

Jake Beaulieu, Research Ecologist in EPA's National Risk Management Research Laboratory

Water Systems Division

[Mailing Address](#)

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Areas of Expertise:

- Establishing the role of aquatic ecosystems in the transport and distribution of biologically important elements including nitrogen, phosphorus, and carbon.
- Field-based investigations using stable isotopes, spatially balanced survey designs, and eddy covariance methods in streams, rivers, and reservoirs.
- Establishing national and global emissions estimates for nitrous oxide, carbon dioxide, and methane.

Select Publications:

DelSontro, T., **Beaulieu, J.J.** and Downing, J.A. 2018. Greenhouse gas emissions from lakes and impoundments: Upscaling in the face of global change. *Limnology and Oceanography Letters*, 3(3), 64–75.

Prairie, Y. T., **Beaulieu, J.J.**, et al. 2018. Greenhouse Gas Emissions from Freshwater Reservoirs: What Does the Atmosphere See? *Ecosystems*. 21(5): 1058-1071.

Beaulieu, J. J. et al. 2018. [Effects of an Experimental Water-level Drawdown on Methane Emissions from a Eutrophic Reservoir](#). *Ecosystems*. Springer, New York, NY, 21(4):657-674.

Arango, C. P., **Beaulieu, J.J.** et al. 2017. [Urban infrastructure influences dissolved organic matter quality and bacterial metabolism in an urban stream network](#). *Freshwater Biology*. John Wiley & Sons Inc, Malden, MA, 62(11):1917-1928.

Smith, S. **Beaulieu, J.J.**, Kaushal, S. 2017. [Influence of urban infrastructure on water quality and greenhouse gas dynamics in streams](#). *Biogeosciences*. 14, 2831-2849.

Deemer, B., J. Harrison, S. Li, J. **Beaulieu**, T. DelSontro, N. Barros, J. Neto, S. Powers, M. dos Santos, and J. Vonk. 2016. [Greenhouse Gas Emissions from Reservoir Water Surfaces: A New Global Synthesis](#). *Bioscience*. American Institute of Biological Sciences, 66(11):949-964.

View more research publications by [Jake Beaulieu](#).

Education:

- Ph.D., University of Notre Dame, Notre Dame, IN; Biology, 2007
- B.S., University of Wisconsin-Oshkosh; Chemistry, 2000

Professional Experience:

Workgroup and Project Leads:

- Co-Technical Lead on the EPA's R User Group.

- ORD Air and Energy Program Task Lead for “Development of measurement methods and statistical models to predict emissions from impounded waters (reservoirs)”
- Lead Author of the 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories

Select Honors and Awards:

- EPA Scientific and Technological Achievement Awards: Honorable Mention 2016, 2015, 2011; Level II 2017
- University of Notre Dame Graduate School, The Eli J. and Helen Shaheen Award for Outstanding Dissertation in the College of Science, 2010
- Center for Aquatic Conservation Graduate Student Fellowship, co-sponsored by The Nature Conservancy and University of Notre Dame, 2007
- Bayer Predoctoral Research Fellowship, co-sponsored by the Bayer Corporation and Center for Environmental Science and Technology at the University of Notre Dame, 2006
- North American Benthological Society Best Oral Presentation in Applied Research, 2006
- Navari Fellowship, 2006
- Department of Education Fellowship, Graduate Assistance in Areas of National Need (GAANN) Research Fellowship, 2002-2006
- North American Benthological Society's Endowment Award for Applied Research, 2004

Select Memberships

- Member of Association for the Sciences of Limnology and Oceanography (ASLO), Society for Freshwater Science (SFS), and American Geophysical Union (AGU).
- Manuscript reviewer for 57 journals including: Proceedings of the National Academy of Sciences, Environmental Science and Technology, and Nature Geosciences
- Associate Editor for Journal of Environmental Quality (2011 – 2017)

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