



Cary Institute
of Ecosystem Studies

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Education:

B.A. Environmental Science, University of Virginia, 1976
M.S. Marine Science, University of South Carolina, 1978
Ph.D. Zoology, University of Georgia, 1981

Professional Positions:

Post-Doctoral Associate, Institute of Ecology, University of Georgia, 1981-1984
Assistant Ecologist, Institute of Ecology, University of Georgia, 1984-1985
Assistant Scientist, Institute of Ecosystem Studies, The New York Botanical Garden,
Mary Flagler Cary Arboretum, 1985-1991
Associate Scientist, Institute of Ecosystem Studies, 1991-1997
Scientist, Institute of Ecosystem Studies, 1997-2007
Senior Scientist, Cary Institute of Ecosystem Studies, 2008-

Research Interests:

Aquatic ecology, detritus dynamics, nutrient cycling, dissolved organic carbon, microbial ecology, tidal freshwater wetlands, Hudson River, shoreline ecology, submerged aquatic vegetation.

Professional Service:

Editorial Board, Aquatic Sciences-Research Across Boundaries. Birkhauser, Switzerland. Dr. Klement Tockner, IGB-Berlin, Editor-in-Chief.

Editorial Board, Ecology. Ecological Society of America. Dr. Donald Strong, Editor-in-Chief.

Hudson River Estuary Management Advisory Committee, created by act of New York State Legislature to advise the Department of Environmental Conservation. Served 1988 to present.

Chair, Research Advisory Committee, Hudson River National Estuarine Research Reserve. Provides guidance on research activities in Research Reserve sites. Formulates long-range research plans, provides technical review of proposals. Served 1988 to present.

Board of Trustees, Eastern New York Chapter of The Nature Conservancy.

Publications (Last 10 years):

- Findlay, S.E.G., J. Tank, S. Dye, H.M. Valett, P.J. Mulholland, W.H. McDowell, S.L. Johnson, S. K. Hamilton, J. Edmonds, W.K. Dodds and W.B. Bowden. 2002. A cross-system comparison of bacterial and fungal biomass in detritus pools of headwater streams. *Microbial Ecology* 43:55-66.
- Findlay, S.E.G., E. Kiviat, W.C. Nieder and E.A. Blair. 2002. Functional assessment of a reference wetland set as a tool for science, management and restoration. *Aquatic Science* 64:107-117.
- Findlay, S., S. Dye and K.A. Kuehn. 2002. Microbial growth and nitrogen retention in litter of *Phragmites australis* and *Typha angustifolia*. *Wetlands* 22:616-625.
- Sobczak, W.V. and S. Findlay. 2002. Variation in bioavailability of dissolved organic carbon among stream hyporheic flowpaths. *Ecology* 83:3194-3209.
- Findlay, S., P.M. Groffman and S. Dye. 2003. Trade-offs among ecosystem functions during restoration: *Phragmites* removal from a tidal freshwater marsh. *Wetlands Ecology and Management*. 11:157-165
- Findlay, S.E.G., R. L. Sinsabaugh, W. V. Sobczak and M. Hoostal. 2003. Metabolic and structural response of hyporheic microbial communities to variations in supply of dissolved organic matter. *Limnology and Oceanography* 48:1608-1617.
- Templer, P., S. Findlay and G.M. Lovett. 2003. Effect of five tree species on soil microbial biomass and nitrogen transformations in the Catskill Mountains, NY. *Soil Biology and Biochemistry* 35:607-613.
- Findlay, S.E.G. and R.L. Sinsabaugh. 2003. Response of hyporheic biofilm bacterial metabolism and community structure to nitrogen amendments. *Aquatic Microbial Ecology* 33:127-136.
- Webster, J.R., P.J. Mulholland, J.L. Tank, H.M. Valett, W.K. Dodds, B.J. Peterson, W.B. Bowden, C.N. Dahm, S. Findlay, S.V. Gregory, N.B. Grimm, S.K. Hamilton, S.L. Johnson, E. Marti, W.H. McDowell, J.L. Meyer, D.D. Morrall, S.A. Thomas, and W.M. Wollheim. 2003. Factors affecting nitrogen retention in streams – an inter-biome perspective. *Freshwater Biology* 48:1329-1352.
- Kirchman, D.L., A.I. Dittel, S.E.G. Findlay and D.T. Fischer. 2004. Changes in bacterial activity and community structure in response to dissolved organic matter in the Hudson River, New York. *Aquatic Microbial Ecology* 35:243-257.
- Nieder, W.C., E. Barnaba, S.E.G. Findlay, S. Hoskins, N. Holochuck and E.A. Blair. 2004. Distribution and abundance of submerged aquatic vegetation in the Hudson River Estuary. *Journal of Coastal Research* 45:150-161.

- Templer, P. H., G.M. Lovett, K.C. Weathers, S.E.G. Findlay and T.E. Dawson. 2005. Influence of Tree Species on ¹⁵N sinks within forests of the Catskill Mountains, New York, USA. *Ecosystems* 8:1-16.
- Findlay, S.E.G. 2005. Increased carbon transport in the Hudson River, NY: Unexpected consequence of nitrogen deposition? *Frontiers in Ecology and Evolution* 3:133-137.
- Caraco, N., J. Cole, S.E.G. Findlay and C. Wigand. 2006. Vascular plants as engineers of oxygen in aquatic systems. *Bioscience* 56:219-225.
- Findlay, S.E.G., W.C. Nieder, and D.T. Fischer. 2006. Multi-scale controls on water quality effects of submerged aquatic vegetation in the tidal freshwater Hudson River. *Ecosystems* 9:84-96.
- Hummel, M. and S. Findlay. 2006. Effects of water chestnut (*Trapa natans*) beds on water chemistry in the tidal freshwater Hudson River. *Hydrobiologia* 559:169-181.
- Gutierrez, J., C.G. Jones, P.M. Groffman, S.E.G. Findlay, O.O. Iribarne, P.D. Ribeiro and C.M. Bruschetti. 2006. The contribution of crab burrow excavation to carbon availability in surficial salt-marsh sediments. *Ecosystems* 9:647-658.
- Findlay, S.E.G. and R.L. Sinsabaugh. 2006. Large-scale variation in subsurface stream biofilms: A cross-regional comparison of metabolic function and community similarity. *Microbial Ecology* 52:491-500.
- Kelly, V.A., G.M. Lovett, K.C. Weathers, S.E.G. Findlay, D.L. Strayer, D.I. 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 and Technology* 42:410-415.
- Battin, T.J., L.A. Kaplan, S.E.G. Findlay, C.S. Hopkinson, E. Marti, A.I. Packman, J.D. Newbold and F. Sabater. 2008. Biophysical controls on organic carbon fluxes in fluvial networks. *Nature Geoscience* 1:95-100
- Strayer, D.L., M.L. Pace, N. Caraco, J.J. Cole and S.E.G. Findlay. 2008. Hydrology and grazing jointly control a large-river food web. *Ecology* 89:12-18.
- Mulholland, P.J., A.M. Helton, G.C. Poole, R.O. Hall Jr., S.K. Hamilton, B.J. Peterson, J.L. Tank, L.R. Ashkena, L.W. Cooper, C.N. Dahm, W.K. Dodds, S.E.G. Findlay, S.V. Gregory, N.B. Grimm, S.L. Johnson, W.H. McDowell, J.L. Meyer, H.M. Valett, J.R. Webster, C. Arango, J.J. Beaulieu, M.J. Bernot, A.J. Burgin, C. Crenshaw, L. Johnson, B.R. Niederlehner, J.M. O'Brien, J.D. Potter, R.W. Sheibley, D.J. Sobota and S.M. Thomas. 2008. Stream denitrification across biomes and effects of anthropogenic nitrate loading. *Nature* 452:202-u46.
- Kaushal, S.S., P.M. Groffman, L.E. Band, C.A. Shields, R.P. Morgan, M.A. Palmer, K.T. Belt, C.M. Swan, S.E.G. Findlay and G.T. Fisher. 2008. Interaction between urbanization and climate variability amplifies watershed nitrate export in Maryland. *Environmental*

Science & Technology 42:5872-5878.

- Evans, C., C. Goodale, S. Caporn, N. Dise, B. Emmett, I. Fernandez, C. Field, S. Findlay, G. Lovett, H. Meeseburg, F. Moldan, and L. Sheppard. 2008. Does elevated nitrogen deposition or ecosystem recovery from acidification drive increased dissolved organic carbon loss from upland soil? A review of evidence from field nitrogen addition experiments. *Biogeochemistry* 91:13-35.
- Arrigoni, A., S. Findlay, D. Fischer and K. Tockner. 2008. Predicting carbon and nutrient transformations in tidal freshwater wetlands of the Hudson River. *Ecosystems* 11:790-802.
- Kincaid, D. and S.E.G. Findlay. 2009. Sources of elevated chloride in local streams: Groundwater and soils as potential reservoirs. *Water, Air, and Soil Pollution* 203:335-342.
- Mulholland, P.J., R.O. Hall, D.J. Sobota, et al. 2009. Nitrate removal in stream ecosystems measured by N15 addition experiments: Denitrification. *Limnology & Oceanography* 54:666-680.
- Lovett, G.M., T.H. Tear, D.C. Evers, et al. 2009. Effects of air pollution on ecosystems and biological diversity in the eastern United States. *Annals of the New York Academy of Sciences* 1162:99-135.
- Hopfensperger, K.N., S.S. Kaushal, S.E.G. Findlay, et al. 2009. Influence of plant communities on denitrification in a tidal freshwater marsh of the Potomac River, United States. *Journal of Environmental Quality* 38:618-626.
- Kincaid, D.W. and S.E.G. Findlay. 2009. Sources of elevated chloride in local streams: Groundwater and soils as potential reservoirs. *Water, Air, and Soil Pollution* 203:335-342.
- Findlay, S. 2010. Stream microbial ecology. *Journal of the North American Benthological Society* 29:170-181.
- Strayer, D.L. and S.E.G. Findlay. 2010. Ecology of freshwater shore zones. *Aquatic Sciences* 72:127-163.
- Findlay, S., W.H. McDowell, D. Fischer, M.L. Pace, N. Caraco, S.S. Kaushal and K.C. Weathers. 2010. Total carbon analysis may overestimate organic carbon content of fresh waters in the presence of high dissolved inorganic carbon. *Limnology and Oceanography – Methods* 8:196-201.
- Hunsinger, G.B., S. Mitra, S.E.G. Findlay and D.T. Fischer. 2010. Wetland-driven shifts in suspended particulate organic matter composition of the Hudson River estuary, New York. *Limnology and Oceanography* 55:1653-1667.

- Clinton, S.M., R.T. Edwards and S.E.G. Findlay. 2010. Exoenzyme activities as indicators of dissolved organic matter composition in the hyporheic zone of a floodplain river. *Freshwater Biology* 55:1603-1615.
- Sinsabaugh, R.L., D.J. Van Horn, J.J. Follstad-Shah and S. Findlay. 2010. Ecoenzymatic stoichiometry in relation to productivity for freshwater biofilm and plankton to communities. *Microbial Ecology* 60:885-893.
- Li, J., P. Whitehead, D.I. Siegel, et al. 2011. Salting our landscape: An integrated catchment model using readily accessible data to assess emerging road salt contamination to streams. *Environmental Pollution* 159:1257-1265.
- Courtwright, J. and S.E.G. Findlay. 2011. Effects of microtopography on hydrology, physicochemistry, and vegetation in a tidal swamp of the Hudson River. *Wetlands* 31:239-249.
- Findlay, S.E.G. and V.R. Kelly. 2011. Emerging indirect and long-term road salt effects on ecosystems. *Annals of the New York Academy of Sciences – The Year in Ecology and Conservation Biology* 1223:58-68.
- Findlay, S.E.G., P.J. Mulholland, S.K. Hamilton, et al. 2011. Cross-stream comparison of substrate-specific denitrification potential. *Biogeochemistry* 104:381-392.