

Curriculum Vitae for Byron J. Freeman

Georgia Museum of Natural History
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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

Director and Curator of Zoology 2004 to Present, Georgia Museum of Natural History
Senior Public Service Associate 2001 to present, Institute of Ecology

Previous Professional Experience

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.

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.

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.
- 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.
- 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.
- 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.
- 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 redhorse 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 cooperators 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, *Pteronotopis 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.

Current Contracts and Grants

- 2003-2007. Applied research for the development of an HCP for imperiled aquatic species of the Etowah River basin, including an evaluation of the efficacy of RPMs used in biological opinions. US Geological Survey. B. J. Freeman PI. \$220,853.
- 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.
- 2005-2007. Atlas of Georgia Freshwater Fishes. Georgia Department of Natural Resources. B. J. Freeman P.I. \$76,914.
- 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.
- 2006-2007. Herpnet – 5th Year Award to GMNH. National Science Foundation. Byron J Freeman, PI. \$16,749.
- 2006-2011. GEPR: Maize Transposable Elements: Discovery, Description and Functional Characterization. National Science Foundation. S. Wessler, J. Bennetzen, R. Dawe, N. Jiang, P. SanMiguel Co-PIs. B. Freeman Non-Co-PI. \$3,982,101. Subaward to B.J. Freeman \$73,924 Year 1.
- 2006-2009. Genetic structure and gene flow between isolated habitats of the federally endangered amber darter (*Percina antesella*). U.S. Geological Survey, B. J. Freeman and Brady Porter, PIs. \$95,000.

Submitted Contracts and Grants

Submitted Grants with Notice of Award

- 2007-2008. Assessing conservation improvements in the Conasauga River system. Georgia Department of Natural Resources. B. J. Freeman P.I. \$27,000.
- 2007-2008. Assessing baseline ecological conditions in the upper Etowah River system. Georgia Department of Natural Resources. B. J. Freeman P.I. \$27,260.

Submitted Grants Pending Notice of Award

Submitted Grants with Notice of Rejection

- 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.

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 stakeholders 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.
- 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.
- Roy, A. H., B. J. Freeman, Mary C. Freeman. 2006. Riparian influences on stream fish assemblage structure in urbanizing streams. *Landscape Ecology*. SpringerLink. DOI 10.1007/s10980-006-9034-x.
- 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.

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.
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American Society of Ichthyologists and Herpetologists
Georgia Chapter American Fisheries Society
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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 Seth Wenger, Jane Rogers, James Norman.

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. Naperala 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.

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 2007.

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

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

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

Current

Carrie Straight

Post-Doctoral Fellows

Brady Porter

Mark Scott

Tom Reinert

Service Requests

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 Instream 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.

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

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

Honors and Awards

2000

Co-Recipient Alec Little Environmental Award