

*Stephen K. Hamilton*

Cary Institute of Ecosystem Studies

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**Education:**

Michigan Technological University	Houghton, MI	Biological Sciences	B.S. 1981
University of Colorado	Boulder, CO	Biological Sciences	M.A. 1985
University of California	Santa Barbara, CA	Biological Sciences	Ph.D. 1994

**Professional Positions:**

1995–now	Assistant, Associate, and Full Professor, Dept. of Integrative Biology and W.K. Kellogg Biological Station, Michigan State University (50% time since 2018).
2009–now	Adjunct Faculty at Australian Rivers Institute, Griffith University
2002, 2008	Visiting Fellow at Australian Rivers Institute, Griffith University
2016-17	Visiting Scientist at Oregon State University and US Forest Service, Corvallis
2018–now	Senior Scientist, Cary Institute of Ecosystem Studies (50% time)

**Selected Professional Honors:**

Petoskey Prize from Michigan Environmental Council (2014).  
Michigan State University Service and Civic Engagement Award (2014).  
Environmental Stewardship Award from Society for Freshwater Science (2015).  
Fellow of the Society for Freshwater Science (2017).

**Research Interests and Activities:**

Stephen Hamilton's principal research interests involve ecosystem ecology and biogeochemistry, with particular emphasis on water. He has studied wetlands, streams, lakes, reservoirs, and watersheds, as well as agricultural cropping systems and their effects on water and climate. His research draws on multiple disciplines to understand and mitigate environmental problems as well as to inform environmental protection and conservation. Hamilton's research publications include studies of nutrient cycling, greenhouse gas emissions, invasive species, food webs, remote sensing, conservation planning, and hydrology.

Hamilton has conducted a variety of studies in tropical floodplain and river ecosystems of South America and Australia, and presently works with several research groups in Brazil on hydropower effects on river systems.

Hamilton also works part-time as a Professor at Michigan State University's Kellogg Biological Station, where he has recently been the Lead Principal Investigator and remains a co-PI for the National Science Foundation's Long-term Ecological Research site and is a Team Leader in the Department of Energy's Great Lakes Bioenergy Research Center.

## Selected Publications:

- Flecker, A.S. and 40 others incl. S.K. Hamilton. 2022. Reducing adverse impacts of Amazon hydropower expansion. *Science* 375 (6582): 753-760. Doi: [10.1126/science.abj4017](https://doi.org/10.1126/science.abj4017)
- Robertson, G.P., S.K. Hamilton, K. Paustian, and P. Smith. 2022. The potential of land-based climate solutions for the United States. *Global Change Biology*.  
<https://doi.org/10.1111/gcb.16267>
- Fleischmann, A. and 30 others incl. S.K. Hamilton. In press. How much inundation occurs in the Amazon River basin? *Remote Sensing of Environment* 278, 113099.  
<https://doi.org/10.1016/j.rse.2022.113099>
- Hamilton, S.K., C.A. Murphy, S.L. Johnson, and A. Pollock. 2022. Water quality ramifications of temporary drawdown of Oregon reservoirs to facilitate juvenile Chinook salmon passage. *Lake and Reservoir Management*. <https://doi.org/10.1080/10402381.2021.2017082>
- Abraha, M., J. Chen, S.K. Hamilton, P. Sciusco, C. Lei, G. Shirkey, J. Yuan, and G.P. Robertson. 2021. Albedo-induced global warming impact of Conservation Reserve Program grasslands converted to annual and perennial bioenergy crops. *Environmental Research Letters* 16, 084059. <https://doi.org/10.1088/1748-9326/ac1815>
- Frauendorf, T.C., A.L. Subalusky, C.L. Dutton, S.K. Hamilton, F.O. Maseke, E.J. Rosi, G.A. Singer, and D.M. Post. 2021. Animal legacies lost and found in river ecosystems. *Environmental Research Letters* 16, 115011. DOI: 10.1088/1748-9326/ac2cb0
- Dutton, C.L., A.L. Subalusky, A. Sanchez, S. Estrela, N. Lu, S.K. Hamilton, L. Njoroge, E.J. Rosi, and D.M. Post. 2021. The meta-gut: Community coalescence of animal gut and environmental microbiomes. *Scientific Reports*. Doi: 10.1038/s41598-021-02349-1
- Hussain, M.Z., S.K. Hamilton, G.P. Robertson, and B. Basso. 2021. Phosphorus availability and leaching losses in annual and perennial cropping systems in an upper US Midwest landscape. *Scientific Reports* 11:20367. <https://doi.org/10.1038/s41598-021-99877-7>
- Almeida, R.M., A.S. Fleischmann, J.P.F. Brêda, D.S. Cardoso, H. Angarita, W. Collischonn, B.R. Forsberg, R. García-Villacorta, S.K. Hamilton, P.M. Hannam, R. Paiva, N.L. Poff, S.A. Sethi, Q. Shi, C.P. Gomes, A.S. Flecker. 2021. Climate change may impair electricity generation and economic viability of future Amazon hydropower. *Global Environmental Change* 7 (2021), 102383. Doi: 10.1016/j.gloenvcha.2021.102383