

Curriculum Vitae

Emma J. Rosi, Ph.D.
Senior Scientist
Cary Institute of Ecosystem Studies

Education

PhD. 2002. University of Georgia, Institute of Ecology, Athens, Georgia. Advisor Judy L. Meyer.
M.S. 1997. University of Georgia, Department of Entomology, Athens, Georgia. Advisor J. Bruce Wallace.
B.S. 1994. University of Michigan, Anthropology/Zoology.

Research Focus

Stream ecosystem processes and biogeochemistry, aquatic food webs, urban ecology, agricultural effects on streams, aquatic macroinvertebrates, large river ecology, and contaminants.

Academic Positions

Senior Scientist, July 2015-Present, Cary Institute of Ecosystem Studies, Millbrook NY.
Associate Scientist, July 2009-2015, Cary Institute of Ecosystem Studies, Millbrook NY.
Associate Professor, May 2009-June 2009, Departments of Biology and Natural Science, Loyola University of Chicago.
Assistant Professor, September 2004-2009, Departments of Biology and Natural Science, Loyola University of Chicago.
Post-Doctoral Research Associate, September 2002-2004, Department of Biological Sciences, University of Notre Dame. Advisors: Jennifer L. Tank and Gary A. Lamberti.

Publications

Fischhoff, I. R., T. Huang, S. K. Hamilton, B. A. Han, S. L. LaDeau, R. S. Ostfeld, E. J. Rosi, and C. T. Solomon. 2020. Parasite and pathogen effects on ecosystem processes: A quantitative review. *Ecosphere* 11.

Robson, S.V. E. J. Rosi, E.K. Richmond, M. R. Grace. 2020. Nominal concentrations of pharmaceuticals alter metabolism, denitrification and diatom communities in artificial streams. *Freshwater Science* 39:256-267.

Dutton, C. L., A. L. Subalusky, S. K. Hamilton, E. C. Bayer, L. Njoroge, E. J. Rosi, and D. M. Post. 2020. Alternative Biogeochemical States of River Pools Mediated by Hippo Use and Flow Variability. *Ecosystems*.

Walters, D.M.*, W.F. Cross, T.A. Kennedy, C.V. Baxter, R.O. Hall, Jr., and E.J. Rosi*. 2020. Food web controls on mercury fluxes and fate in the Colorado River, Grand Canyon. *Science Advances*. * indicates co-lead authors.

Entrekin, S.A., E.J. Rosi, J.L. Tank, T.J. Hoellein, G.A. Lamberti. 2020. Quantitative food webs

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- Subalusky, A.L., C.L. Dutton, E. J. Rosi, L. M. Puth, and D.M. Post. 2020. A River of Bones: Wildebeest Skeletons Leave a Legacy of Mass Mortality in the Mara River, Kenya. *Frontiers in Ecology and Evolution* 8: 31.
- S. T. A. Pickett, M.L. Cadenasso, M. E. Baker, L. E. Band, C.G. Boone, G. L. Buckley, P.M. Groffman, J. M. Grove, E.G. Irwin, S.S. Kaushal, S. L. Ladeau, A. J. Miller, C. H. Nilon, M. Romolini, E. J. Rosi, C. M. Swan, and K. Szlavecz. 2020. Theoretical perspectives of the Baltimore ecosystem study: conceptual evolution in a socio-ecological research project. *Bioscience* 70 (4), 297-314
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- Richmond, E.K., E. J. Rosi, A. J. Reisinger, B. R. Hanrahan, R. M. Thompson and M. R. Grace. 2019. Influences of the antidepressant fluoxetine on stream ecosystem function and aquatic insect emergence at environmentally realistic concentrations. *Journal of Freshwater Ecology* 34:513-531. DOI: 10.1080/02705060.2019.1629546
- Reisinger A.J., T.M Doody, P.M. Groffman, S. S. Kaushal, E. J. Rosi. 2019. Seeing the light: Urban stream restoration affects stream metabolism and nitrate uptake via changes in canopy cover. *Ecological Applications*. e01941
- Chamberlin, C, E.S. Bernhardt, E.J. Rosi, and J. Heffernan. 2019. Stoichiometry and daily rhythms: experimental evidence shows nutrient limitation decouples nitrogen uptake from photosynthesis. *Ecology* 100 (10), e02822.
- Schoelynck J., A. Subalusky, E. Struyf, C. Dutton, P. Frings, D. Unzué-Belmonte, B. Van de Vijver, D. Post, D. Conley, E.J. Rosi, P. Meire. 2019. Hippos (*Hippotamus amphibius*): The animal silicon pump. *Science Advances* 5: eaav0395.
- Shogren, A.J. J.L. Tank, E.J. Rosi, M.M. Dee, S.L. Speir, D. Bolster, and S.P. Egan. 2019. Transport and instream removal of the Cry1Ab protein from genetically engineered maize is mediated by biofilms in experimental streams. *PLOS One* 14. e0216481
- Dutton, C.L. A. L Subalusky, T. D Hill, J. C Aleman, E. J Rosi, K. B Onyango, K. Kanuni, J.A Cousins, A C. Staver, and D. M Post. A 2000-year sediment record reveals rapidly changing sedimentation and land use since the 1960s in the Upper Mara-Serengeti Ecosystem. *Science of the Totally Environment* 664: 148-160.
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- Reisinger A.J., E. Woytowitz, E. Majcher, E. J. Rosi, K.T. Belt, J. M. Duncan, S. S. Kaushal, P.M. Groffman. 2019. Changes in long-term water quality of Baltimore streams are associated with both gray and green infrastructure. *Limnology and Oceanography* 17: 1-17. doi: 10.1002/lno.10947

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- Richmond, E. K., E.J.Rosi, D. M. Walters, J, Fick, S. K. Hamilton, T. Brodin, A, Sundelin and M, R. Grace. 2018. A diverse suite of pharmaceuticals contaminates stream and riparian food webs. *Nature Communications* 9: 4491.
- Almeida, R, M, B.A Han, A. J Reisinger, C. Kagemann, and E. J Rosi. 2018. High mortality in aquatic predators of mosquito larvae caused by exposure to insect repellent. *Biology letters* 14: 20180526.
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- Subalusky, A. L., C.L. Dutton, L. Njoroge, E.J. Rosi, D. M. Post. 2018. Organic matter and nutrient inputs from large wildlife influence ecosystem function in the Mara River, Africa. *Ecology* X:1-17. <https://doi.org/10.1002/ecy.2509>
- Shogren, A, J. Tank, S. Egan, O, August, E. Rosi, B. Hanrahan, M. Renshaw, C.Gantz, D.Bolster., 2018. Water flow and biofilm cover influence environmental DNA (eDNA) detection in recirculating streams. *Environmental Science and Technology* 52: 8530-8537.
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