

## **CURRICULUM VITAE**

### **David L. Strayer**

Distinguished Senior Scientist Emeritus

Cary Institute of Ecosystem Studies

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### **Research Interests**

Freshwater ecology; distribution and roles of freshwater invertebrates, especially bivalves; ecology of biological invasions; conservation ecology; shore zone ecology

### **Education**

B.S. (Zoology), Michigan State University, East Lansing, MI, 1976 (with high honor)

Ph.D. (Ecology and Evolutionary Biology), Cornell University, Ithaca, NY, 1984

### **Professional Appointments**

*Cary Institute of Ecosystem Studies*: Distinguished Senior Scientist Emeritus (2016-2022), Distinguished Senior Scientist (2013-2016), Senior Scientist (2004-2013), Scientist (1997-2004), Associate Scientist (1991-1997), Assistant Scientist (1985-1991), Postdoctoral Associate (1983-1985)

*Graham Sustainability Institute, University of Michigan*: Visiting Scholar (2017-2020)

*University of Toledo*, Member of Graduate Faculty (2019-2022)

*Texas State University*, Adjunct Doctoral Graduate Faculty (2018-2021)

*Deutsche Forschungsgemeinschaft, Free University of Berlin and Leibniz-Institute of Freshwater Ecology and Inland Fisheries*, Mercator Fellow (2015-2016)

*Wright State University*: Adjunct member of graduate faculty (2014-2019)

*Laboratoire d'Écologie des Hydrosystèmes Fluviaux, Université de Lyon I*: Visitor (Fall 2005)

*Bard College*: Visiting Professor (Spring 2004, Fall 2010)

*University at Albany, State University of New York*: Adjunct Professor (1997-)

*Ohio Northern University*: Visiting Scholar (Fall 1996)

*Rutgers University*: Associate Member of the Graduate Faculty in Ecology (1988-2019)

*Cornell University*: Lecturer (Spring 1983)

### **Honors and Awards**

“Treating biological invasions in large rivers like they matter”, keynote address, Annual Meeting of the Mississippi River Research Consortium, La Crosse, WI (2017)

“What are freshwater mussels worth?”, keynote address, Biennial Meeting of the Freshwater Mollusk Conservation Society, Cleveland, OH (2017)

Mercator Fellow, Deutsche Forschungsgemeinschaft, Free University of Berlin and Institut für Gewässerökologie und Binnenfischerei (2015-2016)

Hudson River Sustainable Shorelines project awarded the Judges’ Choice Winner in the Adaptation contest for MIT Climate CoLab (2016)

G.W. Minshall Lecturer, Idaho State University (2014)

G.E. Hutchinson Chair in Ecology, Cary Institute of Ecosystem Studies (2013-2016)

President of the Society for Freshwater Science (2014-2015)

Keynote speaker, International Meeting on the Biology and Conservation of Freshwater Bivalves, Braganza, Portugal, (2012)

Opening keynote speaker, Second World Conference on Biological Invasions and Ecosystem Functioning, Mar del Plata, Argentina (2011)

“Teacher’s Choice Award” for River Ecology: Investigating the Effect of Zebra Mussels on the Hudson River project done in collaboration with the American Museum of Natural History (2011)

Invited guest of graduate student associations at University of Georgia (Odum School of Ecology, 2010), University of North Carolina (Curriculum in Ecology, 2008), University of Notre Dame (Biological Sciences, 2006)

L. Floyd Clarke Memorial Lecturer, University of Wyoming (2009)

Kaesler Visiting Scholar (chosen by graduate students), University of Wisconsin (2007)

Brown and Williamson Distinguished Speaker, University of Louisville (2006)

Plenary speaker, annual meeting of NABS/AGU (2005)

Elected as Fellow, American Association for the Advancement of Science (2002)

Outstanding Environmental Researcher of the Year, Hudson River Environmental Society (2000)

*Parvidrilus strayeri*, the first known representative of a new family of oligochaete worm, named in my honor by Christer Erséus (see Proc. Biol. Soc. Wash. 112: 327-337, 1999)

New York State Library Research Resident (1988)

Elected to full membership in Sigma Xi (1982)

National Science Foundation Graduate Fellowship (1977-81)

## **Publications**

Scientific publications (pdfs of many of these are available at [https://www.researchgate.net/profile/David\\_Strayer/contributions](https://www.researchgate.net/profile/David_Strayer/contributions) or <http://www.caryinstitute.org/science-program/our-scientists/dr-david-l-strayer> )

### *Monographs and books*

1. Strayer, D. 1985. The benthic micrometazoans of Mirror Lake, New Hampshire. *Archiv für Hydrobiologie Supplementband* 72:287-426.
2. Strayer, D. 1987. Ecology and zoogeography of the freshwater mollusks of the Hudson River basin. *Malacological Review* 20:1-68.
3. Mills, E.L., J.T. Carlton, M.D. Scheuerell, and D.L. Strayer. 1997. Biological invasions in the Hudson River: an inventory and historical analysis. *New York State Museum Circular* 57: 1-51.
4. Strayer, D.L., and K.J. Jirka. 1997. The pearly mussels of New York state. *Memoirs of the New York State Museum* 26: 1-113 + 27 plates.
5. Strayer, D.L., and L.C. Smith. 2001. The zoobenthos of the freshwater tidal Hudson River and its response to the zebra mussel (*Dreissena polymorpha*) invasion. *Archiv für Hydrobiologie Supplementband* 139: 1-52.
6. Strayer, D.L., and D.R. Smith. 2003. A guide to sampling freshwater mussel populations. *American Fisheries Society Monograph* 8: 1-103.
7. Waldman, J.R., K.E. Limburg, and D.L. Strayer (editors). 2006. Hudson River fishes and their environment. *American Fisheries Society Symposium* 51: 365 pp.
8. Strayer, D.L. 2008. Freshwater mussel ecology: a multifactor approach to distribution and abundance. University of California Press. 204 pp.
9. Strayer, D.L. 2012. The Hudson primer: the ecology of an iconic river. University of California Press. 207 pp.
10. Weathers, K.C., Strayer, D.L., and G.E. Likens (editors). 2013. Fundamentals of ecosystem science. Academic Press. 312 pp. (Published in [Portuguese](#) in 2015)
11. Weathers, K.C., Strayer, D.L., and G.E. Likens (editors). 2020. Fundamentals of ecosystem science, second edition. Academic Press. In manuscript (expected 2021).

### *Journal articles and book chapters*

12. Strayer, D. 1979. Some recent collections of mussels from southeastern Michigan. *Malacological Review* 12:93-95.
13. Strayer, D. 1980. The freshwater mussels (Bivalvia: Unionidae) of the Clinton River,

- Michigan, with comments on man's impact on the fauna, 1870-1978. *The Nautilus* 94:142-149.
14. Strayer, D.L. 1981. Notes on the microhabitats of unionid mussels in some Michigan streams. *American Midland Naturalist* 106:411-415.
  15. Strayer, D.L., Cole, J.J., Likens, G.E., and D.C. Buso. 1981. Biomass and annual production of the freshwater mussel *Elliptio complanata* in an oligotrophic softwater lake. *Freshwater Biology* 11:435-440.
  16. Cole, J.J., Likens, G.E., and D.L. Strayer. 1982. Photosynthetically-produced dissolved organic matter: an important carbon source for planktonic bacteria. *Limnology and Oceanography* 27:1080-1090.
  17. Strayer, D. 1983. The effects of surface geology and stream size on freshwater mussel distribution in southeastern Michigan, USA. *Freshwater Biology* 13:253-264.
  18. Strayer, D. 1983. *Piguetiella blanci*, a nauid oligochaete new to North America, with notes on its relationships to *Piguetiella michiganensis* and *Specaria josinae*. *Transactions of the American Microscopical Society* 102:349-354.
  19. Strayer, D.L. 1984. The benthic micrometazoans of Mirror Lake, New Hampshire. Ph.D. Thesis, Cornell University, Ithaca, New York. 348 pp.
  20. Strayer, D.L. 1985. Benthic microinvertebrates. Pages 228-234 *In*: Likens, G.E. (ed.). *An ecosystem approach to aquatic ecology: Mirror Lake and its environment*. Springer-Verlag, New York.
  21. Moeller, R.E., Walter, R.A., Strayer, D.L., and B.J. Peterson. 1985. The littoral region. Pages 311-317 *In*: Likens, G.E. (ed.). *An ecosystem approach to aquatic ecology: Mirror Lake and its environment*. Springer-Verlag, New York.
  22. Walter, R.A., Moeller, R.E., Strayer, D.L., and J.J. Cole. 1985. The profundal region. Pages 317-322 *In*: Likens, G.E. (ed.). *An ecosystem approach to aquatic ecology: Mirror Lake and its environment*. Springer-Verlag, New York.
  23. Strayer, D., and G.E. Likens. 1986. An energy budget for the zoobenthos of Mirror Lake, New Hampshire. *Ecology* 67:303-313.
  24. Strayer, D. 1986. The size structure of a lacustrine zoobenthic community. *Oecologia* 69:513-516.
  25. Strayer, D., Glitzenstein, J.S., Jones, C.G., Kolasa, J., Likens, G.E., McDonnell, M.J., Parker, G.G., and S.T.A. Pickett. 1986. Long-term ecological studies: an illustrated account of their design, operation, and importance to ecology. *Occasional Publication of the Institute of Ecosystem Studies* 2: 38 pp. (translated in part into Chinese in *Advances in Ecology* 5:51-55).
  26. Strayer, D., Pletscher, D.H., Hamburg, S.P., and S.C. Nodvin. 1986. The effects of forest disturbance on land gastropod communities in northern New England. *Canadian Journal of Zoology* 64:2094-2098.
  27. Strayer, D. 1986. An essay on long-term ecological studies. *Bulletin of the Ecological Society of America* 67:271-274.
  28. Likens, G.E., Cole, J.J., Kolasa, J., McAninch, J.B., McDonnell, M.J., Parker, G.G., and D.L.

- Strayer. 1987. Status and future of ecosystem science. Occasional Publication of the Institute of Ecosystem Studies 3:23 pp.
29. Kolasa, J., Strayer, D., and E. Bannon-O'Donnell. 1987. Microturbellarians from interstitial waters, streams, and springs in southeastern New York. *Journal of the North American Benthological Society* 6:125-132.
  30. Strayer, D. 1988. Life history of a lacustrine ostracod. *Hydrobiologia* 160:189-191.
  31. Strayer, D. 1988. Crustaceans and mites (Acari) from hyporheic and other underground waters in southeastern New York. *Stygologia* 4:192-207.
  32. Strayer, D. 1988. New and rare copepods (Cyclopoida and Harpacticoida) from freshwater interstitial habitats in southeastern New York. *Stygologia* 4:279-291.
  33. Lodge, D.M., Barko, J.W., Strayer, D., Melack, J., Mittelbach, G.G., Howarth, R.W., Menge, B., and J.E. Titus. 1988. Spatial heterogeneity and habitat interactions in lake communities. Pages 181-208 *In*: Carpenter, S.R. (ed.). *Complex interactions in lake communities*. Springer-Verlag, New York. 283 pp.
  34. Strayer, D., and E. Bannon-O'Donnell. 1988. Aquatic microannelids (Oligochaeta and Aphanoneura) of underground waters of southeastern New York. *American Midland Naturalist* 119:327-335.
  35. Kolasa, J., and D. Strayer. 1988. Patterns of species abundance: a comparison of two hierarchical models. *Oikos* 53:235-241.
  36. Strayer, D. 1988. On the limits to secondary production. *Limnology and Oceanography* 33:1217-1220.
  37. McAninch, J.B., and D.L. Strayer. 1988. What are the tradeoffs between the immediacy of management needs and the longer process of scientific discovery? Pages 203-205 *In*: G.E. Likens (ed.). *Long-term studies in ecology: approaches and alternatives*. Springer-Verlag, New York.
  38. Cole, J.J., Caraco, N.M., Strayer, D.L., Nolan, S.S., and C. Ochs. 1989. An organic carbon budget of the epilimnion of an oligotrophic lake in mid-summer. *Limnology and Oceanography* 34:286-296.
  39. Strayer, D. 1990. Mollusks. Pages 335-372 *In*: Peckarsky, B.L., Fraissinet, P.R., Penton, M.A., and D.J. Conklin. *Freshwater macroinvertebrates of northeastern North America*. Cornell University Press, Ithaca, NY.
  40. Strayer, D. 1990. Oligochaetes. Pages 373-397 *In*: Peckarsky, B.L., Fraissinet, P.R., Penton, M.A., and D.J. Conklin. *Freshwater macroinvertebrates of northeastern North America*. Cornell University Press, Ithaca, NY.
  41. Strayer, D., and W.D. Hummon. 1991. Gastrotricha. Pages 177-189 *In*: Thorp, J.H., and A.P. Covich (eds.). *Ecology and classification of North American freshwater invertebrates*. Academic Press, Orlando, FL.
  42. Strayer, D. 1991. Notes on Lindeman's progressive efficiency. *Ecology* 72: 348-350.
  43. Strayer, D. 1991. Comparative ecology and undiscovered public knowledge. Pages 3-6 *In*: Cole, J.J., Findlay, S., and G.M. Lovett (eds.). *Comparative analyses of ecosystems: patterns, mechanisms, and theories*. Springer-Verlag, New York.

44. Strayer, D. 1991. Projected distribution of the zebra mussel, *Dreissena polymorpha*, in North America. *Canadian Journal of Fisheries and Aquatic Sciences* 48: 1389-1395.
45. Strayer, D. 1991. Perspectives on the size structure of the lacustrine zoobenthos, its causes, and its consequences. *Journal of the North American Benthological Society* 10: 210-221.
46. Strayer, D., and J. Ralley. 1991. The freshwater mussels (Mollusca: Unionoidea) of the upper Delaware River basin, New York. *American Malacological Bulletin* 9: 21-25.
47. Strayer, D.L., Jirka, K., and K.J. Schneider. 1991. Recent collections of freshwater mussels (Mollusca: Unionidae) from western New York. *Walkerana* 5: 63-72.
48. Strayer, D.L., and E. O'Donnell. 1992. The hyporheic nematode community of some streams in southeastern New York. *Stygologia* 7: 143-148.
49. Strayer, D.L., and L.C. Smith. 1993. The distribution of the zebra mussel *Dreissena polymorpha* in estuaries and brackish waters. Pages 715-727 *In*: T.F. Nalepa and D.W. Schloesser (eds.). *Zebra mussels: biology, impact, and control*. Lewis Publishers, Ann Arbor.
50. Strayer, D.L., and J. Ralley. 1993. Microhabitat use by an assemblage of stream-dwelling unionaceans (Bivalvia), including two rare species of *Alasmidonta*. *Journal of the North American Benthological Society* 12: 247-258.
51. Strayer, D.L. 1993. Macrohabitats of freshwater mussels (Bivalvia: Unionacea) in streams of the northern Atlantic Slope. *Journal of the North American Benthological Society* 12: 236-246.
52. Strayer, D.L. 1993. Groundwater ecology. Pages 195-197 *In*: S.P. Parker (ed.). *McGraw-Hill yearbook of science & technology*. McGraw-Hill, New York.
53. Findlay, S., Strayer, D.L., Goumbala, C., and K. Gould. 1993. Metabolism of streamwater dissolved organic carbon in the shallow hyporheic zone. *Limnology and Oceanography* 38: 1493-1499.
54. Bianchi, T.S., Davis, G.M., and D. Strayer. 1994. An apparent hybrid zone between freshwater gastropod species *Elimia livescens* and *Elimia virginica* (Mesogastropoda: Pleuroceridae). *American Malacological Bulletin* 11: 73-78.
55. Strayer, D.L. 1994. Limits to biological distributions in groundwater. Pages 287-310 *In*: J. Gibert, D. Danielopol, and J. Stanford (eds.). *Groundwater ecology*. Academic Press, San Diego.
56. Reid, J.W., and D.L. Strayer. 1994. *Diacyclops dimorphus*, a new species of copepod from Florida, with comments on morphology of interstitial cyclopine cyclopoids. *Journal of the North American Benthological Society* 13: 250-265.
57. Strayer, D.L. 1994. Body size and abundance of benthic animals in Mirror Lake, New Hampshire. *Freshwater Biology* 32: 83-90.
58. Strayer, D.L. Hunter, D.C., Smith, L.C., and C. Borg. 1994. Distribution, abundance, and role of freshwater clams (Bivalvia: Unionidae) in the freshwater tidal Hudson River. *Freshwater Biology* 31: 239-248.
59. Strayer, D., Nelson, D.R., and E.B. O'Donnell. 1994. Tardigrades from shallow groundwaters in southeastern New York, with the first record of *Thulinia Bertolani* from North America. *Transactions of the American Microscopical Society* 113: 325-332.

60. Strayer, D.L., May, S.E., Nielsen, P., Wollheim, W., and S. Hausam. 1995. An endemic groundwater fauna in unglaciated eastern North America. *Canadian Journal of Zoology* 73: 502-508.
61. Strayer, D.L., J. Powell, P. Ambrose, L.C. Smith, M.L. Pace, and D.T. Fischer. 1996. Arrival, spread, and early dynamics of a zebra mussel (*Dreissena polymorpha*) population in the Hudson River estuary. *Canadian Journal of Fisheries and Aquatic Sciences* 53: 1143-1149.
62. Strayer, D.L., S. Sprague, and S. Claypool. 1996. A range-wide assessment of populations of *Alasmidonta heterodon*, an endangered freshwater mussel (Bivalvia: Unionidae). *Journal of the North American Benthological Society* 15: 308-317.
63. Roditi, H.A., N.F. Caraco, J.J. Cole, and D.L. Strayer. 1996. Filtration of Hudson River water by the zebra mussel (*Dreissena polymorpha*). *Estuaries* 19: 824-832.
64. Mills, E.L., D.L. Strayer, M.D. Scheuerell, and J.T. Carlton. 1996. Exotic species in the Hudson River basin - a history of invasions and introductions. *Estuaries* 19: 814-823.
65. Palmer, M.A., and D.L. Strayer. 1996. Meiofauna. Pages 315-337 *In*: F.R. Hauer and G.A. Lamberti (eds.). *Stream ecology: field and laboratory exercises*. Academic Press, San Diego.
66. Tartowski, S.L., and 10 others (including D.L. Strayer). 1996. Integration of species and ecosystem approaches to conservation. Pages 187-192 *In*: S.T.A. Pickett, R.S. Ostfeld, M. Shachak, and G.E. Likens (eds.). *Enhancing the ecological basis of conservation: heterogeneity, ecosystem function, and biodiversity*. Chapman and Hall, New York.
67. Strayer, D.L., and L.C. Smith. 1996. Relationships between zebra mussels (*Dreissena polymorpha*) and unionid clams during the early stages of the zebra mussel invasion of the Hudson River. *Freshwater Biology* 36: 771-779.
68. Strayer, D.L., S. Claypool, and S. Sprague. 1997. Assessing unionid populations with quadrats and timed searches. Pages 163-169 *In*: K.S. Cummings, A.C. Buchanan, C.A. Mayer, and T.J. Naimo (eds). *Conservation and management of freshwater mussels II. Initiatives for the future*. Upper Mississippi River Conservation Committee.
69. Caraco, N.F., J.J. Cole, P.A. Raymond, D.L. Strayer, M.L. Pace, S.E.G. Findlay, and D.T. Fischer. 1997. Zebra mussel invasion in a large, turbid river: phytoplankton response to increased grazing. *Ecology* 78: 588-602.
70. Roditi, H.A., D.L. Strayer, and S.E.G. Findlay. 1997. Characteristics of zebra mussel (*Dreissena polymorpha*) biodeposits in a tidal freshwater estuary. *Archiv für Hydrobiologie* 140: 207-219.
71. Strayer, D.L., S.E. May, P. Nielsen, W. Wollheim, and S. Hausam. 1997. Oxygen, organic matter, and sediment granulometry as controls on hyporheic animal communities. *Archiv für Hydrobiologie* 140: 131-144.
72. Palmer, M.A., A.P. Covich, B. Finlay, J. Gibert, K.D. Hyde, R.K. Johnson, T. Kairesalo, P.S. Lake, C.R. Lovell, R.J. Naiman, C. Ricci, F.F. Sabater, and D.L. Strayer. 1997. Biodiversity and ecosystem function in freshwater sediments. *Ambio* 26: 571-577.
73. Sparks, B.L., and D. L. Strayer. 1998. The effects of low dissolved oxygen on juveniles of *Elliptio complanata* (Bivalvia: Unionidae). *Journal of the North American Benthological Society* 17: 129-134.

74. Strayer, D.L., L.C. Smith, and D.C. Hunter. 1998. Effects of the zebra mussel (*Dreissena polymorpha*) invasion on the macrobenthos of the freshwater tidal Hudson River. *Canadian Journal of Zoology* 76: 419-425.
75. Strayer, D.L. 1999. Effects of alien species on freshwater mollusks in North America. *Journal of the North American Benthological Society* 18: 74-98.
76. Strayer, D.L. 1999. Freshwater mollusks and water quality (editorial). *Journal of the North American Benthological Society* 18: 1.
77. Reid, J.W., D.L. Strayer, J.V. McArthur, S.E. Stibbe, and J.J. Lewis. 1999. *Rheocyclops*, a new genus of copepods from the southeastern and central United States (Crustacea: Cyclopoida: Cyclopidae). *Journal of Crustacean Biology* 19: 384-396.
78. Strayer, D.L., and J.W. Reid. 1999. Distribution of hyporheic cyclopoids (Crustacea: Copepoda) in the eastern United States. *Archiv für Hydrobiologie* 145: 79-92.
79. Strayer, D.L. 1999. Use of flow refuges by unionid mussels in rivers. *Journal of the North American Benthological Society* 18: 468-476.
80. Strayer, D.L. 1999. The statistical power of presence-absence data to detect population declines. *Conservation Biology* 13: 1034-1038.
81. Strayer, D.L., and A.R. Fetterman. 1999. Changes in the distribution of freshwater mussels (Unionidae) in the upper Susquehanna River basin, 1955-1997. *American Midland Naturalist* 142: 328-339.
82. Strayer, D.L., N.F. Caraco, J.J. Cole, S. Findlay, and M.L. Pace. 1999. Transformation of freshwater ecosystems by bivalves: a case study of zebra mussels in the Hudson River. *BioScience* 49: 19-27.
83. Strayer, D.L. 1999. Invasion of fresh waters by saltwater animals (comment). *Trends in Ecology and Evolution* 14: 448-449.
84. Donley, S., L.C. Ferrington, and D.L. Strayer. 1999. The habitat of *Paraboreochlus* larvae (Diptera: Chironomidae). *Journal of the Kansas Entomological Society* 71: 501-504.
85. Strayer, D.L. 2000. North American freshwater invertebrates: a research priority. Page 104 *In*: R. Abell et al. (eds.). *Freshwater ecoregions of North America: A conservation assessment*. Island Press.
86. Marangelo, P.J., and D.L. Strayer. 2000. The freshwater mussels of the Tonawanda Creek basin in western New York. *Walkerana* 11: 97-106.
87. Caraco, N.F., J.J. Cole, S.E.G. Findlay, D.T. Fischer, G.G. Lampman, M.L. Pace and D.L. Strayer. 2000. Dissolved oxygen declines in the Hudson River associated with the invasion of the zebra mussel (*Dreissena polymorpha*). *Environmental Science and Technology* 34: 1204-1210.
88. Strayer, D.L., and L.C. Smith. 2000. Macroinvertebrates of a rocky shore in the freshwater tidal Hudson River. *Estuaries* 23: 359-366.
89. Strayer, D.L. 2001. Endangered freshwater invertebrates. Pages 425-439 *In*: S.A. Levin (editor). *Encyclopedia of biodiversity, Volume 2*. Academic Press.
90. Limburg, K.E., D.P. Swaney, and D.L. Strayer. 2001. River ecosystems. Pages 213-231 *In*: S.A. Levin (editor). *Encyclopedia of biodiversity, Volume 5*. Academic Press.



91. Strayer, D.L., and W.D. Hummon. 2001. Gastrotricha. Pages 181-194 *In*: J.H. Thorp and A.P. Covich (editors). Ecology and classification of freshwater invertebrates of North America. Second edition. Academic Press.
92. Strayer, D.L. 2001. Ecology and distribution of hyporheic microannelids (Oligochaeta, Aphanoneura, and Polychaeta) from the eastern United States. *Archiv für Hydrobiologie* 151:493-510.
93. Levin, L., D.F. Boesch, A. Covich, C. Dahm, C. Erséus, K.C. Ewel, R.T. Kneib, A. Moldenke, M.A. Palmer, P. Snelgrove, D. Strayer, and J. M. Weslawski. 2001. The function of marine critical transition zones and the importance of sediment biodiversity. *Ecosystems* 4: 430-451.
94. Hakenkamp, C.C., A. Morin, and D.L. Strayer. 2002. The functional importance of freshwater meiofauna. Pages 321-335 *In*: S.D. Rundle, A.L. Robertson, and J.M. Schmid-Araya (eds.). *Freshwater meiofauna: biology and ecology*. Backhuys.
95. Boulton, A., C.C. Hakenkamp, M.A. Palmer, and D.L. Strayer. 2002. Freshwater meiofauna and surface water – sediment linkages: a conceptual framework for cross-system comparisons. Pages 241-259 *In*: S.D. Rundle, A.L. Robertson, and J.M. Schmid-Araya (eds.). *Freshwater meiofauna: biology and ecology*. Backhuys.
96. Ladd, J.W., R.E. Bell, E.A. Blair, H. Bokuniewicz, S. Carbotte, R.M. Cerrato, S. Chillrud, V.L. Ferrini, R.D. Flood, N.P. Maher, C.M.G. McHugh, F.O. Nitsche, W.B.F. Ryan, D.L. Strayer, J. Thissen, and R. Versteeg. 2002. Mapping the Hudson estuary's submerged lands. *Clearwaters* 32(1): 5-7.
97. Gutiérrez, J.L., C.G. Jones, D.L. Strayer, and O.O. Iribarne. 2003. Mollusks as ecosystem engineers: their functional roles as shell producers in aquatic habitats. *Oikos* 101: 79-90.
98. Strayer, D.L., H. Ewing, and S. Bigelow. 2003. What kinds of spatial and temporal detail are required in models of heterogeneous systems? *Oikos* 102: 654-662.
99. Strayer, D.L., M.E. Power, W.F. Fagan, S.T.A. Pickett, and J. Belnap. 2003. A classification of ecological boundaries. *BioScience* 53: 723-729.
100. Strayer, D.L., R.E. Beighley, L.C. Thompson, S. Brooks, C. Nilsson, G. Pinay, and R.J. Naiman. 2003. Effects of land-cover change on stream ecosystems: roles of empirical models and scaling issues. *Ecosystems* 6: 407-423.
101. Cottingham, K.L., D.L. Bade, Z.G. Cardon, C.M. D'Antonio, C.L. Dent, S.E.G. Findlay, W.K. Lauenroth, K.M. LoGiudice, R.S. Stelzer, and D.L. Strayer. 2003. Increasing modeling savvy: strategies to advance modeling skills for professionals within ecology. Pages 428-436 *In*: C.D. Canham, J.J. Cole, and W.K. Lauenroth (editors). *Models in ecosystem science*. Princeton University Press.
102. Strayer, D.L., C. Lutz, H.M. Malcom, K. Munger, and W.H. Shaw. 2003. Invertebrate communities associated with a native (*Vallisneria americana*) and an alien (*Trapa natans*) macrophyte in a large river. *Freshwater Biology* 48: 1938-1949.
103. Strayer, D.L., K. Hattala, and A. Kahnle. 2004. Effects of an invasive bivalve (*Dreissena polymorpha*) on fish populations in the Hudson River estuary. *Canadian Journal of Fisheries and Aquatic Sciences* 61: 924-941.
104. Klocker, C., and D.L. Strayer. 2004. Interactions among an invasive crayfish (*Orconectes*

- rusticus*), a native crayfish (*Orconectes limosus*) and native bivalves (Sphaeriidae and Unionidae). *Northeastern Naturalist* 11: 167-178.
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9. Strayer, D.L. 2020. Long-term dynamics of freshwater mussel (Unionidae) populations in the freshwater tidal Hudson River, New York, in response to the zebra mussel (*Dreissena polymorpha*) invasion, 1991-2017. Knowledge Network for Biocomplexity. [doi:10.5063/F1RJ4GTV](https://doi.org/10.5063/F1RJ4GTV).
10. Strayer, D.L. 2020. Non-native species have multiple abundance-impact curves (model results). Figshare. [10.25390/caryinstitute.11367455](https://doi.org/10.25390/caryinstitute.11367455).

#### Pieces for non-academic audiences

(many of these can be read, heard, or seen at <http://www.caryinstitute.org/newsroom> )

1. “On the River”, WTZA television, Kingston, NY, subject of 15-minute piece on zebra mussels, June 1993.
2. Strayer, D.L. 2000. Nature nurtures the unexpected. *Poughkeepsie Journal*, 1 Jan.

3. "Tracking long-term zebra mussel changes," subject of radio program by Mark Brodie, Great Lakes Radio Consortium (aired throughout Great Lakes states on public radio stations, July 2002, available at <http://www.gllrc.org/transcripts/2002/07/22/brodie.htm>).
4. Strayer, D.L. 2003. [The aliens that ate the Hudson River](#). *Clearwater Navigator* September/October 2003: 1, 3.
5. Meyer, J.L., L.A. Kaplan, D. Newbold, D.L. Strayer, C.J. Woltemade, J.B. Zedler, R. Beilfuss, Q. Carpenter, R. Semlitsch, M.C. Watzin, and P.H. Zedler. 2003. Where rivers are born: the scientific imperative for defending small streams and wetlands. American Rivers and the Sierra Club, Washington, DC. 23 pp. (updated and re-released 2007) <http://www.americanrivers.org/newsroom/resources/where-rivers-are-born.html>
6. "The remarkable population boom of zebra mussels and their effects in the Hudson," subject of a 15-minute radio program on Hudson River Radio, aired on 13 stations in New York City and the Hudson Valley (available at [www.hudsonriver.vassar.edu/Archives.html](http://www.hudsonriver.vassar.edu/Archives.html)).
7. Strayer, D. 2004. Pearly mussels are well worth closer inspection. *Poughkeepsie Journal*, 11 July (reprinted in *Hudson Valley Green Times*, June 2007). (This article and the data it contains were used as the basis for a question on the ACT test for college admissions)
8. Strayer, D.L. 2004. The crisis for freshwater invertebrates. *Wings* 27 (2): 6-11.
9. "Swim for the river" movie (2006); 4-minute interview on invasive species on DVD extras for the movie ([www.swimfortheriver.com](http://www.swimfortheriver.com)).
10. Strayer, D. 2007. Flooding is caused by more than just rainfall. *Poughkeepsie Journal*, 22 April.
11. Strayer, D. 2007. There's no scientific tide against evolution. *Poughkeepsie Journal* (letter to the editor), 24 May.
12. "The amazing life of pearly mussels", subject of 15-minute segment on "Planet Blue", WVKR radio, Poughkeepsie, NY, July 2007.
13. Strayer, D. 2007. [Protect tiny tributaries to preserve Hudson's health](#). *Poughkeepsie Journal*, 2 Sept.
14. Strayer, D. 2007. [No free lunch with hydropower](#). *Poughkeepsie Journal*, 9 December.
15. Strayer, D. 2008. [Two cheers for invasive species policy](#). *Poughkeepsie Journal*, 3 Feb.
16. "The Hudson River and invasive species", main subject of 30-minute radio show on "Radio Rotary, WHVW-AM, 29 Feb (<http://rotary7210.com/radiorotary/radiorotary8.mp3>).
17. Strayer, D. 2008. [Chinese mitten crabs: invasive species found in Hudson](#). *Poughkeepsie Journal*, 30 Mar.
18. Strayer, D. 2008. [The mussel in the rainforest](#). *Millbrook Matters*, 2 June (<http://www.millbrookmatters.org/article.php?aid=74>) (reprinted in the *Poughkeepsie Journal*, 29 June).
19. Strayer, D. 2008. [Shutting down the Ballast Water Express](#). *Poughkeepsie Journal*, 7 December.
20. Strayer, D. 2009. [Rising human demand for fresh water on course to put other species at risk](#). *Poughkeepsie Journal*, 18 January.
21. Strayer, D. 2009. [Ground water is essential](#). *Poughkeepsie Journal*, 1 March.

22. Strayer, D. 2009. [Lost worlds](#). *Poughkeepsie Journal*, 29 March.
23. Strayer, D. 2009. Emerging freshwater invaders for New York. 25-minute video available at <http://www.youtube.com/watch?v=hkRawuJxmGU>.
24. Strayer, D., and E. McNeil. 2009. Avoiding the transport of invasive species by seaplane. *Water Flying* 172: 18-25.
25. Strayer, D. 2009. [Four hundred years of change in Henry's Hudson](#). Four-part series in the *Poughkeepsie Journal*, August 2, 9, 16, 23.
26. Strayer, D. 2009. [Fish out of their own water](#). *Poughkeepsie Journal*, 6 December.
27. Cole, J., and D. Strayer. 2010. [Breathing lessons: life without oxygen](#). *Poughkeepsie Journal*, 3 January.
28. Strayer, D. 2010. [Invasive species in the Hudson Valley: yesterday, today, and tomorrow](#). *Poughkeepsie Journal*, 31 January.
29. Strayer, D. 2010. [Remembrance of \(some\) things past](#). *Poughkeepsie Journal*, 9 May.
30. Findlay, S., and D. Strayer. 2010. [Shorelines: where people meet their river](#). *Poughkeepsie Journal*, 20 June.
31. Strayer, D. 2010. [Theme and variations on the ocean](#). *Poughkeepsie Journal*, 18 July.
32. Strayer, D., and G. Lovett. 2010. [Ash trees face die-off as Asian pest spreads](#). *Poughkeepsie Journal*, 10 Oct.
33. McNeil, E., and D. Strayer. 2010. A checklist to help stop the spread: a procedure to avoid transporting invasive species by seaplane. *Water Flying* 181: 18-25.
34. Strayer, D. 2010. Cuts to DEC are foolhardy (letter to the editor). *Poughkeepsie Journal*, 3 November.
35. Strayer, D. 2011. [Scenes from a vanishing planet](#). *Poughkeepsie Journal*, 13 March.
36. Strayer, D. 2011. [The Ecosystem Strikes Back, or Return of the Natives](#). *Poughkeepsie Journal*, 24 April.
37. Strayer, D. 2011. [Halt the wild boar menace](#). *Poughkeepsie Journal*, 4 June.
38. “River Ecology: Investigating the Effect of Zebra Mussels on the Hudson River”; website for middle school students, <http://www.amnh.org/education/resources/rfl/web/riverecology/> (I was part of the team that developed this website, which includes 4 videos featuring the Cary Institute research team)
39. Strayer, D. 2011. [Don't ream the stream](#). *Poughkeepsie Journal*, 23 October.
40. [Strayer, D.L., L. Tumblety, and S. Findlay]. 2011. [Managing shorelines for ecological benefits](#). 2-page brochure.
41. Strayer, D. 2011. [More action needed to stop invasive species](#). *Poughkeepsie Journal*, 19 November.
42. Strayer, D. 2012. [Be on the lookout for the beauty of ice](#). *Poughkeepsie Journal*, 15 January.
43. Radio interview about “The Hudson Primer: The Ecology of an Iconic River” on “The Roundtable”, WAMC-Albany, 24 Jan 2012 (<http://www.publicbroadcasting.net/wamc/wamc/news.newsmain?action=article&ARTICLE>

[ID=1896950](#))

44. Strayer, D. 2012. [Seeing ghosts](#). *Poughkeepsie Journal*, 29 January.
45. Strayer, D. 2012. [Pets gone wild](#). *Poughkeepsie Journal*, 25 March.
46. Strayer, D. 2012. [The dirty truth about unpaved roads](#). *Poughkeepsie Journal*, 20 May.
47. Strayer, D. 2012. [The rain in Spain flows mainly through the floodplain](#). *Poughkeepsie Journal*, 3 June.
48. Strayer, D. 2012. [A few thoughts about science and the future of the Hudson River](#) (video of public lecture of August 2012).
49. Strayer, D. 2012. Science on the Hudson River. Half-hour interview on Radio Rotary, 16 November 2012. <http://www.radiorotary.org/cms/2012/11/the-hudson-river-today-aired-on-november-16-2012/>.
50. Strayer, D. 2012. [What's for Thanksgiving dinner?](#) *Poughkeepsie Journal*, 18 November.
51. Strayer, D. 2012. [The real Hunger Games](#). *Poughkeepsie Journal*, 2 December.
52. Strayer, D., and G. Lovett. 2012. [How do you solve a problem like invasives?](#) *Poughkeepsie Journal*, 16 December.
53. Quoted on 11 episodes of the “Earthwise” radio program ([www.earthwiserradio.org](http://www.earthwiserradio.org) +14 radio stations), 2012-2014.
54. Strayer, D. 2013. [Are invasive species killing us?](#) *Poughkeepsie Journal*, 31 March.
55. Strayer, D. 2013. [Considering the evidence on climate change](#). *Poughkeepsie Journal*. 5 May.
56. Strayer, D. 2013. [How green is your grass?](#) *Poughkeepsie Journal*. 30 June.
57. Strayer, D. 2013. [See the world](#). *Poughkeepsie Journal*, 21 July.
58. Strayer, D. 2013. [A mollusk of mystery](#). *Poughkeepsie Journal*, 20 October.
59. Strayer, D., and J. Waldman. 2013. [Beware marauding carp](#). *New York Times*, 20 November.
60. Strayer, D. 2014. [Sycamores](#). *Poughkeepsie Journal*, 13 March.
61. [Quillen, L., and D. Strayer]. 2014. [Species profiles: zebra mussels, water-chestnut, phragmites, and mute swans](#). *Poughkeepsie Journal*, 6 July.
62. Strayer, D. 2014. [World of species right here on the Hudson](#). *Poughkeepsie Journal*, 13 July.
63. Interview for podcast “Macroinvertebrates”, Dutchess County No Child Left Inside, [http://dutchessncli.com/garden\\_street/#podcast\\_macro](http://dutchessncli.com/garden_street/#podcast_macro).
64. Strayer, D. 2014. [The road from Eden](#). *Poughkeepsie Journal*, 10 August.
65. Strayer, D. 2014. [Holy Toledo, or Water, Water Everywhere](#). *Poughkeepsie Journal*, 17 August.
66. Strayer, D. 2014. [Cleaning up the Clean Water Act](#). *Poughkeepsie Journal*. 15 Sept.
67. Strayer, D. 2014. [Will any eft be left?](#) *Poughkeepsie Journal*, 23 November.
68. Strayer, D. 2015. Air-conditioning was not really Pope’s point (letter to the editor). *Poughkeepsie Journal*, 1 July.

69. Strayer, D.L., L. Tumblety, and the Hudson River Sustainable Shorelines Project Team. 2015. [Managing shore zones for ecological benefits \(handbook\)](#). 64 pp.
70. Strayer, D. 2015. [What good are clams, anyway?](#) *Poughkeepsie Journal*, 12 July.
71. Strayer, D. 2015. [Reflections on a man of Merritt](#). *Poughkeepsie Journal*, 11 October.
72. Strayer, D. 2015. [The other blue planet](#). *Poughkeepsie Journal*, 25 October.
73. Strayer, D. 2016. [Living where the sun doesn't shine](#). *Poughkeepsie Journal*. 3 Jan.
74. Strayer, D. 2016. [De-extinction is a risky ecological experiment](#). Ecotone (blog of the Ecological Society of America). 19 Feb.
75. Strayer, D. 2016. [Interview with the 300-year-old clam](#). *Poughkeepsie Journal*, 8 May.
76. Strayer, D. 2016. [Living in the Temperate Zone](#). *Poughkeepsie Journal*, 28 August.
77. Strayer, D. 2017. [Keep our water from polluters](#). *Albany Times Union*, 11 February.
78. Strayer, D. 2017. [Our other blue planet: Earth's diverse fresh waters](#). Video of public lecture, 10 March.
79. Strayer, D. 2017. [Oppose Trump's proposed cuts to science funding](#). *Detroit Free Press*, 27 May.
80. Strayer, D. 2018. [10 questions to ask when building defenses to protect Hudson River shorelines](#).
81. Strayer, D. 2020. [Football-sized invasive mussels nearly escaped detection: what else are we missing?](#)
82. Findlay, S., Strayer, D., Waldman, J., and K. Limburg. 2020. [Explore every solution to stop invasive species](#). *Albany Times Union*, 6 February.

## **Lectures and Presentations (through June 2020)**

### Keynote and plenary lectures

- “What is a river worth?”, plenary talk at the 12<sup>th</sup> Annual Susquehanna River Symposium, Bucknell University (2017)
- “Treating biological invasions of large rivers like they matter”, keynote address at annual meeting of the Mississippi River Research Consortium (2017)
- “What are freshwater mussels worth?”, keynote address at the 2017 Symposium of the Freshwater Mollusk Conservation Society, Cleveland, OH (2017)
- “Our freshwater futures”, Presidential Address, Annual Meeting of the Society for Freshwater Science (2015)
- “Conserving the world’s freshwater biodiversity: peril and prospects”, keynote address, Northeast Association of Environmental Biologists, Lake Placid, NY (2013)
- “An exploration of (some) relationships between nutrients and freshwater mussels”, keynote address, International Meeting on the Biology and Conservation of Freshwater Bivalves, Braganza, Portugal (2012)
- “Eight questions about biological invasions and ecosystem function”, opening keynote address, Second World Conference on Biological Invasions and Ecosystem Functioning, Mar del Plata, Argentina (2011)

- “Invasive species yesterday, today, and tomorrow”, keynote address, Adirondack Forum on Invasive Species, Paul Smiths College, Paul Smiths, NY (2010)
- “Freshwater ecosystems in the Homogocene”, plenary lecture at Freshwater Biology Summit: “Multiple Stressors in Freshwater Ecosystems”, Freshwater Biological Association, Ambleside, United Kingdom (2008)
- “Linking the abiotic environment to biodiversity in running waters”, plenary lecture, Annual Meeting of the North American Benthological Society, New Orleans, LA (2005)
- “Overview and status of freshwater invertebrates”, plenary lecture at “Expanding the Ark: The Emerging Science and Practice of Invertebrate Conservation”, American Museum of Natural History, New York City (2004)

72 invited departmental seminars in US, Canada, Germany, Sweden, and Switzerland

53 invited presentations and 46 contributed presentations as senior author at scientific meetings (SFS, ESA, HRES, ASLO, etc.), plus many more as junior co-author

79 lectures to college students

41 presentations to K-12 students

99 presentations to general audiences (e.g., Rotary clubs, aquarium or bird clubs, watershed associations, evening lectures at Cary)

26 talks to K-12 teachers, including training workshops

21 training talks to professionals other than K-12 teachers (e.g., webinars, mussel identification workshops)

### **Teaching Experience**

Ecology of the Hudson River, Bard College, 2004, 2010

Aquatic Ecology, Ohio Northern University, 1996

Limnology, Cornell University, 1983

Fundamentals of Ecosystem Ecology, Rutgers University, course coordinator (1989, 2003, 2007, 2010, 2016 [co-leader]) and participant (1989-2016)

Natural History and Identification of Freshwater Mollusks (1-day workshop), Cornell University, New York State Museum, American Museum of Natural History, New York State Department of Environmental Conservation, 1981-2008

### **Postdoctoral Associates Advised**

Nils Carlsson, 2007-2008

Jonathan Jeschke, 2003-2005

### **Students Supervised**

Jeremy Geist, Ph.D. student, Oakland University, 2019-

Shaylah Tuttle-Raycraft, Ph.D. student, University of Guelph (external examiner), 2018  
 Nathaniel Marshall, Ph.D. student, University of Toledo (minor member), 2015-2019  
 Kristina Tattersdill, Ph.D. student, Swedish Agricultural University (opponent), 2018  
 Michael Smircich, M.S. student, University of Connecticut (minor member), 2014-2016  
 Stacey Wensink, M.S. student, Oakland University, 2014-2015 (minor member)  
 Hannah Voss Fazekas, Ph.D. student, Wright State University, 2013-2018 (minor member)  
 Pearl Seidman, Ph.D. student, Fielding Graduate University, 2011-2015 (external examiner)  
 Matthew Fuller, Ph.D. student, Duke University, 2012-2017 (member of committee)  
 Cornelia Harris, M.S. student, SUNY-Albany, 2010-2011 (co-chair)  
 Astrid Schwalb, Ph.D. student, University of Guelph, 2009 (external examiner)  
 Jonathan Jeschke, Ludwig-Maximilians-Universität, 2009-2011, (Habilitation Committee)  
 Sarah Roley, Ph.D. student, University of Notre Dame, 2009-2012 (minor member)  
 James Fawcett, Ph.D. student, Griffith University, 2009 (external examiner)  
 Jane Catford, Ph.D. student, University of Melbourne, 2008 (external examiner)  
 Denise Mayer, Ph.D. student, SUNY-Albany, 2007-2011 (minor member)  
 John Wimbush, M.S. student, SUNY-Albany, 2008-09 (co-chair)  
 Angela Slagle, Ph.D. student, Columbia University, 2007 (minor member)  
 Martin Österling, Ph.D. student, Karlstad University, 2006 (faculty opponent)  
 Elena Traister, Ph.D. student, University of New Hampshire, 2006-2010 (minor member)  
 Nicole Maher, Ph.D. student, SUNY-Stony Brook, 2004-06 (minor member)  
 Nils Carlsson, Ph.D. student, Lund University, 2004 (faculty opponent)  
 Catherine Corey, M.S. student, SUNY-Albany, 1997-2003 (co-chair)  
 Dennis Skalla, M.S. student, Bard College, 2001-03 (minor member)  
 Mary Pat Budd, M.S. student, Bard College, 1996-98 (minor member)  
 Anneke Veenstra-Quah, Ph.D. thesis, Deakin University, 2000 (external examiner)  
 Margo Chase, Ph.D. thesis, University of Western Ontario, 1996 (external examiner)  
 Larry C. Boles, M.S. student, Virginia Institute of Marine Sciences, 1995-96 (minor member)  
 Eric Mellina, M.S. thesis, McGill University, 1993 (external examiner)  
 William Walton, M.S. thesis, Rutgers University, 1993 (minor member)  
 Richard D'Ermilio, senior thesis, SUNY-Purchase, 1985  
 Twenty-eight undergraduate summer fellows, 1988-2012  
 Several high school students

## **Professional or Service Activities**

### Editorial boards

*Ecology and Ecological Monographs* (1991-1994)  
*Journal of the North American Benthological Society* (1996-2005, 2006-2010)  
*Malacological Review* (1993-1999)  
*Northeastern Naturalist*, Guest Editor (2002, 2014, 2016)  
*Freshwater Biology*, Special Issues Editor (2008-2016)  
*Conservation Letters* (2010-2013)  
*Freshwater Mollusk Biology and Conservation (Walkerana)* (2011-)  
*Frontiers in Ecology and the Environment*, Guest Editor (2017)

*Biological Invasions* (2020- )

Professional society memberships and activities

Ecological Society of America

Judge, Buell Award (several years)

Association for the Sciences of Limnology and Oceanography

Society for Freshwater Science (North American Benthological Society)

Program Committee (1987)

Annual Bibliography Committee (1985-1989)

Judge, Student Awards (many years)

Awards Committee (1999-2002, 2015-2017; chair 2001-2002, 2013-2014)

Plenary Speaker (2005)

JNABS Strategic Planning Committee (2008-2009, co-chair)

Expert on Mollusca, Taxonomic Certification Committee (2011-)

President-Elect (2013-2014), President (2014-2015), Past President (2015-2016)

Elections and Place Committee (2015-2017, chair 2015-2016)

Executive Director Committee (2015-2016, chair)

American Association for the Advancement of Science

Elected AAAS Fellow (2002)

International Society of Limnology

Hudson River Environmental Society (1984-2016)

Member of Board (1995-98)

International Association of Meiobenthologists (1986-2012)

Board of Correspondents (1986-1992)

Freshwater Mollusk Conservation Society

Committees

Hudson River Biological Monitoring Program Panel, Hudson River Foundation (2020)

Committee of Visitors, Division of Environmental Biology, National Science Foundation (2019)

Mollusk Technical Advisory Committee, Michigan Department of Natural Resources (2019-)

Scientific Committee, Freshwater Mollusk Conservation Society Meeting, Verbania, Italy (2018)

Native Biological Communities team of the Hudson River Comprehensive Restoration Plan, The Nature Conservancy and partners (2016)

Scientific Committee, Second International Meeting on Biology and Conservation of Freshwater Bivalves, Buffalo, NY (2015)

Steering Committee, Lower Hudson Partnership for Invasive Species Management (PRISM) (2014)

Taxonomic Expert Team (Mollusks), Species of Greatest Conservation Need, New York State Department of Environmental Conservation (2013-2014)

Interdisciplinary Invasive Species Scientific and Education Advisory Network, NY Invasive Species Clearinghouse and Cornell Cooperative Extension Statewide Invasive Species Outreach Education Program (2011-2015)

Conservation Advisory Committee, Town of Washington (2010-2013)



Member, Executive Committee, New York State Biodiversity Research Institute (2010-2012)  
 Coordinating Committee, Sustainable Shorelines Initiative, Hudson River National Estuarine  
 Research Reserve (2009-2014)  
 Fisheries Subcommittee of the Hudson River Estuary Management Advisory Committee, New  
 York State Department of Environmental Conservation (2009-2014)  
 New York State Invasive Species Research Institute, Advisory Board (2008-2015)  
 Comprehensive Plan Update Committee, Town of Washington (2007-2012)  
 Invasive Species Program Work Team, Cornell Cooperative Extension (2006-2015)  
 NSF-NEON Invasive Species Subcommittee (2005)  
 The Nature Conservancy, “Conservation of Biological Diversity in the Hudson River Estuary”  
 (steering committee) (2005)  
 Hudson River Foundation, “Workshop to Develop a Research Agenda on Hudson River Key  
 Species” (co-convener) (2005)  
 Scientific Peer Review panel, 2005 South Florida Environmental Report, South Florida Water  
 Management District (2004)  
 Habitat Subcommittee of the Hudson River Estuary Management Advisory Committee, New  
 York State Department of Environmental Conservation (2003-2014)  
 Advisory Board to the New York City Department of Environmental Protection Stream  
 Management Program (2002-2003)  
 Technical Advisory Committee, Lower Columbia River Aquatic Nonindigenous Species Project,  
 Portland State University (2002-2004)  
 Freshwater Gastropods of North America Editorial Committee (1999-2001)  
 NCEAS Working Group on The Ecological Consequences of Altered Hydrological Regimes  
 (2000-2001)  
 Delaware River NAWQA Liaison Committee, United States Geological Survey (1998-2000)  
 The Nature Conservancy, Committee for Bioregional Planning, Lower New England-Northern  
 Piedmont Ecoregion (1999-2001)  
 SCOPE Committee on Soil and Sediment Biodiversity and Ecosystem Functioning (1997-1999)  
 American Fisheries Society Endangered Species Committee (Freshwater Mollusks  
 Subcommittee) (1995-1998)  
 U.S. Army Corps of Engineers, Technical Advisory Committee on Habitat Restoration in the  
 Hudson River (1995-1998)  
 Environmental Oversight Committee for zebra mussel control, New York City Department of  
 Environmental Protection (1992-1995)  
 Conservation Advisory Committee, Town of New Paltz (1987-1989)  
 Nuclear Lake Management Committee, National Park Service (1984-1989)

Contributions to legal proceedings or policy-making

Testified before House Committee on Natural Resources, Subcommittee on Water, Power, and  
 Oceans, concerning invasive species and HR 5430, June 2016  
 Prepared affidavit in support of motion for preliminary injunction to stop discharge of brine from  
 fracking wells into the Allegheny River, PA, on behalf of Clean Water Action and the  
 University of Pittsburgh Environmental Law Clinic, 2014

“Invasive species and water resources”, briefing for congressional staff and others, Consortium of Aquatic Scientific Societies, House Office Building, Washington, DC, May 2013  
Testified before New York State Assembly Committee on Environmental Conservation in hearing on invasive species, Sept 2011  
Participated in Invasive Species Information Day, New York State Legislature (met with 6-9 legislators and their staffs each year to discuss invasive species and the need for state funding, 2007-2009)  
Prepared Expert Report on the effects of hydropower on freshwater mussels in the PeeDee River, at the request of American Rivers and the Southern Environmental Law Center, Raleigh, NC, March 2009  
Submitted formal comments on a number of proposed rules and regulations at both the state and federal levels

## Reviews

Manuscripts: *Ecology*, *Journal of Freshwater Ecology*, *Journal of the North American Benthological Society*, *Limnology and Oceanography*, *American Midland Naturalist*, *Evolution*, *Internationale Revue der gesamten Hydrobiologie*, *Freshwater Biology*, *Oecologia*, *Canadian Journal of Fisheries and Aquatic Sciences*, *Malacological Review*, *Hydrobiologia*, *Aquatic Conservation*, *Maryland Naturalist*, *Ecological Applications*, *North American Journal of Fisheries Management*, *Estuaries*, *Northeastern Naturalist*, *Biofouling*, *Archiv für Hydrobiologie*, *Journal of Great Lakes Research*, *Science*, *Nature*, *Regulated Rivers*, *Oikos*, *Nautilus*, *Conservation Biology*, *Journal of Natural History*, *American Malacological Bulletin*, *Canadian Journal of Zoology*, *BioScience*, *Walkerana*, *Aquatic Ecology*, *Proceedings of the Biological Society of Washington*, *Journal of Animal Ecology*, *Biological Invasions*, *Landscape Ecology*, *Biodiversity and Conservation*, *Acta Oecologica*, *Ecography*, *Polish Journal of Environmental Studies*, *Annales de Limnologie*, *Ecosystems*, *Ecological Modelling*, *Southeastern Naturalist*, *Fragmenta Faunistica*, *The Veliger*, *Diversity and Distributions*, *Biological Conservation*, *Environmental Management*, *Trends in Ecology and Evolution*, *Proceedings of the Royal Society Series B*, *Western North American Naturalist*, *Proceedings of the National Academy of Sciences*, *Southwestern Naturalist*, *Limnologica*, *Animal Biodiversity and Conservation*, *Diversity*, *Aquatic Sciences*, *Oceanologia*, *Journal of Molluscan Studies*, *Global Ecology and Biogeography*, *Transactions of the American Fisheries Society*, *Journal of Environmental Engineering*, *Journal of Ecology*, *Central European Journal of Biology*, *Marine and Freshwater Behaviour and Physiology*, *Animal Conservation*, *Endangered Species Research*, *Ethology*, *Ecology and Evolution*; *Canadian Field Naturalist*; *New Phytologist*; *Geochimica et Cosmochimica Acta*; *Journal of the American Water Resources Association*, *Environmental Engineering Science*, *Journal of Biogeography*, *Freshwater Science*, *Acta Zoologica Bulgarica*, *Management of Biological Invasions*, *BioInvasions Records*, *Freshwater Mollusk Biology and Conservation*, *Environmental Science: Processes and Impacts*, *Functional Ecology*, *Ecology of Freshwater Fish*, *Environmental Monitoring and Assessment*, *Ecology and Society*, *Global Change Biology*, *Astrobiology*, *Frontiers in Ecology and the*

*Environment, Malacologia, Biological Reviews, PLoS One, Elementa, JGR-Biogeosciences*, various book chapters, conference proceedings, book proposals, and books.

Proposals: National Science Foundation (Ecosystems, Ecology, Systematic Biology, Population Biology, Geomorphology, Science and Technologies Center); Hudson River Foundation; CUNY Research Award Program; Research Corporation; The Nature Conservancy; National Research Council; Sea Grant, NERC (UK), USGS Species-at-Risk Program, National Geographic Society, Austrian Science Fund, NSERC, Wisconsin Water Resources Institute, Agence Nationale de la Recherche (France), Netherlands Organisation for Scientific Research, Rufford Foundation.

Documents: US Environmental Protection Agency, U.S. Fish and Wildlife Service

Tenure or promotion reviews for 29 faculty at US or foreign universities or federal agencies through June 2020

#### Cary Institute committees

Retreat committee (chair), 1989-2016

Long-term financial management and planning committee, 2003-2004

Steering or advisory committee for Cary Conferences: 1987, 1989 (chair), 1995, 1997, 2001, 2003

Environmental monitoring committee, 1988-2015

Grievance committee, 1994-2007

Discussion group committee (chair), 2001-2016

Library committee, 2004-2007

Postdoctoral training committee, 2005-2006 (chair), 2010-2015

Committee on joint Cornell-IES graduate program, 1994-1999

Affirmative action or workplace diversity committee, 1992-93, 2002-2016

Long-term studies committee, 1984-88

Several search committees

#### **Grants**

1. "The unionid mussels of the Clinton River basin," \$800, Endangered Species Program of the Michigan Department of Natural Resources, 1978
2. "The invertebrate fauna of groundwater discharges in the mid-Hudson Valley," \$47,830, Hudson River Foundation, 1985-86
3. "The freshwater mollusks of the Hudson River basin: a historical and ecological survey," \$13,200, Hudson River Foundation, 1985-86
4. "Land and freshwater Mollusca of New York: revision and publication of a hitherto unpublished monograph by Henry Pilsbry," \$12,353, Hudson River Foundation, 1986
5. (co-PI with G.E. Likens) "The Third Cary Conference: Comparative analyses of ecosystems: patterns, mechanisms, and theories," \$30,000, National Science Foundation, 1989
6. "Rare and endangered freshwater mussels in New York," \$5,500, New York Natural Heritage

Program, 1990

7. "Ecology and zoogeography of groundwater invertebrates," \$160,000, National Science Foundation, 1990-92
8. "The zoobenthos of the freshwater tidal Hudson River prior to the invasion of the zebra mussel, *Dreissena polymorpha*," \$168,895, Hudson River Foundation, 1990-93
9. "The ecology of the dwarf wedge mussel," \$8,500, New York Natural Heritage Program, 1992
10. (co-PI with S. Findlay) "Methods for conducting ecological surveys of large rivers," \$27,260, United States Geological Survey, 1992
11. (co-PI with E. Mills and J. Carlton) "Biological invasions in the Hudson River: an historical analysis and assessment of faunal and floral changes due to anthropogenic activities," \$39,943, Hudson River Foundation, 1992-93
12. "The zebra mussel: its spread and impact on benthic animals in the freshwater tidal Hudson River", Hudson River Foundation, \$212,584, 1993-96
13. "The freshwater mussels of the Passaic River basin in New York", New York Natural Heritage Program, \$865, 1994
14. "Range-wide assessment of populations of the dwarf wedgemussel (*Alasmidonta heterodon*), U.S. Fish and Wildlife Service, \$18,182, 1994
15. "Developing predictive models of clam distribution in running waters", The Nature Conservancy, \$100,000, 1995-98
16. (lead PI with N. Caraco, J. Cole, S. Findlay, and M. Pace) "Response and compensation to a bivalve invasion by an aquatic ecosystem", National Science Foundation, \$900,000, 1995-98
17. "Freshwater mussels of the upper Susquehanna River basin in New York", New York State Department of Environmental Conservation, \$2,235, 1997
18. "Freshwater mussels of Tonawanda Creek, New York", New York Natural Heritage program, \$2,000, 1998
19. (co-PI with S. Findlay) "Ground-truthing and functional assessment of submersed aquatic vegetation", New York State Department of Environmental Conservation, \$357,266, 2000-2006
20. (lead PI with K. Hattala and A. Kahnle) "Effects of the zebra mussel invasion on fish communities in the Hudson River", Hudson River Foundation, \$57,213, 2000-2001
21. (lead PI with N. Caraco, J. Cole, S. Findlay, and M. Pace) "LTREB: Developing a long-term perspective on the response of an aquatic ecosystem to a bivalve invasion", National Science Foundation, \$300,000, 2000-2005
22. "Combining geophysical and biological information to define benthic habitats in the Hudson River", New York State Department of Environmental Conservation, \$100,000, 2001-2002
23. "Effects of the rusty crayfish invasion on freshwater mussels", The Nature Conservancy, \$7,258, 2001
24. "Freshwater mussels of the Shawangunk Kill", New York Natural Heritage Program,

\$1,800, 2001

25. “Using species invasions to test the accuracy of bioclimatic models”, National Science Foundation, \$224,633, 2003-2005
26. (lead PI with N. Caraco, J. Cole, S. Findlay, and M. Pace) “LTREB: Long-term response of an ecosystem to an invasive species”, National Science Foundation, \$300,000, 2005-2010
27. (lead PI with N. Caraco, J. Cole, S. Findlay, and M. Pace) “Freshwater flow and benthic grazing as controls on the Hudson River food web: a synthesis of long-term data”, Hudson River Foundation, \$92,982, 2005-2006
28. (co-PI with A. Berkowitz and S. Findlay) Web-based tools linking students’ and scientists’ investigations of the Hudson River estuary”, New York State Department of Environmental Conservation, \$105,000, 2006-2008
29. “Aquatic macroinvertebrate monitoring in Hudson River submerged aquatic vegetation”, New York State Department of Environmental Conservation, \$14,768, 2006-2007
30. “Extent, timing, and causes of reproductive failure in freshwater mussels”, Allan and Julie Shope, \$81,250, 2007-2012
31. (lead PI with S. Findlay) “Ecological functions of Hudson River shorelines”, Hudson River Foundation, \$211,616, 2007-2009
32. “Ecology of non-marine shorelines”, New York State Department of Environmental Conservation, \$25,000, 2007-2008
33. “Extent, timing, and causes of reproductive failure in freshwater mussels in southeastern New York”, New York State Department of Environmental Conservation, \$99,121, 2008-2010
34. “Determining ecological flow needs of the federally endangered dwarf wedgemussel”, US Geological Survey, \$84,967, 2008-2010
35. (co-PI with S. Findlay), “Submerged aquatic vegetation change in the tidal freshwater Hudson River – linking function with fluctuation”, Hudson River Foundation, \$68,622, 2009-2013
36. (co-PI with S. Findlay) “Sustainable shorelines”, NOAA, \$40,000, 2009-2011
37. “Surveys for the dwarf wedgemussel in the Ten Mile River basin, New York”, United States Fish and Wildlife Service, \$5,436, 2010
38. “Effects of nutrients on freshwater mussels”, Hudson Valley Foie Gras Company, \$50,000, 2010-2012
39. (co-PI with A. Berkowitz, C. Canham, S. Findlay), “Data explorations in ecology project (DEEP)”, National Science Foundation, \$450,000, 2010-2013
40. (co-Investigator with E. Blair and nine others), “Sustainable shorelines along the Hudson River estuary: promoting resilient shorelines and ecosystem services in an era of rapid climate change” NOAA, \$814,155, 2010-2015
41. (lead PI with K. Hattala and A. Kahnle), “Recovery of the Hudson River fish community from the zebra mussel invasion”, Hudson River Foundation, \$69,396, 2011-2013
42. (lead PI with J. Cole, S. Findlay, M. Pace, E. Rosi-Marshall) “LTREB: Long-term effects of a species invasion on an aquatic ecosystem”, National Science Foundation, \$450,000,

2011-2016

43. (co-PI with M. Doyle and D. Urban) “Habitat and connectivity for mussel populations: Dam and dam removal impacts”, US Fish and Wildlife Service, \$48,623 (Cary share), 2011-2016
44. “Decision-support tools to improve shore zone management”, Hudson River Foundation, \$35,711, 2013-2015
45. (co-PI with E. Schultz) “Zebra mussel effects on diet of early-stage fishes in the Hudson River”, Hudson River Foundation, \$16,383 (Cary share), 2013-2015
46. (Collaborator with R. Newton and E. Bone) “A standard protocol for assessing the habitat quality of ecologically enhanced urban shorelines”, New York/New Jersey Harbor Estuary Program, \$10,248 (Cary share), 2014-2015
47. “OPUS: Developing a synthetic understanding of suspension-feeders, master switches in freshwater ecosystems”, National Science Foundation, \$163,027, 2015-2017
48. (lead PI with J. Cole, S. Findlay, M. Pace, E. Rosi-Marshall, C. Solomon) “Long-term effects of a species invasion on an aquatic ecosystem”, National Science Foundation, \$450,000, 2016-2021

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