

## SUMMARY CURRICULUM VITAE

[Stephen W. Golladay, Ph.D.](#)

Associate Scientist



Dr. Golladay's interests include the ecology of streams and wetlands, the impact of human land use on water quality and aquatic invertebrates, and the impact of variation in hydrology on ecological processes and aquatic communities. Recently, he has developed an interest in the ecology and conservation of rare and endangered freshwater mussel species. Dr. Golladay has served as a technical advisor to the Sand County Foundation, Georgia EPD, DNR and Water Management districts in Florida. He has developed training activities

for resource professionals in partnership with the U.S. Fish and Wildlife Service. Dr. Golladay also has assisted in the development of programs to enhance the natural resource awareness of regional educators in cooperation with regional Georgia Youth Science and Technology Centers.

### Education:

PhD in Zoology, Virginia Polytechnic Institute and State University, May 1988

MS in Zoology, Virginia Polytechnic Institute and State University, May 1981

BS in Biology, Juniata College, May 1978

### Professional Experience:

1998-present: Associate Scientist, J. W. Jones Ecological Research Center

1998-present: Adjunct Assistant Research Scientist, Institute of Ecology, University of Georgia

1992-1997: Assistant Scientist, J. W. Jones Ecological Research Center

1992-1997: Adjunct Assistant Research Scientist, Institute of Ecology, University of Georgia.

1990-1992: Assistant Professor, Biological Station and Department of Zoology, University of Oklahoma

1988-1990: Research Assistant Professor, Biology Department, Clarkson University

1987-1988: Research Associate, Biology Department, Virginia Polytechnic Institute and State University

Professional Affiliations:

The North American Benthological Society  
 The American Association of the Advancement of Science  
 The Ecological Society of America  
 The Freshwater Mussel Conservation Society

Recent Research Publications: (Past 8 years)

Allums, S. E., S. P. Opsahl, S. W. Golladay, D. W. Hicks, and L. M. Conner. (In Press). Nitrate concentrations in springs flowing into the lower Flint River Basin, Georgia. *Journal of the American Water Resources Association*. (JAWRA) 1-16. DOI: 10.1111/j.1752-1688.2011.00624.x.

Batzer, D., F. Day, and S. Golladay. (In Press). Southeastern swamp complexes. In: D. Batzer, and A. Baldwin (eds.). *Wetland Habitats of North America: Ecology and Conservation Concerns*. University of California Press, Berkeley, California.

Kirkman, L. K., L. L. Smith, and S. W. Golladay. (In Press). Southeastern depressional wetlands. In: D. Batzer, and A. Baldwin (eds.). *Wetland Habitats of North America: Ecology and Conservation Concerns*. University of California Press, Berkeley, California.

Webster, J. R., E. G. Benfield, S. W. Golladay and M. E. McTammany. (In Press). Recovery of particulate organic matter dynamics in a stream draining a logged watershed—a pressing situation. In W. T. Swank (ed.). *Forest watershed ecosystem recover*. Oxford University Press.

Kirkman, L. K., L. L. Smith, P. F. Quintana-Ascencio, M. J. Kaeser, S. W. Golladay, and A. L. Farmer. 2012. Is species richness congruent among taxa? Surrogacy, complementarity and environmental correlates among three disparate taxa in geographically isolated wetlands. *Ecological Indicators* 18:131-139.

Rugel, K., C. R. Jackson, J. J. Romeis, S. W. Golladay, D. W. Hicks, and J. F. Dowd. 2012. Effects of irrigation withdrawals on streamflows in a karst environment: lower Flint River Basin, Georgia, USA. *Hydrological Processes* 26:523-534.

Atkinson, C. L., M. R. First, A. P. Covich, S. P. Opsahl, and S. W. Golladay. 2011. Suspended material availability and filtration–biodeposition processes performed by a native and invasive bivalve species in streams. *Hydrobiologia* 667:191-204.

- Atkinson, C. L., S. W. Golladay, and M. R. First. 2011. Water quality planktonic microbial assemblages of isolated wetlands in an agricultural landscape. *Wetlands* 31:885-894.
- Buckner, E. A., M. S. Blackmore, S. W. Golladay, and A. P. Covich. 2011. Weather and landscape factors associated with adult mosquito abundance in southwestern Georgia, U.S.A. *Journal of Vector Ecology* 36:269-278.
- Kirkman, L. K., E. A. Whitehead, S. W. Golladay, L. L. Smith, and S. P. Opsahl. 2011. A research framework for identifying potential linkages between isolated wetlands and disease ecology. *Ecological Research* 26:875-883.
- Sargent, L. W., S. W. Golladay, A. P. Covich, and S. P. Opsahl. 2011. Physico-chemical habitat association of a native and non-native crayfish in the lower Flint river, Georgia: implications for invasion success. *Biological Invasions* 13:499-511.
- Sterrett, S. C., L. L. Smith, S. W. Golladay, S. H. Schweitzer, and J. C. Maerz. 2011. The conservation implications of riparian land use on river turtles. *Animal Conservation* 14:38-46.
- Atkinson, C. L., S. P. Opsahl, A. P. Covich, S. W. Golladay, and L. M. Conner. 2010. [Stable isotopic signatures, tissue stoichiometry, and nutrient cycling \(C and N\) of native and invasive freshwater bivalve.](#) *Journal of the North American Benthological Society* 29:496-505.
- Opsahl, S. P., S. W. Golladay, L. L. Smith, and S. E. Allums. 2010. Resource-consumer relationships and baseline stable isotopic signatures of food webs in isolated wetlands. *Wetlands* 30:1213-1224.
- Atkinson, C. L., S. W. Golladay, S. P. Opsahl, and A. Covich. 2009. Stream discharge and floodplain connections affect seston quality and stable isotopic signatures in a coastal plain stream. *Journal of the North American Benthological Society* 28:360-370.
- Griswold, M. W., R. W. Berzini, T. L. Crisman, and S. W. Golladay. 2008. Impacts of climatic stability on the structural and functional aspects of macroinvertebrate communities after severe drought. *Freshwater Biology* 53:2465-2483.
- Liner, A. E., L. L. Smith, S. W. Golladay, S. B. Castleberry, and J. W. Gibbons. 2008. [Amphibian distributions within three types of isolated wetlands in southwest Georgia.](#) *American Midland Naturalist* 160:69-81.

- Muenz, T. K., S. W. Golladay, L. L. Smith, and G. Vellidis. 2008. [Diet and abundance of southern two lined salamander larvae \(\*Eurycea cirrigera\*\) in streams within an agricultural landscape, southwest Georgia.](#) Southeastern Naturalist 7:691-704.
- Neatrour, M. A., R. H. Jones, and S. W. Golladay. 2008. [Assessment of nutrient limitation in floodplain forests with two different techniques.](#) Research Letters in Ecology. vol. 2008, Article ID 260754, 4 pages. doi:10.1155/2008/260754.
- Battle, J. M., and S. W. Golladay. 2007. How hydrology, habitat type, and litter quality affect leaf breakdown in wetlands on the Gulf Coastal Plain of Georgia. Wetlands 27:251-260.
- Golladay, S. W., J. M. Battle, and B. J. Palik. 2007. Large wood debris recruitment on differing riparian landforms along a Gulf Coastal Plain (USA) stream: a comparison of large floods and average flows. River Research and Applications 23:391-405.
- Neatrour, M. A., R. H. Jones, and S. W. Golladay. 2007. [Response of three floodplain tree species to spatial heterogeneity in soil oxygen and nutrients.](#) Journal of Ecology 95:1274-1283.
- Muenz, T. K., S. W. Golladay, G. Vellidis, and L. L. Smith. 2006. [Stream buffer effectiveness in an agriculturally influenced area, southwestern Georgia: responses of water quality, macroinvertebrates, and amphibians.](#) Journal of Environmental Quality 35:1924-1938.
- Neatrour, M. A., R. H. Jones, and S. W. Golladay. 2006. [Correlations between soil nutrient availability and fine-root biomass at two spatial scales in forested wetlands with contrasting hydrological regimes.](#) Canadian Journal of Forest Research 35:2934-2941. Reproduced with permission of the National Research Council Press © 2006.
- Smith, L. L., D. A. Steen, J. M. Stober, M. C. Freeman, S. W. Golladay, L. M. Conner, and J. C. Cochrane. 2006. [The vertebrate fauna of Ichauway, Baker County, GA.](#) Southeastern Naturalist 5:599-620.
- Gagnon, P. M., S. W. Golladay, W. K. Michener, and M. C. Freeman. 2004. [Drought responses of freshwater mussels \(unionidae\) in coastal plain tributaries of the Flint River Basin, Georgia.](#) Journal of Freshwater Ecology 19:667-679.
- Golladay, S. W., P. Gagnon, M. Kearns, J. M. Battle, and D. W. Hicks. 2004. [Response of freshwater mussel assemblages \(\*Bivalvia:Unionidae\*\) to a record drought in the Gulf Coastal Plain of southwestern Georgia.](#) Journal of North American Benthological Society 23:494-506.

Outreach Publications and Reports to Natural Resource Agencies: (Past 7 years)

- Rugel, K., S. W. Golladay, and C. R. Jackson. 2011. [Identifying groundwater/stream interaction in the lower Flint River Basin using multiple stream parameters and remote sensing data sets](#). Proceedings of the 2011 Georgia Water Resources Conference, held April 11-13, 2011, at the University of Georgia, Athens, Georgia. <http://gawrc.org/2011proceedings.html>.
- Smith, N. D., and S. W. Golladay. 2011. [Coleoptera indicator species in wet vs. dry climate regimes in three southwestern Georgia wetland types](#). Proceedings of the 2011 Georgia Water Resources Conference, held April 11-13, 2011, at the University of Georgia, Athens, Georgia. <http://gawrc.org/2011proceedings.html>.
- Allums, S. E., S. P. Opsahl, S. W. Golladay, and D. W. Hicks. 2009. [Effects of land-use on groundwater quality in springs of the Upper Floridan aquifer](#). Pages 358-361 in G. D. Carroll (ed.). Proceedings of the 2009 Georgia Water Resources Conference. Institute of Ecology, University of Georgia, Athens, Georgia.
- Rugel, K., J. Romeis, C. R. Jackson, S. W. Golladay, D. W. Hicks, and J. F. Dowd. 2009. [Use of historic data to evaluate effects of pumping stress on streams in southwest Georgia](#). Pages 140-143 in G. D. Carroll (ed.). Proceedings of the 2009 Georgia Water Resources Conference. Institute of Ecology, University of Georgia, Athens, Georgia.
- Golladay, S. W., and T. K. Muenz. 2006. Survey and relocation study of Unionids In Chickasawhatchee Creek and Elmodel Wildlife Management Areas, Southwest Georgia. Submitted to Georgia DNR Natural Heritage Program, Social Circle, Georgia.
- Hicks, D. W., and S. W. Golladay. 2006. Impacts of agricultural pumping on selected streams in southwestern Georgia. Submitted to Georgia Environmental Protection Division, Atlanta, Georgia.
- Muenz, T. K., S. P. Opsahl, S. W. Golladay, D. W. Hicks, B. Clayton, and K. A. Cressman. 2006. Assessment of stream habitat in the Flint River Basin. Submitted to U.S. F.W.S., Panama City, Florida.
- Shaw, D. T., C. N. Dahm, and S. W. Golladay. 2005. A Review of proposed minimum flows and levels for the middle segment of the Peace River, from Zolfo Springs to Arcadia. Submitted to the Southwest Florida Water Management District. Brooksville, Florida.

Grants and Contracts: (Past 6 years)

McLendon, M. and D. Reckford (Project Director's). 2011. Irrigation automation to improve the efficiency of water resource management in row crop production and maintain aquatic-based ecosystems services in the Lower Flint River Basin of Georgia. USDA-NRCS Conservation Innovation Grant. \$550,000. Jones Center subcontract \$59,639. Jones Center Project Personnel: S.W. Golladay, D.W. Hicks, N. Smith, B. Clayton.

Miwa, M., and S. W. Golladay. July 2001– present. Streamside management zone effectiveness on first order stream water quality and the aquatic habitats in southwest Georgia. Cooperative agreement with International Paper Company.

Tietjen, W., S. W. Golladay, R. K. McIntyre, L. Larson, and D. McGlincy. 2007. Environmental Education Research Academy (EERA) 2005: A summer workshop designed to increase content knowledge and improve instructional strategies in science for K-12 Teachers. Improving Teacher Quality Grants Program. University of Georgia. (\$23,688 administered through Georgia Southwestern University).

Tietjen, W., S. W. Golladay, R. K. McIntyre, and D. McGlincy. 2005. Environmental Education Research Academy (EERA) 2005: A summer workshop designed to increase content knowledge and improve instructional strategies in science for K-12 Teachers. Improving Teacher Quality Grants Program. University of Georgia. (\$21,688 administered through Georgia Southwestern University).

Current Jones Center Research:

Golladay, S. W., L. L. Smith, and D. W. Hicks. Hydrologic variation and human development in the lower Flint River Basin: An ongoing landscape-scale experiment.

Kirkman, L. K., L. L. Smith, S. W. Golladay, and D. W. Hicks. Depressional wetlands in the coastal plain landscape: Maintenance of regional biological diversity.

Recent Student Advisement:

Gina Botello. Current. Spatiotemporal investigation of larval mosquitoes and their basal food resources in isolated reference and agricultural wetlands in southwestern Georgia. M.S. Thesis. Odum School of Ecology, University of Georgia, Athens, Georgia. (Co-Advisor with Alan Covich).

Kathleen Rugel. Current. Influence of human water use on streamflow characteristics in the lower Flint River, Georgia. Ph.D. Dissertation. Odum School of Ecology, University of Georgia, Athens, Georgia. (Co-Advisor with C. Rhett Jackson).

- Stephen Shivers. Current. The role of submerged aquatic vegetation (*Hydrilla verticillata*) on nutrient dynamics and freshwater aquatic food webs within Lake Seminole. Ph.D. Dissertation. Odum School of Ecology, University of Georgia, Athens, Georgia. (Co-Advisor with Alan Covich).
- Erica Teasley. Current. Mosquito ecology. M.S. Thesis. Odum School of Ecology, University of Georgia, Athens, Georgia. (Co-Advisor with Alan Covich).
- Stephen Shivers. 2010. The impact of submerged aquatic vegetation on nutrient dynamics and bacterial metabolism in a southeastern reservoir. M.S. Thesis. Odum School of Ecology, University of Georgia, Athens, Georgia. (Co-Advisor with Alan Covich).
- Lindsey Sargent. 2009. The influence of physicochemical characteristics and interspecies interactions on the invasion success of a non-native crayfish. M.S. Thesis. Odum School of Ecology, University of Georgia, Athens, Georgia. (Co-Advisor with Alan Covich).
- Eva Whitehead. 2009. Adult mosquito ecology in southwestern Georgia. M.S. Thesis. Odum School of Ecology, University of Georgia, Athens, Georgia. (Co-Advisor with Alan Covich).
- Matt Neatrour. 2005. Factors affecting root system response to nutrient heterogeneity in forested wetland ecosystems. Ph.D. Dissertation. Department of Biology, Virginia Polytechnic Institute and State University, Blacksburg, Virginia. (Co-Advisor with Robert H. Jones).
- Tara Muenz. 2004. Indicators of stream health: the use of benthic macroinvertebrates and amphibians in an agriculturally impacted area, southwest Georgia. M.S. Thesis. Institute of Ecology, Conservation Ecology and Sustainable Development, University of Georgia, Athens, Georgia. (Co-advisor with George Vellidis).
- Margaret Kearns. 2001. Effects of annual flow regime on redbreast sunfish and bluegill growth. M.S. Thesis. Conservation Biology Program, School of Ecology, University of Georgia, Athens, Georgia. (Co-advisor with Mary Freeman).
- Sally Entekin. 2000. Abundance, biomass, and secondary production of chironomids (Diptera) in grass-sedge marshes and cypress-gum swamps. M.S. Thesis. Entomology Department, University of Georgia, Athens, Georgia. (Co-advisor with Darold Batzer).

Stephanie Davis. 2000. Assessing impacts of animal agriculture on macroinvertebrates in intermittent Coastal Plain streams in the southeastern USA: implications for biomonitoring. M.S. Thesis. Conservation Biology Program, School of Ecology, University of Georgia, Athens, Georgia. (Co-advisor with Catherine Pringle).