

## Charles R. Lane, Research Ecologist, in EPA's National Exposure Research Laboratory

Systems Exposure Division

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**Area of Expertise:** My research focuses on quantifying the condition, function, and location of wetlands, mostly - but not solely - targeting cryptic isolated wetlands (e.g., woodland ponds or vernal pools, flatwoods ponds, cypress domes, Carolina bays, etc.) in multiple ecoregions of the United States. Various assemblages are used to assess condition, including microbes, diatoms, macroinvertebrates, and macrophytes. Function research has focused on denitrification, phosphate sorption, water storage, and metal and carbon sequestration. Location information utilizes remote sensing platforms (e.g., Landsat, Worldview-2, LIDAR) and GIS data to identify potential isolated systems. My interests have moved from condition indicators to measures of function, with a desire to quantify the relative importance of isolated wetlands (individually and as a class) on navigable waters using modeling approaches coupled with field-based indicators of hydrologic and nutrient functioning.

### Select Publications:

Evenson, G., H. Golden, C. Lane, AND E. D'Amico. [An improved representation of geographically isolated wetlands in a watershed-scale hydrologic model](#). Hydrological Processes. John Wiley & Sons, Ltd., Indianapolis, IN, online, (2016).

Lane, C. AND E. D'Amico. [Identification of Putative Geographically Isolated Wetlands of the Conterminous United States](#). JAWRA. American Water Resources Association, Middleburg, VA, online, (2016).

Evenson, G., H. Golden, C. Lane, AND E. D'Amico. [Testing wetland axioms at a watershed scale: Case studies of the aggregate hydrologic effects of non-adjacent wetlands](#). American Geophysical Union 2015 Fall Meeting, San Francisco, CA, December 14 - 18, 2015.

View research publications by [Charles Lane](#).

### Education:

- Ph.D. in Systems Ecology, 2003, University of Florida
- M.S. in Systems Ecology, 2000, University of Florida
- B.A. in Economics, 1995, University of North Carolina

### Professional Experience:

- Research Ecologist, USEPA, ORD/NERL/EERD, 2007 to Present
- Federal Post-Doctorate Research Fellow, USEPA, ORD/NERL, 2003 to 2007

- Graduate Research Associate/Ph.D. Candidate, University of Florida, H.T. Odum Center for Wetlands, Department of Environmental Engineering Sciences, 2000 to 2003
- Graduate Research Assistant/MS Candidate, University of Florida, H.T. Odum Center for Wetlands, Department of Environmental Engineering Sciences, 1997 to 2000
- Research Assistant, Florida Gap Analysis Program, USGS Biological Resources Division, 1997