



## ***GARY M. LOVETT***

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### **Education:**

B.S. Biology, Union College, 1975  
Ph.D. Dartmouth College, Biology/Plant Ecology, 1981

### **Professional Positions:**

Senior Scientist, Cary Institute of Ecosystem Studies, 2004-present  
Adjunct Professor, The University at Albany, 2004-present  
Graduate Faculty in Ecology, Rutgers University, 1989-present  
Scientist, Institute of Ecosystem Studies, 1995-2004  
Associate Scientist, Institute of Ecosystem Studies, 1989-1995  
Assistant Scientist, Institute of Ecosystem Studies, 1985-1989  
Research Associate, University of Tennessee, 1983-1985  
Postgraduate Research Fellow, Oak Ridge National Lab., 1981-1983

### **Recent Professional Activities:**

Chair, Steering Committee, Northeastern Ecosystem Research Cooperative (2000-2015)  
Scientific Coordinating Committee, Hubbard Brook Ecosystem Study  
Editorial Board, *Ecosystems* (2009-2016)  
Fellow, American Association for the Advancement of Science

### **Research Interests and Activities:**

My research interests primarily involve forest ecology, biogeochemistry, and the effects of various stressors on forest ecosystems. At present, my principal research projects focus on: (1) the effects of atmospheric pollutant deposition on forests, soils and streams; (2) the role of tree species in influencing forest nutrient cycling and mediating the responses of forests to atmospheric deposition; (3) the effects of introduced pests on forest nutrient cycling; and (4) patterns of atmospheric deposition of nutrients and pollutants at the landscape and regional scale.

### **Recent Publications:**

- Gilliam, F., D.A. Burns, C.T. Driscoll, S. Frey, G.M. Lovett, and S. Watmough. Responses of forest ecosystems of eastern North America to decreased nitrogen deposition. *Environmental Pollution*. In press.
- Groffman, P.M., C.T. Driscoll, J. Durán, J.L. Campbell, L.M. Christenson, T.J. Fahey, M.C. Fisk, C. Fuss, G.E. Likens, G. Lovett, L. Rustad, and P.H. Templer. 2018. Nitrogen oligotrophication in northern hardwood forests. *Biogeochemistry* 141:523-539.
- Lovett, G.M., C.L. Goodale, S.V. Ollinger, C.B. Fuss, A.P. Ouimette, and G.E. Likens. 2018. Nutrient retention during ecosystem succession: a revised conceptual model. *Frontiers in Ecology and the Environment* 16:532-538.
- Sullivan, T.J., C.T. Driscoll, C.M. Beier, D. Burtraw, I.J. Fernandez, J.N. Galloway, D.A. Gay, C.L. Goodale, G.E. Likens, G.M. Lovett, and S.A. Watmough. 2018. Air pollution success stories in the United States: the value of long-term observations. *Environmental Science & Policy* 84:69-73.
- Crowley, K.F., and G.M. Lovett. 2017. Effects of nitrogen deposition on nitrate leaching from northeastern U.S. forests will change with tree species composition. *Canadian Journal of Forest Research* 47:997-1009.
- Arthur, M.A., K.C. Weathers, G.M. Lovett, M.P. Weand, and W.C. Eddy. 2017. A beech bark disease induced change in tree species composition influences forest floor acid-base chemistry. *Canadian Journal of Forest Research* 47:875-882.
- Lovett, G.M., M.A. Arthur, and K.F. Crowley. 2016. Effects of calcium on the rate and extent of litter decomposition in a Northern Hardwood forest. *Ecosystems* 18:87-97.
- Lovett, G.M., M. Weiss, A. Liebhold, T.P. Holmes, B. Leung, K.F. Lambert, D.A. Orwig, F. T. Campbell, J. Rosenthal, D.G. McCullough, R. Wildova, M.P. Ayres, C.D. Canham, S.L. LaDeau, and T. Weldy. 2016. Non-native forest insects and pathogens: impacts and policy options. *Ecological Applications* 26:1437-1455.
- Crowley, K.F., G.M. Lovett, M.A. Arthur, and K.C. Weathers. 2016. Long-term effects of pest-induced tree species change on carbon and nitrogen cycling in northeastern U.S. forests: a modeling analysis. *Forest Ecology and Management* 372:269-290.
- Morillas, L., J. Duran, A. Rodriguez, J. Roales, A. Gallardo, G.M. Lovett, and P.M. Groffman. 2015. Nitrogen supply modulates the effect of changes in drying-rewetting frequency on soil C and N cycling and on greenhouse gas exchange. *Global Change Biology* 21:3854-3863.
- Rodriguez, A., G.M. Lovett, K.C. Weathers, M.A. Arthur, P.H. Templer, C.L. Goodale, and L.M. Christenson. 2014. Lability of C in temperate forest soils: assessing the role of nitrogen addition and tree species composition. *Soil Biology & Biochemistry* 77:129-140.
- Christenson, L.M., M.J. Mitchell, P.M. Groffman, and G.M. Lovett. 2014. Cascading effects of climate change on forest ecosystems: biogeochemical links between trees and moose in the Northeast USA. *Ecosystems* 17:442-457.

- Lovett, G.M., M.A. Arthur, K. C. Weathers and J.M. Griffin. 2013. Effects of introduced insects and diseases on forest ecosystems in the Catskill Mountains of New York. *Annals of the NY Academy of Sciences* 1298:66-77.
- Lovett, G.M., M.A. Arthur, K.C. Weathers, R.D. Fitzhugh, and P.M. Templer. 2013. Nitrogen addition increases carbon storage in soils, but not in trees, in an eastern U.S. deciduous forest. *Ecosystems* 16:980-1001.
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- Lovett, G.M. 2013. When do Peepers peep? Climate and the date of first calling in the Spring Peeper (*Pseudacris crucifer*) in southeastern New York State, USA. *Northeastern Naturalist* 20:333-340.
- Pace, M.L. and G.M. Lovett. 2013. Primary production: The foundation of ecosystems. Pp. 27-51 In: *Fundamentals of Ecosystem Science*. K.C. Weathers, D.L. Strayer and G.E. Likens (eds). Academic Press. ISBN 978-0-12-088774-3.
- Smithwick, E. A. H., D. M. Eissenstat, G. M. Lovett, R. D. Bowden, L. E. Rustad, and C. T. Driscoll. 2013. Root stress and nitrogen deposition: consequences and research priorities. *New Phytologist* **197**:712-719.
- Lovett, G.M. 2013. Critical issues for critical loads. *Proc. Nat. Acad. Sci.* 110:808-809.
- Crowley, K.F., B.E. McNeil, G.M. Lovett, C.D. Canham, C.T. Driscoll, L.E. Rustad, E. Denny, R.A. Hallett, M.A. Arthur, J.L. Boggs, C.L. Goodale, J.S. Kahl, S.G. McNulty, S.V. Ollinger, L.H. Pardo, P.G. Schaberg, J.L. Stoddard, M.P. Weand, and K.C. Weathers. Do nutrient limitation patterns shift from nitrogen toward phosphorus with increasing nitrogen deposition across the northeastern United States? *Ecosystems* 15:940-957.
- Tang, M. H., S. Porder, and G. M. Lovett. 2012. Species differences in nitrate reductase activity are unaffected by nitrogen enrichment in northeastern US forests. *Forest Ecology and Management* **275**:52-59.
- Svensson, T., G. Lovett, and G. Likens. 2012. Is chloride a conservative ion in forest ecosystems? *Biogeochemistry* 107:125-134.
- Fenn, M.E. K. F. Lambert, T. F. Blett, D. A. Burns, L. H. Pardo, G.M. Lovett, R. A. Haeuber, D. C. Evers, C. T. Driscoll, and D.S. Jeffries. 2011. Setting limits: Using air pollution thresholds to protect and restore U.S. ecosystems. *Issues in Ecology* #14. Ecological Society of America, Washington, D.C.

- Lovett, G.M. and C.L. Goodale. 2011. A new conceptual model of nitrogen saturation based on experimental nitrogen addition to an oak forest. *Ecosystems* 14:615-631.
- Mitchell, M., G. Lovett, S. Bailey, F. Beall, D. Burns, D. Buso, T. Clair, F. Courchesne, L. Duchesne, C. Eimers, I. Fernandez, D. Houle, D. Jeffries, G. Likens, M. Moran, C. Rogers, D. Schwede, J. Shanley, K. Weathers, and R. Vet. 2011. Comparisons of watershed sulfur budgets in southeast Canada and northeast US: new approaches and implications. *Biogeochemistry* 103:181-207.
- Pouyat, R. V., K. C. Weathers, R. Hauber, G. M. Lovett, A. Bartuska, L. Christenson, J. L. D. Davis, S. E. G. Findlay, H. Menninger, E. Rosi-Marshall, P. Stine, and N. Lymn. 2010. The role of federal agencies in the application of scientific knowledge. *Frontiers in Ecology and the Environment* 8:322-328.
- Weand, M. P., M. A. Arthur, G. M. Lovett, R. L. McCulley, and K. C. Weathers. 2010. Effects of tree species and N additions on forest floor microbial communities and extracellular enzyme activities. *Soil Biology & Biochemistry* 42:2161-2173.
- Christenson, L.M., M.J. Mitchell, P.M. Groffman and G.M. Lovett. 2010. Winter climate change implications for decomposition in Northeastern forests: comparisons of sugar maple litter to herbivore fecal inputs. *Global Change Biology* 16:2589-2601.
- Lovett, G.M., M.A. Arthur, K. C. Weathers and J.M. Griffin. 2010. Long-term changes in forest carbon and nitrogen cycling caused by an introduced pest/pathogen complex. *Ecosystems* 13: 1188-1200.
- Katz, D.S.W., G.M. Lovett, C.D. Canham, and C.M. O'Reilly. 2010. Legacies of land-use history diminish over 22 years in a forest in southeastern New York. *J. Torrey Botanical Society* 137:236-251.
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- Peltzer, D.A., R.B. Allen, G.M. Lovett, D. Whitehead and D.A. Wardle. 2010. Effects of biological invasions on forest carbon sequestration. *Global Change Biology* 16: 732-746.
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- Kelly, V. R., G. M. Lovett, K. C. Weathers, S. E. G. Findlay, D. L. Strayer, D. J. Burns, and G. E. Likens. 2008. Long-term sodium chloride retention in a rural watershed: Legacy effects of road salt on streamwater concentration. *Environmental Science & Technology* 42:410-415.
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- Lovett, G.M D. A. Burns, C.T. Driscoll, J.C. Jenkins, M.J. Mitchell, L. Rustad, J. B. Shanley, G.E. Likens, and R. Haeuber. 2007. Who needs environmental monitoring? *Frontiers in Ecology and Environment* 5:253-260.
- Wallace, Z.P., G.M. Lovett, J.E. Hart, and B. Machona. 2007. Effects of nitrogen saturation on tree growth and death in a mixed-oak forest. *Forest Ecology and Management* 243:210-218.
- Lovett, G.M., C.D. Canham, M.A. Arthur, K.C. Weathers, and R.D. Fitzhugh. 2006. Forest ecosystem responses to exotic pests and pathogens in eastern North America. *Bioscience* 56:395-405.
- Lovett, G.M., J. J. Cole, and M.L. Pace. 2006. Is net ecosystem production equal to ecosystem carbon accumulation? *Ecosystems* 9:152-155.
- Weathers, K. C., S. M. Simkin, G. M. Lovett, and S. E. Lindberg. 2006. Empirical modeling of atmospheric deposition in mountainous landscapes. *Ecological Applications* 16:1590-1607.
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- Ellison, A. M., M. S. Bank, B. D. Clinton, E. A. Colburn, K. Elliott, C. R. Ford, D. R. Foster, B. D. Kloeppel, J. D. Knoepp, G. M. Lovett, J. Mohan, D. A. Orwig, N. L. Rodenhouse, W. V. Sobczak, K. A. Stinson, J. K. Stone, C. M. Swan, J. Thompson, B. Von Holle, and J. R. Webster. 2005. Loss of foundation species: consequences for the structure and dynamics of forested ecosystems. *Frontiers in Ecology and the Environment* 3:479-486.
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- Driese, K.L., W.A. Reiners, G.M. Lovett and S.M. Simkin. 2004. A vegetation map for the Catskill Park, NY, derived from multi-temporal LandSat Imagery and GIS Data. *Northeastern Naturalist* 11:421-442.
- Lovett, G.M., K.C. Weathers, M.A. Arthur, and J.C. Schultz. 2004. Nitrogen cycling in a northern hardwood forest: Do species matter? *Biogeochemistry* 67:289-308.
- Lovett, G.M., and M.J. Mitchell. 2004. Sugar maple and nitrogen cycling in the forests of eastern North America. *Frontiers in Ecology and the Environment* 2:81-88.