Madison County Planning Commission 1992-1998

Chairman, Board of Directors Broad River Watershed Association 1997-1998

Member, Board of Directors, Broad River Watershed Association 2009-2016

Honors and Awards

2000

Co-Recipient Alec Little Environmental Award

2011

Faculty Recognition Award from Franklin College for working with Deans Council

2018

Selected as a participant in the Special Collections Libraries Faculty Fellows Program

2019

Completed Special Collections Libraries Faculty Fellows Program