Margaret A. Palmer

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Director, National Socio-environmental Synthesis Center
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I. EDUCATION

1979, 1983	M.S., Ph.D. Coastal Oceanography, University of South Carolina
1977	B.S. Biology - Phi Beta Kappa, Emory University

II. PROFESSIONAL EXPERIENCE:

2015 -	Distinguished University Professor, University of Maryland (90%)
2011 -	Director, National Socio-Environmental Synthesis Center
2011-2005	Director, Chesapeake Biological Laboratory, UMCES
2005	Professor, University of Maryland Center for Environmental Science (10%)
2003 -	Professor, Entomology, University of Maryland
2000-1999	Director, Ecology Program, National Science Foundation
1999-1997	Director, Biological Sciences Program, University of Maryland
1997-	Professor of Biology, University of Maryland
1997-1992	Associate Professor of Zoology, University of Maryland
1992-1989	Assistant Professor of Zoology, University of Maryland
1989-1987	Visiting Assistant Professor of Zoology, University of Maryland
1986	Visiting Scientist, Division of Invertebrate Zoology, Smithsonian Institution
1987-1992	Assistant Professor of Biology, Wabash College

III. AREAS OF PROFESSIONAL EXPERTISE

Restoration Ecology, especially Streams and Wetlands; Wetland hydrology and Carbon Dynamics; Invertebrate Ecology; Environmental Impacts of Coal Mining & Restoration of Mined Lands.

IV. AWARDS AND SPECIAL RECOGNITION

2022	British Ecological Society, Honorary Membership
2021	Helmholtz International Fellowship Award for Excellence in Research
2020	Storer Life Sciences Lecturer, University California - Davis
2019	Fobes Ronald Lecturer, Iowa State University
2018	Hynes Lecturer, Canadian Rivers Institute
2018	Ramón Margalef Distinguished Speaker, Iberian Limnological Society
2018	Ruth Patrick Award of the American Society of Limnology and Oceanography
2017	Fellow, Society for Freshwater Science
2016	2016 Sustainability Science Award, Ecological Society of America
2015	Distinguished University Professor, University of Maryland
2015	Award of Research Excellence, Society for Freshwater Science
2012	Fellow, Ecological Society of America
2012	41st Henry J. Oosting Memorial Lecturer, Duke University
2011	University System of Maryland, Board of Regents Faculty Award for Excellence
2010	University of Maryland Center for Env Science, President's Award for Excellence
2006	Distinguished Ecologist citation, Colorado State University

2006 Ecological Society of America, Distinguished Service Award
2002 AAAS Fellow
2001 Aldo Leopold Leadership Fellow
1994 British Ecological Society Visiting Scholar
1993-94 Distinguished Scholar Teacher, University of Maryland
1990-91 Lilly Fellow
1990 Woods Hole Oceanographic Institution Invited Visiting Scholar
1986 McLain-McTurnan Research Scholar
1983 Byron K. Trippet Research Award
1983 Sigma Xi Award for Excellence in Research in the Natural Sciences
1979-81 Slocum Lunz Doctoral Fellowship, Belle W. Baruch Predoctoral Fellowship
1976 Woods Hole Oceanographic Institution Student Fellowship
1973-77 Academic Scholarships from Emory University & the Sirrine Foundation
1977 Phi Beta Kappa

V. EDITORIAL SERVICE

Current:

2018 - *Environmental Research Letters* (Editorial Board)
2018 - *Socio-ecological Practice Research* (Editorial Board)
2017 - *Socio-environmental Systems Modeling* (Editorial Board)
2014 - *Ecosystem Health and Sustainability* (Int'l Advisory Board)
2009 - *Current Opinion in Environmental Sustainability* (Editorial Board)
2005- *Restoration Ecology* (Editorial Board)

Past:

2012-2016 *Science* (Board of Reviewing Editors)
2019-2016 *Monographs in Population Biology,* Princeton University Press (Advisory Board)
2016-2019 Island Press *Restoration Ecology* book series (Advisory Board)
2012-2007 *Year in Ecology & Conservation,* NY Academy of Sciences, (Advisory Board)
2005-1998 *Limnology & Oceanography* (Editorial Board)
2001-1998 *Freshwater Biology* (Editorial Board)

Other: Regular reviewer for *Science, Nature,* all ESA journals; Periodic reviewer for host of other journals including for example: *Trends in Ecology & Evolution; J. Applied Ecology*; *Environmental Science & Technology, PNAS, Ecology Letters, Freshwater Biology, Environmental Management*, *JAWRA*, PLOSone, etc. Proposal Review Panel Service: NSF-Ecology; DGI (center & institute panels); Ecosystems; Coupled Natural & Human Systems; Engineering – Environmental Sustainability; Conservation & Restoration Biology; Earth Sciences Evaluation Panel, Graduate Fellowships Panel; Visiting Professorships for Women; Long Term Ecological Research Sites Panel

VI. BOARD AND ADVISORY SERVICE

Current:

2025-2016 Appalachian Headwaters Board of Directors
2035-2004 American Rivers
2027-2023 International Advisory Board, *OneWater*, French *Investments for the Future*
2025-2022 Advisory Board, NSF Institute for Geospatial Understanding through an Integrative Discovery Environment (I-GUIDE)

2025 -2019 Netherlands: Next Water Governance (NEWAVE) Internat'l Training Network
2023-2019 International Institute for Applied Systems Analysis (llASA), Austria; U.S. National Committee member
2021 - 2019 UK: Living Deltas Hub focus on Vietnam, India, Bangladesh
2021-2017 Water, Science, & Technology Board, National Academies of Science

Past:
2017-15 Science Advisory Council, Conservational International
2014-12 Sustainable Environment Actionable Data Project (SEAD), Univ of Michigan
2016-12 Leibniz-Institute of Freshwater Ecology and Inland Fisheries Board
2015-11 European Union – REFORM board (Restoring Rivers)
2015-11 Scientific Advisory Panel, Missouri River Restoration Program
2015-10 U.S. National Committee for the International Institute for Applied Systems Analysis (llASA), Austria
2014-10 European Union BioFRESH Scientific Advisory Board
2015-10 Swedish Research Council Formas, RESTORE Scientific Advisory Board
2011-09 Senior Advisory Board, CUASHI (Consortium of Universities for the Advancement of Hydrologic Science)
2010-2008 Scientific Advisory Board, Potomac Conservancy
2009-06 NSF, National Advisory Board, Long Term Ecological Research
2014-16 Board of Trustees, Chesapeake Bay Trust
2008-05 Scientific Advisory Board, NSF National Center for Earth Surface Dynamics
2006-04 Scientific Advisory Board, Center for Watershed Protection
2005-02 Scientific Advisory Board, Grand Canyon Research and Assessment Center, USGS
2005-01 Chair, Scientific Advisory Board, National Center for Ecological Analysis & Synthesis (2003-04); board member (2001 – 2003)

VII. PROFESSIONAL LEADERSHIP & COMMITTIES

2024-21 Ecological Society of America, Sustainability Committee, Awards Committee
2019 AAAS Atmospheric & Hydrospheric Section, Electorate Nominating Comm.
2018 American Geophysical Union, Fall meeting, Washington D.C., session organizer
2017 American Society of Limnology & Oceanography 2017 annual meeting, organized a symposium with two of my students on "Connectivity in Freshwaters"
2016 American Geophysical Union, Chapman Conference: "Extreme Climate Event Impacts on Aquatic Biogeochemical Cycles and Fluxes", program committee
2015-2001 Ecological Society of America: Chair-Aquatic Section (1999-01); Vice-Chair, Aquatic Section (1997-99); Mercer Award Committee (1998-02); Pubs Comm. (2000-03); Nominations Comm.(2001); Chair, Ecological Visions project (2002-05);Governing Board (2003-05); Chair, Corporate Awards Comm. (2006-08); ESA Fellows election (2002-04); MacArthur Awards Comm. (2005-06; 2014-15).
2014 Natural Resources Ecological Lab Advisory Board, Colorado State University
2013 NSF Task force: Envisioning the Future of LTER Network Office
2013-10 Missouri River Recovery Program, Independent Science Advisory Panel
2012 Society of Ecological Restoration (SER) 5th World Conference on Ecological Restoration, conference planning committee
2012-08 Chair, International Committee on Freshwater Biodiversity, *Diversitas*
2011-10 Organizer, workshop for International Consortium for Freshwater Biodiversity,

Barcelona, Spain (Co-convenor, Klement Tockner - IGB Berlin)

2010-04 Section Head, Faculty of 1000, BioMed Central, Marine & Freshwater Ecology

2007-03 International Riverine Landscapes – leadership team (2003 – 2007)

2007-02 National Center for Ecological Analysis and Synthesis (NCEAS): Chair, "National River Restoration Synthesis (NRRSS)" project, ('02-07); Co-Lead, "Hydrological Regimes & Stream Ecosystems: Future Scenarios" project ('99-01); "Ecological Forecasting" Workshop (2000); "Restoration Ecology" (1995)

2006-05 NRC Committee on River Science

2006-04 Chair, Hydro-ecology Science Committee, NSF National NEON Design Team

2004-1997 Society for Freshwater Science" Policy Comm.(2000-04); Endowment Comm. (2000-20); Executive Comm.(1997-00); Co-Organizer, Symposium & journal issue (Ecological Heterogeneity, March 97); Chair, Awards Comm.(2005 -08)

2002-1995 Chair, Freshwater Section & Steering Committee Member, **S.C.O.P.E**. Project on Biodiversity & Ecosystem Function in Soils & Sediments, (1995- 01)

2001-1997 Chair, Advisory Board of Scholars: **AAC&U-NSF** project on Women & Science

1992 Convener and Chair, 8th International Meiofauna Conference

VIII. PUBLICATIONS

Books

Falk, D., M. A. Palmer, and J. B. Zedler (eds.). 2006. Foundations of Restoration Ecology. Island Press. Washington, D.C.

Palmer, M.A., J.B Zedler, and D.A. Falk. 2016. Foundations of Restoration Ecology. 2nd Edition. Island Press. Washington D.C.

Peer-reviewed articles (* = Palmer student or postdoc)

1. Palmer, M.A., B. Kjerfve, and F.B. Schwing. 1980. Tidal analysis and prediction in a South Carolina estuary. **Contributions in Marine Science** 23: 17-23.

2. Coull, B.C. and M.A. Palmer. 1980. Heteropsyllus (Copepoda, Harpacticoida): A revised key including a new species from Chesapeake Bay. **Trans. of the American Micros. Soc**. 99:303-309.

3. Palmer, M.A. and B.C. Coull. 1980. The prediction of development rate and the effect of temperature for the copepod, Microarthridion littorale. J. Experimental Marine Biology and Ecology 48: 78-83.

4. Palmer, M.A. 1980. Variation in life history patterns between intertidal and subtidal populations of the meiobenthic copepod, *Microarthridion littorale*. **Marine Biology** 60: 159-165.

5. Palmer, M.A. and R.R. Brandt*. 1981. Tidal variation in the sediment densities of marine benthic copepods. **Marine Ecology Progress Series** 4: 207-212.

6. Fleeger, J.W. and M.A. Palmer. 1982. Secondary production of the estuarine, meiobenthic copepod, *Microarthridion littorale*. **Marine Ecology Progress Series** 7: 157-162.

7. Coull, B.C., E.L. Creed, R.A. Eskin, P.A. Montagna, M.A. Palmer, and J.B.J. Wells. 1983. Phytal meiofauna from the rocky intertidal at Murrell's Inlet, S.C. **Transactions of the American Microscopial Society** 102:380-389.

8. Coull, B.C. and M.A. Palmer. 1984. Field experimentation in meiofaunal ecology. Hydrobiologia 118: 1-9.

9. Palmer, M.A. 1984. Invertebrate drift: behavioral experiments with intertidal meiobenthos. **Marine Behavior and Physiology** 10: 235-253.

10. Palmer, M.A. and G. Gust. 1985. Dispersal of meiofauna in a turbulent tidal creek. **Journal of Marine Research** 43: 170-210.

11. Eskin, R.A. and M.A. Palmer. 1985. Suspension of nematodes in a turbulent tidal creek: species patterns. **Biological Bulletin** 169: 615-623.

12. Palmer, M.A. and R.M. Molloy*. 1986. Flow and the vertical distribution of meiofauna: a flume experiment. **Estuaries** 9: 225-228.

13. Palmer, M.A. 1986. Hydrodynamics and structure: interactive effects on meiofauna dispersal. **Journal of Experimental Marine Biology & Ecology** 103: 1-16.

14. Palmer, M.A., P. Montagna, D. Hardin, R. Spies. 1988. Meiofauna dispersal near natural petroleum seeps in the Santa Barbara channel: a recolonization experiment. **Oil & Chemical Pollution** 4:179-189.

15. Palmer, M.A. 1988. Marine meiofauna and epibenthic fish predators: separating predation, disturbance, and hydrodynamic effects. **Ecology** 69: 1251-1259.

16. Palmer, M.A. 1988. A review of passive transport and active emergence of marine meiofauna with implications for recruitment. Marine Ecology Progress Series 48: 81-91.

17. Coull, B.C., M.A. Palmer, and P.E. Myers. 1989. Controls on the vertical distribution of meiobenthos: field & flume studies with juvenile fish. **Marine Ecology Progress Series** 55:133-139.

18. Palmer, M.A. 1990. Temporal and spatial dynamics of meiofauna within the hyporheic zone of Goose Creek, Virginia. **J North American Benthological Society** 9:17-25.

19. Palmer, M.A. 1990. Understanding the movement dynamics of a stream-dwelling invertebrate community using marine analogs. **Stygologia** 5(2): 67-74.

20. Fleeger, J.W., M.A. Palmer, and E.B. Moser. 1990. On the scale of aggregation of meiobenthic copepods on a tidal mudflat. P.S.Z.N.I.: **Marine Ecology** 11:227-237.

21. Palmer, M.A. 1992. Incorporating lotic meiofauna into our understanding of faunal transport processes. **Limnology and Oceanography** 37:329-341.

22. Palmer, M.A., A.E. Bely*, and K.E. Berg*. 1992. Response of stream fauna to lotic disturbances: a test of the hyporheic refuge hypothesis. **Oecologia** 89:182-194.

23. Palmer, M.A., P. Arensburger*, and A.P. Martin*. 1992. The role of patch dynamics in explaining population persistence of hyporheic biota: a numerical simulation model. pp. 119-132 in Proc 1st Int'l Groundwater Ecology Conf (Edt. J. Stanford & J.. Simons) Amer.Water Res.Assoc. Bethesda, MD.420pp.

24. Hakenkamp*, C.C. and M.A. Palmer. 1992. Problems associated with quantitative sampling of groundwater invertebrates. Pp.101-110 in Proc. of the First Int'l Groundwater Ecology Conference. (see above)
25. Palmer, M.A. 1993. Experimentation in the hyporheic zone: challenges and prospectus. **Journal of the North American Benthological Society**. 12:84-194.

26. Poff, N.L., M.A. Palmer, P. Angermeir, R. Vadas, C.C. Hakenkamp*, A. Bely*, P. Arensburger*, and A.Martin*. 1993. Size structure of the metazoan community in a Piedmont stream. **Oecologia** 95:202-209.

27. Ward, J.V. and M.A. Palmer. 1994. Distribution of freshwater meiofauna over a range of spatial scales in alluvial river-aquifer systems. **Hydrobiologia** 287: 147-156.

28. Hakenkamp*, C.C., M.A. Palmer, and B.R. James. 1994. Community dynamics of metazoa from a sandy aquifer near the Chesapeake Bay. **Hydrobiologia** 287:195-206.

29. Turner*, E.J., R.K. Zimmer-Faust, M.A. Palmer, & M. Luckenbach. 1994. Settlement of oyster larvae: effects of water flow & water-soluable chemical cues. **Limnology & Oceanography** 39:1579-1593.

30. Breitburg, D.L., M.A. Palmer, and T. Loher. 1995. Larval distributions and the spatial patterns of settlement of an oyster reef fish: responses to flow and structure. **Marine Ecology Progress Series**. 125:45-60.

31. Palmer, M.A., P. Arensburger*, P.S. Botts, C.C. Hakenkamp*, and J. Reid. 1995. Disturbance & the community structure of invertebrates: patch-specific effects and the role of refugia. **Freshwater Biology** 34: 343-356.

32. Palmer, M.A. and D.L. Strayer. 1996. Meiofauna. pages 315-337 in: Methods in Stream Ecology Edited by R. Hauer and G. Lamberti. Academic Press.

33. Palmer, M.A., P. Arensburger*, P. Martin*, and D. Denman. 1996. Disturbance in patchy environments: role of woody debris as a refuge for invertebrates. **Oecologia** 105:247-257.

34. Palmer, M.A., J.D. Allan, and C.A. Butman. 1996. The role of dispersal as a regional process influencing local community structure: marine vs. freshwater comparisons. **Trends in Ecology and Evolution** 11:322-326.

35. Turner, P.M. and M.A. Palmer. 1996. Species composition of the rotifer community inhabiting the interstitial sands of Goose Creek, Virginia with comments on habitat preferences. **Q. Journal of Microscopy** 37:552-565.

36. Palmer, M.A. and N.L. Poff. 1997. The influence of environmental heterogeneity on patterns and processes in streams. **J North American Benthological Society** 16:169-173.

37. Palmer, M.A., C.C. Hakenkamp*, and K. Nelson-Baker*. 1997. Ecological heterogeneity in streams: why variance matters. **Journal of the North American Benthological Society** 16:189-202.

38. Palmer, M.A., R. Ambrose, and N.L. Poff. 1997. Ecological theory and community restoration ecology. **Restoration Ecology** 5:291-300.

39. 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.

40. Freckman, D.W., J. Brussaard, P. Snelgrove, and M.A. Palmer. 1997. Biodiversity and ecosystem functioning of soils and sediments. **Ambio** 26:556-562.

41. Wall, D.H., L. Brussaard, P. Hutchings, M.A. Palmer & P.V.R. Snelgrove. 1998. Soil & sediment biodiversity & ecosystem functioning. **Nature & Human Resources** 34:41-51.

42. Covich, A.P., M.A. Palmer, and T.A. Crowl. 1999. The role of benthic species in freshwater ecosystem processes. **Bioscience** 49:119-126.

43. Hakenkamp*, C.C. and M.A. Palmer. 1999. Introduced bivalves in freshwater ecosystems: the impact of *Corbicula* on carbon dynamics. **Oecologia** 119: 445-451.

44. Hakenkamp*, C. C. and M. A. Palmer. 2000. The ecology of hyporheic meiofauna. IN: Streams and Ground Waters - Edt. by J. Jones and P. Mulholland. Academic Press.

45. Palmer, M.A., C.M. Swan*, K. Nelson*, P. Silver Botts and R. Alvestad*. 2000. Streambed landscapes: evidence that stream invertebrates respond to the type and spatial arrangement of patches. **Landscape Ecology** 15:563-576.

46. Silver, P., J. Cooper, M. Palmer, & K. Nelson*. 2000. Density-independent influence of spatial arrangement of patches on chironomid life history traits. **Oecologia** 124: 216-224.

47. Swan*, C.M. and M.A. Palmer. 2000. Small-scale spatial patterns in lotic meiofauna communities. **Freshwater Biology** 44:109-121.

48. Palmer, M.A., Alexander, L., W. Lamp, and J. Brooks. 2000. Review of Carr, J. and Chu, Restoring Life in Running Waters. **Restoration Ecology** 8:210.

49. Palmer, M.A. and P.S. Lake. 2001. Invertebrate Biodiversity in Freshwaters. Encyclopedia of Biodiversity Volume 3, pages 531-542. Simon Levin (ed.)

50. Hakenkamp*, C., S. Ribblett*, C. Swan*, J. Reid, M. A. Palmer, M. Goodson*. 2001. The impact of an introduced species of bivalve (*Corbicula fluminea*) on the benthos of a sandy stream. **Freshwater Biology** 46: 491-502.
51. Boulton, A., C. Hakenkamp*, M. Palmer, and D. Strayer. 2001. Freshwater meiofauna & surface water-sediment linkages. Chap 11 *in*: Freshwater Meiofauna: Biology and Ecology. Edt: S. D. Rundle, A. L. Robertson, J. M. Schmid-Araya Publisher: Backhuys

52. Silver, P., M.A. Palmer, C.S. Swan*, and D. Wooster*. 2001. The small scale ecology of freshwater meiofauna. Chapter 10 *in*: Freshwater Meiofauna: Biology and Ecology. Edt: S. D. Rundle, A. L. Robertson, J. M. Schmid-Araya Publisher: Backhuys, Leiden.

53. Wall, D.H., M.A. Palmer, and P. V.R. Snelgrove. 2001. Biodiversity in critical transition zones between terrestrial, freshwater, and marine soils and sediments: processes, linkages, and management implications. **Ecosystems** 4: 418-420.

54. Ewel, K.C., Cressa, C. Kneib, R., Lake, P.S. Levin, L., Palmer, M.A. et al. 2001. Managing critical transition zones. **Ecosystems** 4: 451-460.

55. Levin, L., Bosch, D, Brim, J.B., Covich, A., Dahm, C., Erseus, C., Ewel, K.C., Kneib R., Moldenke, A., Palmer, M.A., Strayer, D.L, Snelgrove, P. & Weslawski, J. 2001. The role of biodiversity in the function of marine critical transition zones. **Ecosystems** 4: 430-451.

56. Cardinale*, B.J., C.S. Smith*, and M.A. Palmer. 2001. The influence of initial colonization by hydropsychid caddisfly larvae on the development of stream invertebrate assemblages. **Hydrobiologia** 455:19-27.

57. Michener, W.K., Baerwald, T., P. Firth, M. A. Palmer, J. Rosenberger, E. Sandlin, and H. Zimmerman. 2001. Defining and unraveling Biocomplexity. **BioScience** 51:1018-1023.

58. Cardinale*, B.J., M.A. Palmer, C.M. Swan*, S. Brooks*,& N. L. Poff. 2002. Influence of habitat heterogeneity on biofilm metabolism in a stream ecosystem. **Ecology** 83: 412-422.

59. Cardinale*, B.J., M.A. Palmer, and S.L. Collins. 2002. Species diversity enhances ecosystem functioning through interspecific facilitation. **Nature** 415: 426-429.

60. Palmer, M.A., G.E. Moglen, N. E. Bockstael, S. Brooks*, J.E. Pizzuto, C. Wiegand, and K. van Ness. 2002. The Ecological consequences of changing land use for running waters: the suburban Maryland case. **Yale Bulletin Environmental Science** 107: 85-113.

61. Brooks*, S., M.A. Palmer MA, B.J. Cardinale*, C. Swan*, S. R. Ribblett*. 2002. Stream rehabilitation: limitations of community structure data. **Restoration Ecology** 10:156-168.

62. Cardinale*, B.J. and M.A. Palmer. 2002. Disturbance moderates biodiversity-ecosystem function relationships: experimental evidence from stream caddisflies. **Ecology** 83:1915-1927

63. Benda, L.E., L. Poff, C. Tague, M.A. Palmer, J. Pizzuto, S. Cooper, E. Stanley, and G. Moglen. 2002. How to avoid train wrecks when using science in environmental problem solving. **Bioscience** 52: 1127-1136.

64. Nilsson, C., J. E. Pizzuto, G. E. Moglen, M. A. Palmer, E. H. Stanley, N. E. Bockstael, and L. C. Thompson. 2003. Ecological Forecasting and running-water systems: challenges for economists, spatial analysts, hydrologists, geomorphologists, and ecologists. **Ecosystems** 7: 659-674.

65. Hastings, A. and M.A. Palmer. 2003. A bright future for biologists and mathematicians. **Science** 299: 2003-2004.

66. Poff, N.L., J. D. Allan, M.A. Palmer, D. D. Hart, B.D. Richter, A.H. Arthington, J. L. Meyer, J.A. Stanford, K. H. Rogers. 2003. River flows & water wars: emerging science for environmental decision-making. **Frontiers in Ecology & Environment** 1:298-306.

67. Palmer, M.A., D.D. Hart, J. D. Allan, E. Bernhardt* and the National Riverine Restoration Science Synthesis Working Group. 2003. Bridging engineering, ecological, and geomorphic science to enhance riverine restoration: local and national efforts. Proc. National Symposium on Urban and Rural Stream Protection and Restoration, EWRI World Water and Environmental Congress, Philadelphia, Pa, June 2003, published by the American Society of Civil Engineers, Reston Va.

68. Swan*, C.M. and M. A. Palmer. 2004. Leaf diversity alters stream litter decomposition. **Journal of the North American Benthological Society** 23: 15-28.

69. Silver, P., D. Wooster* & M. Palmer. 2004. Chironomid responses to spatially-structured, dynamic stream landscapes. **J North American Benthological Society** 23: 69-77.

70. Cardinale*, B. J., E. Gelman, and M. A. Palmer. 2004. Net-spinning caddisflies as ecosystem engineers: The effect of *Hydropsyche* on benthic substrate stability in streams. **Functional Ecology** 18:381–387.

71. Moglen, G., K., Nelson*, M. A. Palmer, J.E. Pizzuto, and C.E. Rogers and M.I. Hejazi. 2004. Hydro-ecological responses to land use in small urbanizing watersheds. In: R. DeFries, G. Asner, R. Houghton (eds.) *Ecosystems and Land Use Change Interactions.* **Geophys. Monograph Ser.** 153:41-60.

72. Palmer, M.A., E. Bernhardt*, E. Chornesky, S. Collins, A. Dobson, C. Duke, B. Gold, R. Jacobson, S. Kingsland, R. Kranz, M. Mappin, M. L. Martinez, F. Micheli, J. Morse*, M. Pace, M. Pascual, S. Palumbi, O. J. Reichman, A. Simons, A. Townsend, and M. Turner. 2004. Ecology for a crowded planet. **Science** 304: 1251-1252.

73. Cardinale*, B. J., M. A. Palmer, A. R Ives, and S. Brooks*. 2004. The diversity-productivity relationship in stream ecosystems varies with the natural disturbance regime. **Ecology** 86:716-726.

74. Palmer, M., E. Bernhardt*, E Chornesky, S Collins, A. Dobson, C Duke, B Gold, R. Jacobson, S Kingsland, R Kranz, M Mappin, M Martinez, F Micheli, J Morse, M.Pace, M Pascual, S Palumbi, O J Reichman, A Simons, A Townsend, & M Turner 2005. Ecology for the 21st Century: an Action Plan. **Frontiers in Ecology & the Environment** 3:4-11

75. Allan, J.D., M.A. Palmer, and N.L. Poff. 2005. Freshwater ecology pp. 272-88 *in* Climate Change and Biodiversity. Edited by T.E. Lovejoy and L. Hannah. Yale Univ Press

76. Hastings, A., P. Arzberger, B. Bolker, S. Collins, A. R. Ives, N. A. Johnson, M. A. Palmer. 2005. Quantitative bioscience for the 21st century. **BioScience** 55:511-517

77. Meyerson, L.A., J. Baron, J. Melillo, R. J. Naiman, R.I. O'Malley, G. Orians, M.A. Palmer, A.S.P. Pfaff, and O.E. Sala. 2005. Aggregate Measures of Ecosystem Services: Can we take the pulse of nature? **Frontiers in Ecology and the Environment** 3:56-59

78. Palmer, M.A. 2004. Ecological futures and ecological research. **Journal of Soil and Water Conservation** Nov/Dec: 120

79. Moore*, A.M. and M.A. Palmer. 2005. Agricultural watersheds in urbanizing landscapes: implications for conservation of biodiversity of stream invertebrates. **Ecological Applications** 15:1169-1177

80. Bernhardt*, E.S., M. A. Palmer, J. D. Allan, G. Alexander, S. Brooks*, J. Carr, C. Dahm, J. Follstad-Shah, D.L. Galat, S. Gloss, P. Goodwin, D. Hart, B. Hassett*, R. Jenkinson, G.M. Kondolf, S. Lake, R. Lave, J.L. Meyer, T.K. O'Donnell, L. Pagano, P. Srivastava, E. Sudduth. 2005. Restoration of U.S. Rivers: a national synthesis. **Science** 308:636-637 doi:10.1126/science.1109769

81. Hassett*, B., M.A. Palmer, E. S. Bernhardt*, S. Smith, J. Carr, and D. Hart. 2005. Status and Trends of River and Stream Restoration in the Chesapeake Bay Watershed. **Frontiers in Ecology and the Environment** 3: 259-267.

82. Swan*, C.S. and M. A. Palmer. 2005. Leaf litter diversity leads to non-additivity in stream detritivore colonization. **Oceanological & Hydrobiological Studies** 34: 19-38.

83. Wohl, E., P Angermeier, B Bledsoe, M Kondolf, L MacDonnell, D Merritt, M Palmer, L Poff, and D Tarboton. 2005. River restoration. **Water Resources Res** 41: 1- 12 W10305

84. Ribblett*, S.R., W. Coates, and M.A. Palmer. 2005. Protozoan functional groups influence rates of decomposition in stream ecosystems. **Freshwater Biology** 50:516-527

85. Palmer, M.A. 2005. Nature's technology: futures with our without? The Environment, global change, and sustainability. Pp *in: Vision 2033: Linking Science and Policy for Tomorrow's World*, American Assoc Advancement of Science, Washington, D.C.

86. Palmer, M.A., E. Bernhardt*, J. D. Allan, G. Alexander, S. Brooks*, J. Carr, C. Dahm, J. Follstad-Shah, D.L. Galat, S. Gloss, P. Goodwin, D. Hart, B. Hassett*, R. Jenkinson, G.M. Kondolf, S. Lake, R. Lave, J.L. Meyer, T.K. O'Donnell, L. Pagano, P. Srivastava, E. Sudduth. 2005. Standards for ecologically successful river restoration. **Journal of Applied Ecology** 42: 208-217.

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X. REPORTS

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NRC (2006). River Science at the U.S. Geological Survey. National Academies Press, Washington, D.C. (Palmer - member of NRC Committee)

NEON ISEP (2006). NEON Integrated Science and Education Plan. National Neon Design Committee. National Science Foundation.

U.S. Climate Change Science Program (2008) Adaptation Options for Climate-Sensitive Ecosystems: Rivers. Chapter 6.4. US CCSP Program, Washington, D.C.

Carpenter, S.R., V. Armbrust, P. Arzberger, T. Chapin, J. Elser, E. Hackett, T. Ives, P. Kareiva, M. Leibold, P. Lundberg, M. Mangel, N. Merchant, W. Murdoch, M. Palmer, D. Peters, S. Pickett, K. Smith, D. Wall, and A. Zimmerman. (2009). The Future of Synthesis in Ecology and Environmental Sciences. Report to the National Science Foundation

Palmer, M.A. (2011). Metrics for the ecological evaluation of stream restoration outcome: a literature review with evidence-based recommendation. National Fish & Wildlife Foundation. Washington, D.C.

Doyle, M., D. Murphy, S. Bartell, S. Farmer, C.S. Guy, M. Palmer, and R. Turner. Spring pulses and adaptive management. (2011) Missouri River Recovery Program Independent Science Advisory Panel: U.S. Institute for Environmental Conflict Resolution. 58 pp. http://projects.ecr.gov/moriversciencepanel/pdfs/MRISAPFinalReportSpringPulse-AdaptMgt113011.pdf

McKnight, D., A. Ellison, C. Goodale, M. Palmer, L. Rustad, and A. Zimmerman. 2014. Report to the National Science Foundation from the Task Force on Envisioning the Next-Generation LTER Network Office. http://lnovision.colorado.edu/

Olander, L., R. Johnston, H. Tallis, J. Kagan, L. Maguire, J. Boyd, S. Polasky, and L. Wainger. 2015. Best practices for integrating ecosystem services into federal decision making. doi:10.13016/M2CH07

Barton, C.M., L. Alessa, S. Bankes, T. Bogdan, L. Buja, E. CoBabe-Ammann, J.J. Feddema, K.A. Galvin, S. van der Leeuw, B. Turner, M. Alberti, R. Axtell, L. Betencourt, S.J. Breckler, E. Brondizio, D.G. Brown, P. Fox, R. Graves, E. Hackett, S. Hofferth, J.S. Jackson, R. Kassimir, M. Levy, J. Liu, E. Moran, G.C. Nelson, M. A. Palmer, W. Rand, D. Rogers, D. Rogers, J. Syvitski, and S. Wang. (2015). Advancing Next Generation Human Systems Science: A National Center for Social Informatics and Analytics. A report from an NSF Workshop in Washington, D.C.

Vörösmarty, C.J., V.R. Ozuna, A.D. Cak, P, Green, Z. Tessler, F. Corsi, A. Bhaduri, S. Bunn, J. Gastelumendi, I. Harrison, R. Lawford, P. J. Marcotullio, M. McClain, R. McDonald, P. McIntyre, M.A. Palmer, R. Robarts, A. Szöllösi-Nagy, and S. Uhlenbrook. 2018. Ecosystem-based water security and the sustainable development goals. Framing Notes to the High Level Panel on Water: Water-Related Environmental Services. Submitted to The United Nations Secretary-General and President of the World Bank Group High Level Panel on Water (HLPW), (Sustainable Development Knowledge Platform) convened in September 2017. https://sustainabledevelopment.un.org/HLPWater

Hampton, S.E., B.S. Halpern, M. Winter, J.K. Balch, J.N. Parker, J.N. Baron, M.A. Palmer, M. P. Schildhauer, P. Bishop, T.R. Meagher and A. Specht. 2017. Best practices for virtual participation in meetings – experiences from synthesis centers. Bulletin of the Ecological Society of America 98 (1): 57-63. DOI: 10.1002/bes2.1290

Palmer, M.A., J. Kramer, N. Motzer, and K. Anderson. 2019. Accelerating Engineering Research Center Preparedness for Convergence Research. Report prepared for the NSF Engineering Directorate, Engineering Research Program.

X. SESYNC Open Access Resources (Authored by Palmer, 2020-2023)
Learning Materials, Explainers, Lessons on Sustainability & Socio-Environmental Systems, Modeling and Team Science

Socio-Environmental Systems Core Concepts

- What is a socio-environmental system?
- Feedback Loops and Socio-Environmental Systems
- Resilience Theory and Socio-Environmental Systems
- Socio-Environmental System Change and Reorganization
- Introduction to Socio-Environmental Systems Lesson: A Lens to Examine Sustainability with a Food Security Exercise (lesson)
- Introduction to Resilience and Sustainability – Ecological, Social, Socio-Environmental (lesson)
- Ecosystem Services (lessons)
    - Part 1: Defining and Valuing Nature
    - Part 2: Linking Ecosystems & their Processes wo What People Value and to Human Actions
    - Part 3: Intrinsic and Relational Values of Nature
- Building the Basics for Understanding and Modeling Socio-Environmental Systems
    - Part 1 – Socio-Environmental Systems as Complex Adaptive Systems
    - Part 2 – Defining the Problem and Spanning Boundaries

    - Part 3 – Choosing a Modeling Approach
- Sustainability, Resilience, and the Dimensions of Risk: Hazard, Exposure, Vulnerability

Team Resources

- First Meeting Guide
- Building an Interdisciplinary Team
- Best Practices for Interdisciplinary Team Research: Shaping a Team's Social Environment for Success
- What is Interdisciplinary Research? Best Practices
- Who are Stakeholders? What is the Role of Stakeholders in Convergent Research?
- Measuring Societal Impact for Convergent Research
- What is a Shared Mental Model? Why are Mental Models Useful for Interdisciplinary Research?
- SESYNC's Theory & Design and SESYNC's Formation
- Flipping the Team Research Process: SESYNC's Data to Motivate Synthesis

Methods:

- A short overview of synthesis methods
- Quantitative and Qualitative Synthesis Methods
- Quantitative Methods for Sustainability: Data Integration
- Qualitative Methods for Actionable Sustainability Science: Appreciative Inquiries and Learning Journeys
- Qualitative Synthesis Methods: Critical Interpretive Reviews, Narrative Reviews and Expert Opinions
- Quantitative Synthesis Methods: Literature Reviews (Systematic and Meta-Analyses), Expert Elicitation
- What Types of Methods are Used to Study Sustainability Problems? (Interdisciplinarity)
- Qualitative Methods for Actionable Sustainability Science Lesson: Appreciative Inquiries and Learning Journeys
- Marine Spatial Planning for Sustainability Lesson: An Example of a Semi-Qualitative Synthesis Approach
- Modeling and Socio-Environmental Systems: Introduction and Common Terminology
- Modeling Approaches: What Are the Choices and How Do We Select One?
- Network Methods to Understand Complex Systems
    - Part 1 - Ecological Networks
    - Part 2 – Social Networks
    - Part 3 – Socio-Environmental
- Network Modeling for Socio-Environmental Systems (video tutorial)
- System Archetypes for Understanding and Solving Sustainability Problems (Archetype Explainer)
- Use of Archetypes for Socio-Environmental Problems and Modeling

Disciplinary and Interdisciplinarity Concepts

- Landscape and spatial ecology
- What is socio-hydrology?
- Introduction to Political Ecology

- Political Ecology in Action: Water and People
- Debate: Interdisciplinary Perspectives on Non-Native Species Lesson Part 1 and Part 2
- Integrating Spatial Ecology and Resilience Theory to Understand Ecosystem Service Flows Lesson
- What Influences Pro-Environmental Behavior: Learning from Psychological Research
- Novel Ecosystems and Natural Resource Management: For Whom? Part 1
- Novel Ecosystems and Natural Resource Management: For Whom? Part 2
- Climate Change: Change Behavior, Mitigate or Adapt Lesson
- Social and Environmental Dimensions of Large-Scale Land Acquisitions
    - Part 1 – Quantitative Assessment
    - Part 2 – Exploring Scholarly Sources and Textual Material
    - Part 3 - Combining Qualitative and Quantitative Data to Understand

XI. CONTRACTS AND GRANTS (P.I. unless otherwise noted)

1985-87, National Science Foundation (Oceanography) Grant, $33,000. "Flow & Fish Predators: Interactive Effects on Meiofauna and Juvenile Macrofauna"

1987-89, National Science Foundation (VPW/Ecology) Grant, $138,000. "Stream-Dwelling Meiofauna: Investigations of Dispersal Dynamics"

1989, National Science Foundation Supplemental (REU) Grant, $5,000. "Research Experiences for Undergraduates and for Minorities"

1989-90, Maryland Agricultural Experiment Station Competitive Research Grant, $31,200. "Meiofauna Dynamics at the Surface Water-Groundwater Interface" (Co.P.I. = Bruce James)

1990-91, Maryland Agricultural Experiment Station Competitive Research Grant, $27,000. "Microbial, Protozoan, and Meiofaunal Ecology at the Surface Water-Groundwater Interface"

1990-94, National Science Foundation (Ecology) Grant, $135,000. "The Role of Woody Debris as Mitigating Patches for Invertebrates During Floods"

1991-95, National Science Foundation (Oceanography) Grant, $325,000. total for 2 P.I.'s "The Role of Pre-settlement Behavior & Hydrodynamics in Determining Final Settlement Patterns of Benthic Estuarine Fish" (Co P.I. - D.L. Breitburg)

1992-94, Maryland Agricultural Experiment Station Competitive Research Grant, $24,000. "Settlement of American oyster (*Crassostrea virginica*) larvae in natural flow regimes"

1994-97, National Science Foundation (Ecology) Grant, $151,000. total for 2 P.I.'s, "Interactive Effects of Spatial and Temporal Patch Structure" (Co-P.I. P.S. Botts)

1996-99, National Science Foundation (Ecology, Conservation Biology) Grant, $200,000., "Experimentation in Stream Restoration Ecology: the role of habitat heterogeneity" (Co P.I. = LeRoy Poff, CSU)

1992-98, National Science Foundation Supplemental (REU) Grants, $35,000. ($5,000/yr) "Research Experiences in Stream Ecology for Undergraduates"

1997-98, National Science Foundation (Ecology) Grant, $17,000. "Patch Dynamics in Streams Supplemental Award"

1997-99, National Science Foundation (Ecology) Grant, $6,300. "Dissertation Award for Karen Nelson Baker: Dispersal in Patch Mosaics). (Co P.I. - P. Abrams)

1999-0, National Science Foundation (Geosciences) Grant, $247,500. "Gas Source Stable Isotope Mass Spectrometry" (lead P.I. – A. J. Kaufman)

1999-02, National Science Foundation (Ecosystems) Grant, $1,447,000. "Linking Stream Ecosystem Processes, Community Structure & Microbial Dynamics" (L. Kaplan - lead PI; Co-PI's - Palmer, Stahl, Hatcher, Findlay)

2000-04, National Science Foundation Grant, "Spatial Patch Structure: Can Ephemeral & Heterogeneous Patches Influence Stream Invertebrate Assemblages?" (P.I.; Co-P.I. = Pam Silver) $353,000.

2000-04, Environmental Protection Agency/National Science Foundation Grant, "Spatial Pattern of Urbanizing Landscapes: linking Economics, Hydrology, and Geomorphology to understand the Ecology of Stream Ecosystems" (M. Palmer – lead PI; Co-PI's – Bockstael, Moglen, Poff, Pizzuto) $1,125,000.

2002-05, C.S. Mott Foundation, "National River Restoration Science Synthesis – focus on mid-western and southeastern stream ecosystems" $150,000.

2002-05, Packard Foundation, "National River Restoration Science Synthesis – focus on a national level scientific evaluation" (P.I.) $150,000.

2002–05, Environmental Protection Agency (GCRP) (CO PI with G. Moglen) "Modeling the combined effects of land use change and climate change on stream ecosystems" $297,000

2002-05, Ecological Society of America (through awards from NSF, EPA, USDA, Mellon, Packard). "Environmental Science in the 21st Century" $91,000.

2004-06, American Rivers subaward (Altria), "United States River and Stream Restoration Science" (P.I.) $35,000

2004-07, CALFED (Subcontract from University California –Berkeley; M Kondolf = P.I.), "River Restoration Science Synthesis project" $83,000

2005-09, Environmental Protection Agency, "Ecological Sustainability in Rapidly Urbanizing Watersheds" (P.I.) $292,000.

2005-08, Packard Foundation, "NRRSS Phase II: Testing the ecological effectiveness of channel re-configuration restoration projects" (P.I.) $150,000

2005-06, Environmental Protection Agency, Climate Change Science Program, "Ecosystems and climate change: a research agenda" $15,000.

2006-07, Environmental Protection Agency, Climate Change Science Program, "Prospectus of the effect of climate change on wild and scenic rivers" (P.I.) $25,000.

2006-09, Environmental Protection Agency (via MDE): "Western Chesapeake Coastal Plain Stream Restoration Targeting" (P./I.) $265,000.

2007-10 National Science Foundation, Dissolution Mortality of Juvenile Bivalves in Coastal Marine Deposits (lead PI: M. Green & George Waldbusser; Palmer- Co-P.I.) $491, 000.

2007-09 U.S. D.A. – NRCS (CEAP). "Assessment of Wetland Water Quality Services Across an Alteration Gradient in the Choptank River Watershed" (P.I.) $164,105.

2009- 11 U.S.D.A. – NRCS (CEAP) "Assessment of Wetland Water Quality Services Across an Alteration Gradient in the Choptank River Watershed" (P.I.) $120,000.

2009-11 National Fish & Wildlife Foundation. "Promoting Successful Watershed Restoration using Cost-Effectiveness Monitoring and Assessment" (P.I., Co-PI= L. Wainger) $183,084

2010-11 National Science Foundation. Increasing Seawater Filtration Capabilities to Enhance Coastal Mesocosm-scale Research" $114,155 (Co-PI with Dave Secor)

2010-13 National Science Foundation. "Sustaining Coastal Experimentation and Observing Systems in Support of Marine Ecosystem and Climate Science (infrastructure award)". (Co-PI with Tom Miller) $1,702,000.

2010-13 National Oceanic & Atmospheric Administration. "Integrating Climate Change into the Restoration of the Chesapeake Bay and Watershed" (P.I.) $1,303,191.

2011-14 Environmental Protection Agency (Climate Change Program). "Quantification of Freshwater Ecosystem Service Production Functions under a Changing Climate" (P.I.) $894,540.

2011-16 National Science Foundation. "Environmental Synthesis Center - Bridging Computational, Social, and Natural Science for Environmental Solutions" (P.I.) $27,500,000.

2011-12 National Science Foundation, "EAGER: Launch of a Water Science Software Institute (WSSI)", (lead P.I. S. Ahalt, Co-PIs: M. Palmer, L. Band, B. Minsker), $300,000. ($100,000. To Co-P.I. M. Palmer)

2011-14 FAPESP (São Paulo Research Foundation, Brazil) "The role of forest fragments in controlling water quality and ecosystem functioning of streams draining agricultural catchments", (Lead P.I. Sílvio Frosini. Co-PIs: L. Martinelli, S. Filoso, M. Palmer), $124,000

2012-14 National Science Foundation "Conceptualization of a Water Science Software Institute" (Lead: S Ahalt, UNC; Co-PI's: M. Palmer, L. Band, B. Minsker) $780,000. ($218,000 to University of Maryland)

2012-15 National Science Foundation. "Cyberinfrastructure Information Exchange and Cyber Challenges Working Group across BIO centers." (P.I.) $199,750.

2013-18 United States Department of Agriculture-ARS. "Wetland - Stream Hydrologic Connectivity and Ecosystem Services". (P.I.) $100,000.

2014-16 National Science Foundation, "SESYNC-LTER Postdoctoral Immersion Program". (P.I.) $621,216.

2015-2017. National Science Foundation. "Interactions of Food Systems with Water and Energy: DTMS for Research" (P.I.) $173,226.

2016-2024. National Science Foundation. "Advancing socio-environmental research through computational, theoretical, and interdisciplinary synthesis"(P.I.) $28,200,000.

2017-2019 National Science Foundation. "Conceptualization: Geospatial Software Institute" (Co-PI; P.I. = Shaowen Wang, Univ Illinois) $500,000.

2018-2019 National Science Foundation. "Accelerating Engineering Research". Award # EEC1849257. (P.I.) $185,175. 9/15/2018 – 8/31/2019

2018-2019 National Science Foundation. " Network-of-Networks". (P.I.) $99,727.

2019-2023 National Science Foundation: "Carbon dynamics in wetland-rich landscapes that vary in hydrologic connectivity and water storage" (P.I.) $992,266. (to UMD: $503,160) CoP.I.s - Daniel McLaughlin (Va Tech), Nathan Jones (Univ Alabama).

2021-2023 USDA. "Carbon emissions across agricultural, restored, and natural wetlands" (P.I.) $20,000.

2021-2022 NASA "Carbon cycling in terrestrial and wetland ecosystems" (to Palmer Lab $40,000) (P.I.= Xuesong Zhang, ESSIC, University of Maryland)

2023-2027 USDA "Comparisons of long-term changes in soil organic carbon (SOC) and greenhouse gas (GHG)emissions in a gradient of restored to natural wetlands" $596,000. (Year $596,000. Year 1 increment - $156,260). (P.I. Palmer, Co-PIs – M. Williams, M. Rabenhorst)

XII. SEMINARS AND PRESENTATIONS

Invited Seminars:

1981 University of South Florida
1984 Miami University
1984 University of Dayton

1985 Lawrence Livermore National Laboratory
1986 Belle W. Baruch Marine Laboratory
1987 University of Maryland
1988 Hornpoint Environmental Research Laboratory
1988 Louisiana State University and the Louisiana Marine Consortium
1988 Chesapeake Biological Laboratory
1989 Academy of Natural Sciences - Benedict Laboratory
1990 The Institute of Ecosystem Studies
1990 Woods Hole Oceanographic Institution (3 seminars given)
1992 University of Richmond
1992 Virginia Polytechnic Institute and University
1993 Florida State University
1994 British Ecological Society Plenary Lecture and lectures at 3 universities in the U. K.
1995 Baruch Institute for Marine Biology and Coastal Research
1995 SUNY -Binghamton
1996 University of Edinburgh (Scotland)
1996 University of Vermont
1996 NSF Workshop on Ecological Restoration (NCEAS, Santa Barbara)
1996 University of Virginia, Blandy Field Laboratory
1996 Virginia Institute of Marine Science
1996 United States Geological Survey (Headquarters in Reston)
1996 U.S. Fish and Wildlife and Maryland Department of Natural Resources Conference
1997 University of South Carolina
1997 Agricultural University of the Netherlands; Wageningen, Netherlands
1998 Smithsonian Environmental Research Center
1998 University of Pennsylvania
1999 James Madison University
1999 Philadelphia Academy of Natural Sciences
2000 University of South Florida
2000 St. Mary's College
2000 Department of Entomology, University of Maryland
2001 Yale University
2001 EPA Athens Laboratory
2001 Anacostia Watershed Council
2001 Miami University
2001 Center for Watershed Protection
2002 Rutgers University
2002 Appalachian Environmental Laboratory
2003 Princeton University
2004 Council of Presidents (societies with environmental focus), "Ecological Visions", organized by the Ecological Society of America.
2004 National Academy of Sciences Johnson Center, Woods Hole, MA
2004 Middleburg Forum
2004 Chesapeake Bay Foundation
2004 University of Umea, Sweden
2005 Baltimore Long Term Ecological Research Program
2005 American Rivers Board of Trustees and awards dinner
2005 Maryland Water Resources Research Center

2005 Environmental Grantmakers Association Annual Meeting. New Paltz, NY
2006 Colorado State University (Distinguished Visiting Scientist, multiple talks)
2007 Chesapeake Bay Foundation
2008 Wabash College (2 talks)
2008 Pennsylvania State University
2009 Arizona State University
2009 University of Michigan
2010 Yale University
2010 Maryland Water Monitoring Council
2010 Elon University
2010 World Wildlife Fund
2010 Michigan State University
2011 Chesapeake Bay Program
2012 Duke University (Osting Lecturer)
2013 University of Michigan
2013 University of Wisconsin (2 lectures)
2013 University of Virginia
2013 Columbia University
2013 Northern Illinois University
2014 Environmental Defense Fund
2015 Walton Family Foundation
2015 University of Sao Paolo
2016 Cleveland Natural History Museum
2016 St. Mary's College
2016 University of Virginia
2016 University of Amsterdam
2016 Ohio University
2017 Coppin State University
2018 Virginia Tech
2018 University of New Brunswick
2018 University of Waterloo
2019 Cary Institute of Ecosystem Studies
2019 Iowa State University
2020 Arizona State University
2020 University of California – Davis
2020 Environmental Protection Agency
2021 EO Wilson Biodiversity Lecture, University of Oldenburg
2022 University of Illinois – Urbana-Champaign
2023 International NITRO-Oceania Group

<u>Presentations at Scientific Conferences</u> (*students or postdocs)
1982 – 1994 records not available (in hard files somewhere)

1994 Turner, E.J., M.A. Palmer, M.L. Luckenbach, R.K. Zimmer-faust. Settlement of *Crassostrea virginica* larvae: effects of water flow and a water-soluble chemical cue. National Shellfisheries Assoc. Meetings. Charleston.

1994 Palmer, M.A. **invited plenary**. Faunal transport processes and the structure of aquatic communities: marine vs. lotic comparisons. British Ecological Society Annual Meeting. Univ. Birmingham.

1994 Palmer, M.A. **invited**. The role of refugia in lotic systems. British Ecological Society Annual Meetings. Univ. Birmingham, U.K.

1995 Turner, M.A., M. Luckenbach, and M.A. Palmer. A threshold velocity limits the response of oyster larvae to a chemical settlement cue in flowing seawater. Marine Benthic Ecology Meetings.

1995 Palmer, M.A. Evidence that scale-dependent spatial variation in faunal abundances depends on patch type and on disturbance. North American Benthological Society Meetings. Keystone, CO

1995 Palmer, M.A. and C.C. Hakenkamp. Flow disturbance across patchy habitats: do hydrodynamic processes constrain biotic patterns? Ninth International Meiofauna Conference, Perpignan, France

1996 Palmer, M.A. **invited**. Community ecology theory and the science of restoration. National Science Foundation Workshop on Restoration Ecology. NCEAS, Santa Barbara

1996 Shofner, M.A. and M.A. Palmer. The influence of predation and prey exchange on the abundance and composition of meiofauna. North American Benthological Society Meetings. Flathead, Montana.

1996 Hakenkamp, C.C. and M.A. Palmer. Are meiofauna an important component of hyporheic respiration? North American Benthological Society Meetings. Flathead, Montana.

1997 Palmer, M.A. and A.P. Covich. **invited**. Biodiversity and ecosystem function in freshwater sediments. American Association for the Advancement of Science. Seattle.

1997 Palmer, M.A. **invited**. Freshwater subsurface realm: is there a link between biological diversity and cosystem functioning? Conference sponsored by the Scientific Committee on Problems of the Environment. Netherlands.

1998 Palmer,M.A., B.J. Cardinale, S.G. Ribblett, and C.M. Swan. Streambed heterogeneity and the restoration of ecosystem function and structure. 46th Annual Meeting of the North American Benthological Society, Prince Edward Island, Canada.

1998 Swan, C.S., M.A. Palmer, and R.A. Alvestad. Heterogeneity in patch quality: microbial-invertbrate dynamics in a sandy bottom stream. 46th Annual Meeting of the North American Benthological Society, Prince Edward Island, Canada.

1998 Smith, C., B. Cardinale, and M. Palmer. The effects of initial Trichopteran colonizers on the development of benthic communities. 46th Annual Meeting of the North American Benthological Society, Prince Edward Island, Canada.

1998 Silver Botts, P., J.K. Cooper, M.A. Palmer, and K. Nelson. Density-dependent influence

of the spatial arrangement of resource patches on chironomid life history traits. 46th Annual Meeting of the North American Benthological Society, Prince Edward Island, Canada.

1998 Nelson, K., M.A. Palmer, and P.Silver Botts. Do landscapes matter? empirical and theoretical evidence that patch arrangement may affect population sizes. 46th Annual Meeting of the North American Benthological Society, Prince Edward Island, Canada.

1998 Nelson, K, M.A. Palmer, and P. Silver Botts. Interaction of mobility and spatial heterogeneity in determining survival and distribution of animals: a spatially explicit simulation model. Ecological Society of America, national meetings August 1998, Baltimore.

1998 Silver Botts, P., M.A. Palmer, K. Nelson. Empirical evidence from field and laboratory studies that spatial arrangement of resource patches matters. Ecological Society of America, national meetings August 1998, Baltimore

1998 Swan, C.M., R.M. Alvestad and M.A. Palmer. Habitat heterogeneity and patch quality in a sandy bottom stream. Ecological Society of America, national meetings August 1998, Baltimore

1998 Shofner, M.A. and M.A. Palmer. Effect of different habitat types on prey dispersal in the presence of predators. Ecological Society of America, national meetings August 1998, Baltimore

1998 Palmer, M.A. **invited**. Restoration Ecology: perspectives on the new science. Workshop on Riparian Restoration. Morris Arboretum, Pennsylvania.

1998 Palmer, M.A. **invited**. Linkages between above and belowground biodiversity in freshwater ecosystems. SCOPE Soils and Sediment Biodiversity & Ecosystem Workshop. Lunteren, Netherlands.

1999 Brooks, S. and M. A. Palmer. Stream restoration ecology: using data from restoration projects to test hypotheses. North American Benthological Society annual meetings, Univ. Minnesota.

1999 Cardinale, M.A. and M.A. Palmer. Species diversity and ecosystem function: use of a numerical model show the importance of environmental context. Ecological Society of American, national meetings August 1999, Spokane, Washington

2000 Shofner, M. and M.A. Palmer. Linking fish predation and habitat patchiness to prey dispersal. Ecological Society of American, national meetings August 1999, Spokane, Washington

1999 Nelson, K., Abrams, P, and M.A. Palmer. Modelling dispersal of metapopulation dynamics under different assumptions of active dispersal. Ecological Society of American, national meetings August 1999, Spokane, Washington

2000 Cardinale, B , M.A. Palmer. The context dependency of species diversity and ecosystem function in streams. North American Benthological Society meetings June 2000, Keystone, Colorado

2000 Swan, C.S., M.A. Palmer, B. Cardinale. The role of habitat heterogeneity in the restoration of stream Ecosystem function. Ecological Society of America meetings August, 2000. Snowbird, Utah

2000 Palmer, M.A., B. Cardinale. The relationship between species diversity and ecological processes changes with disturbance regime. Ecological Society of America meetings August 2000, Snowbird, Utah

2001 Brooks, S.S, and M. A. Palmer. "Land use impacts on hydraulic functioning of streams in urban environments", Annual Meetings of the N. American Benthological Society, LaCrosse Wisconsin, June 2001.

2001 Swan, C.S. and M.A. Palmer. "Diversity of litter species: mixed vs. single species decomposition dynamics. Ecological Society of America annual meetings, Madison, WI August

2001 Palmer, M.A. "Collaborative work on stream ecosystems and land use change: economics to ecology". **invited.** EPA Athens Lab urban stream conference. Athens, Ga. March 2001.

2001 Cardinale, B. and M. Palmer. "Biodiversity influences ecosystem function: experiments with caddisfly assemblages.' North American Benthological Society annual meetings. University of Wisconsin, June 2001.

2001 Palmer, M.A. "The Ecological Consequences of Changing Land Use for Stream Ecosystems". Invited plenary; **invited.** Ecological Society of America – The Nature Conservancy symposium on "Getting Conservation Biology Up and Running". Madison, WI. August 2001.

2001 Nelson, K. and M.A. Palmer. Spatial structure of passively dispersed organisms: a theoretical approach. Ecological Society of America annual meetings. Madison, WI August 2001

2001 Palmer, M.A. "Groundwater- surface water exchange and hyporheic ecology" *invited* Society of Ecotoxicology and Chemistry annual meetings. Baltimore, MD. October 2001.

2002. Palmer, M.A. "Populations and stream health: exurban sprawl in watersheds of the Chesapeake Bay". **Invited** American Association for the Advancement of Science Annual Meetings, Boston MA. March

2002. Palmer, M.A., A.M. Moore, B. Hassett, J. Dittman. Stream restoration in urbanizing watersheds. Annual meeting of the North American Benthological Society. Pittsburgh

2002. Swan, C.S. and M.A. Palmer. Synergistic effects of leaf litter heterogeneity on the growth rate of a stream detritivore and rates of litter decomposition. Annual meeting of the North American Benthological Society. Pittsburgh

2002 Baer, S., S.L. Collins, J.M. Blair, A.K. Knapp and M.A. Palmer **invited.**The role of resource heterogeneity in restoration of ecosystem structure and function. Annual Meeting of the Ecological Society of America, Tuscon 2002.

2002 Swan, C.S. and M. A. Palmer. Mixed-litter effects on decomposition, litter quality, microbial metabolism and invertebrate colonization in a stream ecosystem. . Annual Meeting of the Ecological Society of America, Tuscon 2002.

2002 Nelson, K., M.A. Palmer, and P. Silver. Habitat availability and arrangement: Effects on animals that are argely passively transported. Annual Meeting of the Ecological Society of America, Tuscon 2002.

2002 Palmer, M.A., D. Falk, and J. Zedler. **Invited**. Ecological theory and restoration ecology: Past and present. Annual Meeting of the Ecological Society of America, Tuscon 2002.

2002 Cardinale, B., M.A. Palmer, and S. Brooks. Flow history moderates the relationship between algal diversity and productivity in stream ecosystems**.** Annual Meeting of the Ecological Society of America, Tuscon 2002.

2002 Moore, A. and M.A. Palmer Linking ecosystem processes and functional group composition to assess urban impacts on Maryland streams. North American Benthological Society Annual Meeting, Athens, GA

2003 Silver, P., Wooster, D and M.A. Palmer. Meiofauna responses to disturbance in spatially-
structured, dynamic stream bed landscapes. North American Benthological Society Annual Meeting, Athens, GA.

2003 Menninger, H. and M.A. Palmer. Terrestrial-aquatic linkages: Herbaceous vegetation and headwater streams. Annual Meeting of the Ecological Society of America, Savannah, GA 2003.

2003 Swan, C.S., and M. A. Palmer. 2003. Invertebrate consumers and decomposition in streams: relating the conservation of riparian tree diversity to in-stream consumer-resource dynamics. North American Benthological Society Annual Meeting, Athens, GA.

2003 Nelson, K., M.A. Palmer, and B. Hassett. Stream ecosystem structure and function at multiple scales: effects of land use and impervious surface. Annual Meeting of the Ecological Society of America. Savannah, Ga. 2003

2003 Palmer, M. A. **invited.** Ecological visions for the 21st century. Annual Meeting of the Ecological Society of America. Savannah, Ga. 2003

2004 Palmer, M.A. I**nvited plenary**. Ecological Futures. American Association for the Advancement of Science Annual Meeting. Symposium on Future of the Environment, Security, and Health. Seattle, WA

2004 Whiles, M., D. Gibson, S. Collins, T. Heatherly, A. Huryn, J. Jackson, R. Hall, M. Palmer. Application of the core-satellite metapopulation model to stream insect data sets: patterns in space and time. Annual meetings of the North American Benthological Society. Vancouver.

2004 Hassett*, B.H. and M. A. Palmer. Evaluating stream restoration: analysis of a database for the lower Chesapeake Bay watershed. Ecological Society of American Annual Meetings, Portland OR

2004 Swan*, C.M., D. Richardson*, and M.A. Palmer. A simulation study of detritivores foraging on speciose leaf litter: implications for the diversity-function relationship. Ecological Society of America Annual Meetings, Portland, OR

2004 Nelson*, K. and M. A. Palmer. Surviving in a warmer, more urban world: a spatially explicit habitat model for fish. Ecological Society of America. Annual Meetings, Portland, OR

2004 Palmer, M. and E. Bernhardt*. **Invited plenary.** Restoration of stream ecosystems and landscapes in the United States. International Symposium on Riverine Landscapes. Lulea, Sweden

2004 Bernhardt*, E. and M. Palmer. **Invited**. Restoring streams in urban landscapes. International Symposium on Riverine Landscapes. International Symposium on Riverine Landscapes. Lulea, Sweden

2004 Palmer, M. River restoration in the Nation: Data to inform prioritization. **Invited Plenary.** National Conference on Ecological Restoration, Orlando, FL. December

2005 Black, P. Tom Stockton, Lester Yuan, David Allan, Walter Dodds, Lucinda Johnson, Margaret Palmer, J. Bruce Wallace. Using knowledge elicitation to inform a Bayesian belief network model of a stream ecosystem. Ecological Society of America Annual Meetings, Montreal.

2005 Heatherly, T., M.R. Whiles, D.J. Gibson, S. Collins, A.D. Huryn, J.K. Jackson, and M. A. Palmer. Stream insect distributional patterns and metapopulation models: effects of spatial scale and sampling intensities ESA Annual Meetings, Montreal, CA

2005. Menninger*, H.L., Margaret A. Palmer, Laura S. Craig*, Brooke A. Hasset*t, David C. Richardson*, and Robert F. Smith*. Terrestrial-aquatic linkage: The effects of periodical cicadas on stream ecosystem function. ESA Annual Meetings, Montreal, CA

2005 Hassett*, B., M.A. Palmer, and E.S. Bernhardt*. Status and trends of stream restoration in the Chesapeake Watershed. ESA Annual Meetings, Montreal.

2005 Swan*, C.S. and M. A. Palmer. "Restoration of biodiversity in stream ecosystems: beyond the aesthetic endpoint". ESA Annual Meetings, Montreal

2005 Palmer, M.A., E.S. Bernhardt, and S. Clayton. **Invited. "**River restoration in the U.S.: status and trends". American Fisheries Society annual meetings, Alaska.

2005 Palmer, M.A. **Invited.** Restoring Chesapeake Bay streams and rivers. Annual Maryland Streams Symposium, Maryland.

2005 Palmer, M.A. **Invited.** Moving toward effective river and stream restoration. Symposium on: "Integrated Restoration of Riverine Wetlands, Streams, Riparian Areas, and Floodplains in Watershed Contexts". Organized by the State Association of Wetland Managers. Amherst, MA

2006 Galat, D.L., Bernhardt*, E.S, Lubinski, K.S., Palmer, M.A., Theiling, T.H. and Wilcox, D.B. "Large River Rehabilitation within an Adaptive Management Framework: Setting Achievable Goals and Objectives." Ecological Society of American meeting: Ecology in an Era of Globalization, Merida, Mexico.

2006 Palmer, M.A. **invited**. "Hydroecology: a new research frontier"? American Geophysical Union annual meetings. Baltimore, MD

2006. Palmer, M.A. **Invited Panelist.** "Ecosystem Services". Ecological Society of America Annual Meetings, Memphis, August.

2006. Palmer, M.A. **Invited.** Restoration ecology and ecological ethics. Ecological Society of America Annual Meetings, Memphis, August

2006. M. A. Palmer (delivered by H. Menninger*). **Invited**. Does ecological heterogeneity promote restoration success? Ecological Society of America Annual Meetings, Memphis

2007 M.A. Palmer. **Invited.** Restoration, conservation, and design to enhance ecological resilience. Cary Conference on Environmental Heterogeneity, Millbrook, NY

2007 M. A. Palmer. **Invited.** A world preoccupied with ecosystem structure: moving toward a more dynamic approach to restore biodiversity. Ecological Society of America annual meetings; San Jose, CA

2007 M.A. Palmer. (delivered by L. Craig*) **Invited.** Science-based prioritization schemes for restoration in the Chesapeake Bay watershed. Ecological Society of America annual meetings; San Jose, CA

2007. M.A. Palmer. **Invited.** Decadel visions for ecology. Ecological Society of America annual meetings; San Jose, CA

2007 M.A. Palmer. **Invited.** Ecological Restoration of Coastal Watersheds: Pipedreams or Portfolios? International Estuarine Research Federation conference, Providence, RI

2008 Craig*, L.S. and M. A. Palmer. Multiple controls on baseflow nitrate concentrations in maryland (US) streams. North American Benthological Society Annual Meetings, Logan, UT

2008 Kaushal, S., P. Groffman, L. Band, M. Palmer. Interaction between land use and climate variability amplifies stream nitrate export. North American Benthological Society Annual Meetings, Logan, UT

2008 Palmer, M.A., **Invited.** Re-inventing urban streams. North American Benthological Society Annual Meetings, Salt Lake City, Utah.

2008 Palmer, M.A. **Invited plenary.** River restoration as a collaboration with nature. 4th European River Restoration Conference. Venice, Italy.

2009 Palmer, M.A. **Invited.** Risks and adaptation options for rivers and streams in the face of climate change. Impact of Climate Change on Ecosystem Services at the Climate Congress in Copenhagen, March 10-12, 2009.

2009. Palmer, MA. **Invited plenary.** The benefits of stream restoration – and how we can increase them. Mid-Atlantic Stream Restoration Conference. West Virginia.

2009 Palmer, M.A. **Invited plenary.** Restoration of diadromous fish and their ecosystems: Chesapeake Bay perspectives. Diadromous Fishery Restoration Conference. University of Maine.

2009 Palmer. M.A**. Invited plenary**. Science to Support Ecological Restoration, Mitigation, & Adaptation. International Ecology Conference (INTECOL 2009). August, 2009. Brisbane, Australia.

2009 Palmer, M.A. **Invited.** River Futures: Recovering biodiversity and lost ecosystem function. DIVERSITAS 2nd Open Science Conference. October, 2009. Capetown, South Africa.

2010 Palmer, M.A. **Invited plenary.** Reducing the pressure on freshwater ecosystems. PreCOP10 : Scientific symposium for the 2010 Conference of Parties for the Convention on Biodiversity. Nagoya, Japan.

2010 Palmer, M.A. **Invited symposium speaker.** Watershed management and restoration in a changing world. Ecological Society of American symposium: Ecological Theory and Managing Ecosystems

2010 M.A. Palmer, M.A. **Invited Symposium speaker.** Policy and regulatory setting for mountaintop removal mining. Ecological Society of America symposium: Environmental Impacts of Mountaintop Mining for Coal

2010 M. A. Palmer. **Invited.** Restoration and theory in a changing world. Ecological Society of America Symposium: Advice from Theorists on Ecosystems in a Changing World. Pittsburgh, PA

2010 S. Filoso and M.A. Palmer. Moving toward more strategic approaches in stream restoration. Ecological Society of America annual meetings.

2011 M.A. Palmer. **Forum Organizer Form.** (and speaker)**.** International Freshwater Consortium on Biodiversity and Ecosystem Services. Barcelona, Spain.

2011 M.A. Palmer. **Invited Plenary.** Ecosystems: Reference, Emerging, and Novel. Implications for Restoration. Society for Ecological Restoration. Mid-Atlantic Conference.

2011 M.A. Palmer. **Invited Plenary.** Recovering and maintaining freshwater ecosystem services: challenges under global change. 7th European Freshwater Sciences Symposium. Girona, Spain

2012 M.A. Palmer. **Invited.** Managing and restored freshwater ecosystem services: formal and informal institutional constraints. "Developing Ecologically-Based Conservation Targets Under Global Change"- The 2nd Emerging Issues Conference of the Ecological Society of America

2012 M.A. Palmer. **Invited**. Stream and river restoration in theory and practice. Forest and Landscape Restoration Symposium, Pyongyang University, North Korea. (one of 5 scientists from the U.S. invited; AAAS sponsored)

2012 M.A. Palmer **Invited.** The present and future of translational ecology. Ecological Society of America annual meetings, Portland, Oregon.

2012 M.A. Palmer. Research priorities for the National Socio-environmental Synthesis Center. Ecological Society of America annual meetings, Portland, Oregon

2012 Hosen*, J., C. Febria*, O. McDonough*, and M. A. Palmer. Land use and inorganic nutrient load alter enzymatic processing of dissolved organic matter by stream microbial communities. American Geophysical Union fall meetings, San Francisco.

2012 McDonough*, O.T., J.D. Hosen*, M.W. Lang, R.A. Oesterling, and M.A. Palmer. Stream dissolved organic matter quantity and quality along a wetland-cropland catchment gradient. American Geophysical Union fall meetings, San Francisco.

2012 Koch, B.J., B. Miles, A. Rai, L.E. Band, B.S. Minsker, M.A. Palmer, M.R. Williams, R. Idaszak, M.C. Whitton, and S. Ahalt. 2012. Advancing water science through improved cyberinfrastructure. (Poster) Fall Meeting of the American Geophysical Union, San Francisco, CA.

2012. Febria*, C.M., Koch*, B., and Palmer, M.A. 2012. Restoring ecosystem services in streams: A case study of modeling management options for ecosystem service provision in Chesapeake Bay watersheds. EcoSummit Conference 2012. Columbus, OH (**session organizer & presenter**)

2012. Palmer, M.A., **Invited.** Restoring ecosystems to restoring ecosystems services: a paradigm shift? EcoSummit Conference 2012.

2012 Palmer, M.A., Restoration of ecosystem services in running water. EcoSummit Conference. 2012.

2013 Palmer, M.A. **Invited keynote**. Building Community and Improving Leadership of Cyberinfrastructure Enterprise. Conference held at University of Michigan

2013 Palmer, M.A. **invited keynote**. The "Is" and the "Ought" in Ecological Restoration. University of Wisconsin Ecology Symposium, Day 1. Madison, WI

2013 Palmer, M.A. **invited keynote**. Process-based Restoration to Restore Freshwater Ecosystems. University of Wisconsin Ecology Symposium, Day 2. Madison, WI

2013 Hosen*, JD, OT McDonough*, CM Febria*, MR Williams, MA Palmer. Anthropogenic Land Cover Linked to Shifts in Stream Dissolved Organic Matter Composition. ASLO 2013 Aquatic Sciences Meeting, 2013 February 17-22, New Orleans, LA.

2013 Koch*, B.J., C. M. Febria*, M. Gevrey, L. A. Wainger, M. A. Palmer. Assessing the nitrogen removal capacity of urban stormwater management structures. Society for Freshwater Sciences. Jacksonville, FL

2013 Palmer, M.A., **Invited plenary. S**ocio-cultural contexts that shape reciprocal interactions between natural resource exploitation and scientific responses. Society for Freshwater Sciences. Jacksonville, FL

2013 Febria*, C.M. Koch*, B., and Palmer, M. AquaBase: An ecological production function approach to linking hydro-ecology and management options in urbanizing watersheds. SFS 2013 Annual Meeting. Jacksonville, FL, USA.

2013 Koch*, B., Febria*, C.M., Gevrey, M., Wainger, L.A., Palmer, M.A. Assessing the nitrogen removal capacity of urban stormwater management structures. SFS 2013 Annual Meeting. Jacksonville, FL. USA

2013 Hosen*, J., C.M. Febria* and M.A. Palmer. Controls on microbial use of headwater stream dissolved organic matter. American Geophysical Union.

2014 Koch*, B.J., C.M. Febria*, A. Colson, R.M. Cooke, and M.A. Palmer. Using structured expert judgment to estimate variability in nitrogen retention by urban stormwater control structures. Joint Aquatic Sciences Meeting, Portland OR

2014 Hondula*, K. and M.A. Palmer. Restoration as mitigation: ecological vs. regulatory approaches to evaluating stream restoration outcome. Joint Aquatic Sciences Meeting, Portland OR

2014 Laub*, B., and M.A. Palmer. Potential impact of channel stability restoration on benthic diatom communities in urban streams. Joint Aquatic Sciences Meeting, Portland OR

2014 Palmer, M.A. **Invited Plenary**. Ecological restoration of riverine systems: successes and limitations. European Society for Ecological Restoration Conference, August 3-8, 2014, Oulu, Finland

2014 Palmer, M.A. **Invited Keynote.** Future of Natural Resources Conference, North Carolina State University, N.C.

2014 Palmer, M.A. **Invited.** Science magazine editorial board retreat on Water Science Frontiers. American Association for the Advancement of Science, Washington, D.C.

2015 Palmer, M.A. **Invited.** Society for Freshwater Science, Award of Excellence Presentation, Milwaukee, WI

2015 Bezerra*, M., M. Palmer, S. Filoso, and S. F.B. Ferraz. Tropical streams at risk: sugarcane agriculture and gully formation as a driver of stream degradation. Society for Freshwater Science, Milwaukee, WI

2015 Palmer, M.A. **Invited Plenary.** The past and future of ecology. 100th Anniversary Meeting, Ecological Society of America, Baltimore MD

2015 Palmer, M.A. Ecologists accelerating discovery: Ecological synthesis paves the way to transdisciplinary socio-environmental synthesis. 100th Anniversary Meeting, Ecological Society of America, Baltimore MD

2015 Acuna, V., Ruhi-Vidal, A., M. A. Palmer. Temporary streams: current management challenges and promising solutions. International Congress of Conservation Biology, Montpelier, France

2015 Palmer, M.A. **Invited Plenary.** Keeping the Ecology in River Connectivity. International Society for River Science meeting; La Crosse, WI

2015 Fanelli*, R., K. Prestegaard, and M. A. Palmer. Can watershed restoration practices reverse the hydrological effects of urbanization? Geological Soc. of America, Annual Meetings, Baltimore MD

2015 Bezerra*, M., S. Filoso, and M.A. Palmer Hydrological connectivity via gully formation in tropical watersheds limits the effectiveness of riparian buffers in protecting streams. American Geophysical Union annual meetings, San Francisco

2015 Armstrong*, A., S. Epting*, J. Hosen*, and M. Palmer. Tracking Changes in Dissolved Organic Matter Patterns in Perennial Headwater Streams Throughout a Hydrologic Year Using In-situ Sensors and Optical Properties. American Geophysical Union annual meetings, San Francisco

2015 Palmer, M.A. **Invited Plenary.** Ecological Restoration for Water Ecosystem Services. VI Brazil Symposium for Restoration Ecology; Sao Paulo Brazil

2015 Bezerra*, M., S. Filoso, and M. A. Palmer. Does compliance with the Brazilian forest code mitigate the impacts of sugarcane agriculture and its legacy on in-stream nutrients? Society for Freshwater Science annual meetings. Sacramento, CA

2017 Palmer, M.A. **Invited Plenary.** Court rooms, Comedy, Diplomacy, and Conference Rooms: Venues for Actionable Science and Effective Communication. American Society of Limnology & Oceanography 2017 Aquatic Sciences Meeting, Honolulu, HI

2017 Palmer, M.A. **Invited.** Appalachian Socio-Environmental Systems: a Role for the Humanities and Science. 2017 Appalachian Studies Conference.

2017 Palmer, M.A. Stream Restoration Success: are Functional Measures Useful? Society for Freshwater Science 2017 Annual Meeting. Raleigh, N.C.

2018 Palmer, M.A., J. Hosen, and A. Armstrong.* Temporary wetlands and streams draining to perennial networks: hydrologic connectivity, restoration, and perennial DOC. Society for Freshwater Science annual meetings, Detroit, MI

2018 Armstrong, A*, M. Gonsior, and M.A. Palmer. Concentration and composition of dissolved organic matter in temporary depressional wetlands on the Delmarva Peninsula varies between wetlands and seasons. Society for Freshwater Science annual meetings, Detroit, MI

2018 Palmer, M.A. **Invited Plenary: Ramon Margalef Lecture.** Restoration, watershed context, and hydrologic processes. Iberian Limnological Society. Cumbria Portugal.

2018 Hondula*, K., C. Maietta*, and M.A. Palmer. Seasonal fluxes of methane fluxes from Delmarva Bays. Association for the Sciences of Limnology and Oceanography. Victoria, BC

2018 Jones*, C.N., J.D. Parker, J. Pullen, C.C Gilmour, T. Jordan, A. Heyes, and M.A. Palmer. Using long-term observations from a forest biodiversity experiment to examine the effect of forest restoration and stand diversity on catchment hydrology. American Geophysical Union annual meetings, Washington D.C.

2018 Maietta*, C., K. Hondula*, N. Jones*, and M. A. Palmer. Methane-cycling microbial communities vary along a hydrologic gradient in depressional freshwater wetland soils American Geophysical Union annual meetings, Washington D.C.

2018 Kottkamp*, A., K.L. Tully, N. Jones*, and M. A. Palmer. Hydrologic drivers of soil organic carbon stabilization in seasonally-saturated wetlands. American Geophysical Union annual meetings, Washington D.C.

2019 McCarty, G., S. Lee. G. Moglen, C. N. Jones*, M. Palmer, and M. Lang Establishing the Connectivity of Wetland Surface Hydrology to Groundwater and Stream Flow Dynamics. Annual European Geophysical Union Meetings.

2019 Jones*, N., A. Armstrong*, K. Hondula*, M. Williams, D. McLaughlin, S. Lee, G. McCarty, G. Moglen, and M. A. Palmer. The Landscape Hydrologic Capacitance Hypothesis: Exploring hydrogeomorphic and hydroclimatic drivers of wetlandscape hydrology. American Geophysical Union meetings, San Francisco.

2019 Armstrong*, A., L. Powers, M. Palmer, M. Gonsior. Reproducible Determination of the Photo-sensitivity of Natural Dissolved Organic Matter. American Geophysical Union meetings, San Francisco.

2020 Wardinski1 K, Scott D, McLaughlin D, Hotchkiss E, Desmond K, Jones CN, Palmer M.. Dissolved organic matter sources from soil horizons with varying hydrology and distance from wetland edge. *American Geophysical Union Fall Meeting.* Online.

2021. Hondula*, K.L., N. Jones*, and M.A. Palmer. Inundation Duration and Extent Affect Methane Flux Rates and Scaling for Forested Mineral Soil Wetlands. Fall American Geophysical Union Meetings.

2021 Armstrong*, A., M. Gonsior, and M.A. Palmer. Composition, Source, and Photodegradation Exposure Control Dissolved Organic Matter Biodegradability in a Freshwater Wetland Landscape. Fall American Geophysical Union Meetings.

2021 Sharp*, S.E., C. Maietta, G. Stewart, A. Taylor, M. Williams, and M. Palmer. Understanding How Plant Functional Types Modulate CH_4 Production and Transport Improves Emissions Estimates from Freshwater Wetlands. 2021 American Geophysical Union Fall meetings

2022 Lloreda, Carla López, J. Maze, D. McLaughlin, N. Jones, M. Palmer, D. Scott, and E. Hotchkiss. Linking greenhouse gas concentrations and changing inundation regimes in wetlands. International Joint Aquatic Sciences Meeting

2022 Sharp*, S., C. Maietta*, G. Stewart*, A. Taylor*, M. Williams*, and M. Palmer. The Role of Vegetation Patches in Controlling Ecosystem Methane Dynamics in Herbaceous Freshwater Wetlands. International Joint Aquatic Sciences Meeting

2022 Taylor*, A. S. Sharp*, G. Stewart*, and M. Palmer. Diel Greenhouse Gas Emissions Demonstrate a Strong Response to Vegetation Patch Types in a Freshwater Wetland. International Joint Aquatic Sciences Meeting.

2022 Armstrong*, A., C. Maietta*, M. Gonsior, and M. Palmer. Direct Bacterial Production of Recalcitrant FDOM and Implications for Natural DOM Characterization. International Joint Aquatic Sciences Meeting

2022 Stewart*, G., M. Williams, and M. Palmer. High Spatial Variability in Wetland Methane Fluxes is Tied to Vegetation Patch Types. International Joint Aquatic Sciences Meeting

2022 Palmer, M.A. **Invited.** Talk Title: "Looking Beyond Geospatial CI to Build Discovery Environments", University of Illinois – Urbana/Champaign.

2022 Palmer, M.A. **Invited Plenary.** Restoration of Aquatic Ecosystems: The Search for a Process-Based Understanding. University of Florida 8th University of Florida Water Institute Symposium

2022 Palmer, M. A. **Invited Plenary.** Philippine Annual Freshwater and Biodiversity Conference. Talk title: "Changing the Paradigm for Restoration", Manila Philippines

2022 Palmer, M.A. **Invited Plenary.** All Environmental Problems are Social Problems. International Joint Aquatic Sciences Meeting.

2022 Palmer, M.A., G. Stewart*, and S. Sharp* (Palmer invited; Stewart delivered) Patch Diversity Critical to Ecosystem Function and Restoration. World Biodiversity Forum, Davos, Switzerland.

2022 Palmer, M.A. **Invited Plenary.** Team processes and interdisciplinary research. Science of Team Science Annual Meeting.

2023 Taylor, A.*, S. Sharp*, M. Palmer, G. Stewart*, and M. Williams. The interactive effects of hydrology and plant species on freshwater wetland CH_4 fluxes. American Geophysical Union meetings. San Francisco.

2023 Stewart, G.*, M. Williams, G. McCarty, and M. Palmer. Contrasting temporal drivers of methane flux across land uses in freshwater wetlands. American Geophysical Union meetings. San Francisco.

2023 Wardinski, K., L. Lloreda, N. Corline, D. Scott, E. Hotchkiss, D. McLaughlin, C. Jones, J. Maze, M. Palmer, and M. Williams. Dissolved organic matter release at the soil-water interface in isolated wetlands. Biogeomon Conference, San Juan Puerto Rico

XIII. TEACHING AND TRAINING

Courses taught:

Full Courses: Nonmajors Biology; Biological Oceanography; Experimental Aquatic Ecology; Non-majors Biology; Stream Ecosystem Structure and Function; Invertebrate Zoology; Women-in-Science

Seminars: Advanced Topics Biogeochemistry (with K. Tully); Ecosystem Restoration Applications; Advanced Topics in Stream Ecology; Ecology of a Shrinking Planet; Topics in Theoretical Ecology

Short Courses: Stream Restoration: Geomorphic, Hydrologic and Ecological Foundations (taught 6 times with Peter Wilcock – Johns Hopkins Univ & Jack Schmidt, Utah State Univ)

Students Supervised as Major Advisor: (**bold = current**; date of graduation in parentheses)
Honors Theses - Alexa Bely (1991), Peter Arensburger (1993), Michelle Berger (1994), Misty Ralston (1995), Rachel Alvestad (1998), Christopher Bertz (1999), Christopher Smith (1999), Max Bent (2000), Christopher Patrick (2006), Abigail Toretsky (2019), Maggie Tan (2020), **Chloe Kesey** (2022)

M.S. - Christine Hakenkamp (1991), Eileen Lavan (1992), Christopher Swan (1997), Suzanna Ribblett (2002), Aaron Moore (2004), Bob Smith (2006), Lie'Ann Van Tull (non thesis, 2010), Steve Epting (2016), Anna Kottkamp (2019), Elizabeth de la Reguera (2019), Aileen Taylor (2022)

Ph.D. - Christine Hakenkamp (1997), Marcia Shofner (1999), Karen Nelson-Baker (2001), Brad Cardinale (2002), Christopher Swan (2003), Holly Menninger (Dec 2006); Laura Craig (2009), Dave Richardson (2008), Evan Grant (2009), Brian Laub (2011), Owen McDonough (2013), Jake Hosen (May 2015)**,** Rosemary Fanelli (2016), Maira Bezerra (Sept 2017), Alex Armstrong (2022), Kelly Hondula (2022)**, Graham Stewart** (**2023), Aileen Taylor (2024)**

Post Doctorates – Beth Turner (1991-95); Shane Brooks (1998-2001); Dave Wooster (1999-2001); Jacqui Brooks (1998-2001); Karen Nelson (2001-2004); Emily Bernhardt (2002-2004); Solange Filoso (2006 -08), Catherine Febria (2010-2012), Ben Koch (2011-2014), Nate Jones (2017 – 2019), Christine Prasse-Maietta (2017-2021)**, Sean Sharp (2020 -)**

SESYNC Postdoctoral Interdisciplinary Immersion Program (designed program, implemented for 11 years; trained 59 scholars & served as professional mentor)

Undergraduate Researchers Advised in my lab:
Justin Benoit, Meera Bose, Cynthia Burke, Jeremy Goetz, Sadie Jernigan, Lisa Darcey, Amanda Glazier, Amanda Graham, Ann Marie Infantino (high school student), Chris Long, Jennifer Mulz, Kasey May, Carl McCalla (african amer, male, high school), Patricia Reutemann, Colleen Roots, Suzanne Schoepe, Ewan Simpson, Robin Vanmeter, Gretchen Mitchell, Mike Goodison, Suzanna Ribblet, Sam Vasilevsky, Olivia Yu, Chris Patrick, Emily Duncan, Lauren Cullers, Leina'ala Hall, Julianna Greenberg, Bianca Noveno, Maggie Tan (Honors), Abigail Toretsky (Honors), Chloe Kesey (Honors, 2021-23**)**

Other Graduate Student Committee service (recent only; current in bold):
Jose Barrios (MEES-UMCP)
Jess Hines (ENT)
Janet Nye (MEES-CBL)
George Waldbusser (MEES-CBL)
Ryan Utz (MEES-AL)
Melanie Harrison (MEES-UMBC)
Ryan Woodland (MEES-CBL)
Denise Yost (MEES –CBL)
Emily Seldomridge (MEES-UMCP)
Tara Wiley (MEES-UMBC) - deceased
Ken Belt (MEES)
Allan Leslie (ENT-UMCP)
Amy Norris (BEES-UMCP)
Judith Westveer (Univ Amsterdam)
Megan Carr (PSLA)
Becca Eckert (ENTM, 2020)
Dani Weissman (PSLA, 2020)
Brian Scott (ENST, 2021)
Jake Hagedorn (MEES, 2022)
Anshu Swain (BEES, 2022)

IX. Public Service

1997-02	2/year guest talks on Ecology to elementary schools – Prince Georges and Anne Arundel Counties
2000-03	Montgomery County Dept of Environmental Protection - advise on stream restoration and watershed science
2003-04	Anne Arundel Technical Advisory Board, Watershed Biomonitoring
2001-03	Seminars given at multiple venues on the science of river restoration such as to the Science and Technical Advisory Committee for the Chesapeake Bay Program, special symposia the state DNR organizes, etc
2003-05	Database development for state and Chesapeake Bay wide river restoration database
2004	Five talks given to community river groups, non-profit foundations in the Bay area, and schools
2006	Chesapeake Bay Trust, Advisory Committee on Measuring Restoration Effectiveness

2006 Chesapeake Bay Restoration Program, Advisory Committee on Corsica River restoration
2006 Public seminars (Docent's – Chesapeake Biological Lab) – River Restoration
2006 South River Federation – advisory committee
2006 Rotary Club talk, St. Mary's County, MD
2006-07 Earthjustice, Appalachian Center for the Environment & Economy – produce a science report & testify on restoration as mitigation for Mtn Top Mining
2007-07 Oyster Recovery Partnership, Science Advisor
2007 American Chestnut Land Trust, science advisor on a restoration project
2006 Governor's Transition Team on Environment and Natural Resources
2007 Maryland Stream Restoration Association, raised funds for meetings & participated
2007 Edgewater Community group – advisor on development impacts & monitoring
2007 Chesapeake Bay Program – worked with Scientific & Technical Advisory Committee
2007 South River Federation, sponsor and contributor to public meetings & activities
2007 Speaker to Asbury Retirement Center – "Environmental Research on the Bay"
2007 EPA Chesapeake Bay Program – Presented and moderated workshop on Stream Restoration & nutrient benefits (April, Patuxent Wildlife Center)
2007 Maryland Department of Natural Resources *ad hoc* committees (e.g., nontidal waters initiatives) (Annapolis, MD)
2007 Speaker and workshop participant: Summit on the Effects of Growth on Water Quality, Presentation: Impacts of Development on Stream Ecosystems (May 2007, Annapolis, MD)
2007 Speaker, National Academy of Science workshop on "Transitioning to Sustainability through Research and Development on Ecosystem Services" (Wash, D.C.)
2007 U.S. Senate staff Briefing on Clean Water Restoration Act (Oct 2007, Wash D.C.)
2007 U.S.D.A. ARS-NRCS Workshop for CEAP Wetlands Mid-Atlantic Regional Studies presentation: "Ecosystems services: What, How, and Where to measure", (Dec Beltsville, MD)
2008 Editorial board for book series, The Year in Ecology and Conservation Biology.
2008 Potomac Conservancy, Scientific Advisory Board
2008 University of Vienna, Search Committee for Full Professorship in Limnology
2008 Keynote speaker, Maryland Stream Restoration Association, Symposium on Measuring and Assessing Stream Restoration, Baltimore, MD
2009 Keynote speaker, Chesapeake Environmental Protection Association forum on watershed restoration, Harwood, MD. February.
2009 Presentation to Anne Arundel County DPW project managers & engineers
2009 - Chesapeake Bay Trust; accepted 2nd term on board; member Executive Committee; chair of Grants Policy Committee; Strategic Planning Committee
2010 National Press Club press conference on Science paper on Mountaintop Mining + 26 interviews with members of the media including one on the Colbert Show
2010 Chesapeake Bay Program, review of Scientific & Technical Advisory Committee Reports
2010 Juried entries for Smithsonian's Anne-Marie Gardens Gallery art exhibit "Green"
2011 High School Career Night panel, Severn High School
2011 Volunteer leader of stream assessment teams to evaluate the hydrologic and biological status of mine impacted streams on Zeb Mountain (TN)
2012 Provide expert scientific report on stream restoration mitigation plans for Appalachian Mountain Advocates

2012 Worked with county and state water resource managers
2012 Provided review comments on stream restoration report for Chesapeake Bay Program
2013 Host discussion group on Maryland stream restoration effectiveness
2013-14 Chesapeake Bay STAC committee on assessment of stream restoration
2013 Judge – student video productions; Society for Ecological Restoration contest
2104 Synthesis (seminar) on stream restoration outcomes for Natural Resource leaders
2014 Presenter at Annapolis Cafe Scientifique on "The Environmental Costs of Mountaintop mining"
2014 Water Values Podcast, Interviewed by David McGimpsey; went live Sept 2014
2014 Multiple media interviews (Baltimore Sun, Science magazine, Sea Grant Magazine)
2015 *Science* Magazine, Science Life Lab Prize Selection Committee
2015 Streaming videos (4) developed on theory underlying socio-environmental research (with K. Jones)
2016 Workshop speaker: restoration of the Jacquari watershed, Brazil
2016 Media Interviews (Christian Science Monitor, Hakai magazine, Huffington Post,
2016 Committee input to *American Rivers* on restoration of salmon in the San Joaquin Sacramento River basins
2016 Maryland Stream Restoration Workshop plenary talk at Mount St. Mary's College.
2016 Citizen Science talk, UMCES, Chesapeake Biological Lab
2017 Interview with reporter from *Science* magazine on the impact of the White House executive order reversing the Office of Surface Mining's Stream Protection Rule.
2017 Interview and provided extensive background material for *Nature* magazine reporter on the impact of any executive orders to reverse the Clean Water Rule of 2015
2017 Interview with WV National Public Radio on the Administrative Order to halt a National Academies study on the health impacts of mountaintop mining
2017 Interview with a writer for Orion magazine; topic: restoration of coal mining lands
2017 Biological Sampling volunteer Advisor, Community Group (coalition) in Virginia monitoring streams for Transcontinental Pipeline installation
2017 Science advisor (volunteer), Reclaiming and Restoring [mined] Land, Streams, and Communities in WV, *Appalachian Headwaters*
2018 Congressional Briefing on Science to Inform U.S. Water Policy, presentation
2019 Led a workshop for the NSF Engineering Research Community on "Convergence science, interdisciplinary team collaborations, & research with societal impact."
2019 Co-led a workshop on "Building and sustaining research involving research networks"
2019-20 Appalachian Headwaters, restoration of mined land; advisor
2020 Appalachian Headwaters, served in search Committee for Director/Lead Scientist, Appalachian Pollinator Center
2021 Briefed, Asst Secretary of the Army for Civil Works, Mr. Jaime Pinkham and Federal Preservation Officer, USACOE Stacey Jensen on potential impacts to streams of construction of the Mountain Valley Pipeline
2021 Briefed, U.S. EPA Director of Oceans, Wetlands, and Communities National U.S. Fish and Wildlife, Brian Frazer and other staff from the Office of water on potential impacts to streams and wetlands of the Mountain Valley Pipeline
2021 Search Committee for Director/Lead Scientist, Appalachian Pollinator Center
2022 Appalachian Mountain Advocates, Strategic Planning Committee

X. <u>Other Professional Service (since 2006)</u>

2006 Review research & graduate program: University of South Alabama
2007 Instructor, Stream Restoration Short Course: Utah State University
2007 - Ecological Society of America – member, MacArthur Award committee; chair, Corporate Awards committee
2007- North American Benthological Society – chair, Distinguished Research Award committee
2007- National Science Foundation – Environment & Sustainability review panel (Engineering Directorate)
2008- Lecturer, Stream Restoration Ecology, Johns Hopkins University
2008 U.S. National Research Council, Water Science & Technology Board, Reviewer of study report on "Stormwater Discharge Contributions to Water Pollution"
2009 National Science Foundation – The Future of Synthesis Workshop, one of 15 participants
2009 National Science Foundation – Foundation wide peer review panel
2009 National Science Foundation – workshop on proposed Biodiversity Initiative
2009 U. S. Senate Environment & Public Works Committee – testify in hearing on the science related to Mountaintop Mining
2010 The World Bank - Invited participant in Biodiversity Valuation workshop
2010 U.S. Senate Environment & Public Works Committee – organize 6 member scientific team to conduct a briefing for U.S. Senate staff on Mountaintop Mining
2010 Expert Witness in Environmental Review Board hearing in Charleston, WV on Stream water Conductivity and Surface Mining
2011 National Science Foundation, served on two peer-review panels (together ~30 proposals reviewed)
2011 National Science Board, Invited Participant in Discussion of mid-level funding at NSF
2011 National Science Foundation – Biological Directorate; invited speaker on the "Bioeconomy" for the External Advisory Board for the Bio AD
2012 State of Alaska Congressional Hearing, "Salmon streams and coal mining". Held in Juneau, AK
2012 Expert Witness in Mountaintop mining case involving restoration as mitigation. 4th Circuit Federal Cou2012
2013-14 Junior Faculty Mentor – Northern Illinois University
2013 Panel Chair for External Review of Natural Resources, Cornell University
2013 Participant in workshop "Integrating Ecosystem Services and Adaptive Management" USGS, Resources for the Future, Bureau of Land Management
2013 Presenter to EPA Expert Panel on Connectivity
2013 Expert witness on impact of NPDES violations in W.V.
2013 Scientific input for Alaska Trustees for the Environment on Chuitna watershed
2014 Workshop Organizing Committee, Assessing the outcomes of Stream Restoration, Scientific and Technical Advisory, Chesapeake Bay Program
2014 Invited participant: "Water Forum" (linking finance, policy, and science for water resource sustainability), Aspen Institute, Aspen CO
2014 Invited panelist for Water Science & Technology Board, National Research Council, meeting on Restoration of Aquatic Ecosystems
2014 Invited panelist for "Operationalizing Ecosystem Services for Aquatic Resources" at A Community of Ecosystem Services (ACES) Annual Conference, Washington D.C.
2015 Presenter at International Consortium for Synthesis Centers workshop, Berlin, Germany

2015 Invited participant: "21st Century Social Science", NSF sponsored workshop on social science research on problems of the environment
2015 Facilitator and Participant: Forest Restoration in Brazil – Water Recovery; workshop series
2015 Science Magazine, Science Life Lab Prize Selection Committee
2016 Contributing author of "Water Related Environmental Services" for the United Nations – World Bank High Level Panel on Water
2017 Co-Organizer, Symposium on "Hydrologic Connectivity: Linking land use change and management to movement and transformation of resources within catchments." ASLO Aquatic Sciences Meeting 2017, Honolulu, Hawaii
2017 Evaluation of candidates for Director of the Leibniz Institute for Freshwater Ecology and Inland Fisheries (IGB), Germany
2017 Review of and report on proposal for sustainability institute at the University of Virginia
2018 Convener, NSF Workshop to Advance Leadership of Engineering Research Centers
2018 Reviewer, National Academy of Science, The Edwards Aquifer Habitat Conservation Plan
2018 Organized session in collaboration with IIASA for the American Geophysical Union meetings: "Geoscience Impact in a Complex World: Successful Collaboration with Social Scientists"
2018 Presentation at the American Geophysical Union meetings: "Science to Action: Best Practices and Lessons Learned from Interdisciplinary Research"
2020 San Francisco Bay Delta Science panel talk: "Directions forward in watershed management given increasing uncertainty"
2020 Pre-submission review/red team for University of Arizona, Center for Quantum Networks
2020 Pre-submission review/red team for Baltimore Urban LTER site competition
2020 NSF Review Panel and Site Team Panel for Biological Integrative Institutes competition
2020 Presenter, National Academies Workshop on "Advancing a Systems Approach to Studying the Earth: A Strategy for the National Science Foundation"
2021 Participated in a National Academies Panel on "Enhancing the Effectiveness of Team Science"
2021 Peer reviewer for a cluster of proposals for the Swiss Federal Institute of Aquatic Science and Technology's "Blue-Green Biodiversity Initiative"
2022 Presentation to the NOAA Ecosystem Sciences and Management Working Group (June 2022): "Socio-Environmental Modeling: Incorporating Decision Making and Behavior Change into Ecosystem Models"
2022 University of Colorado-Boulder, Group Reviewer/Advisor for establishment of the Environmental Data Science Innovation & Inclusion Lab (ESIL) – NSFs newest environmental synthesis center
2022 Sustainability Science Awards Committee, Ecological Society of America

XI. University System of Maryland service

1991-93 Curriculum Transformation Advisory Board (1991-1993)
1991-93 Women's Studies Program Steering Committee (1991-1993)
1992-93 Lilly Selection Committee (1992-1993)
1992-2000 Women in Non-traditional Fields Committee (Ad Hoc, 1991-2000)
1994 Diversity Project Faculty Committee (1994)

1994-95 Faculty Affairs Advisory Committee to the Provosts' Office (1994-95)
1996-97 University Honors Research Grants Awards Committee (1996-97)
1997-99 Director, Biological Sciences Program (1997 -)
1997-99 Chair, Executive SAC Committee, Biological Sciences Program (1997 -)
1997- 99 Chair, Faculty Teaching Evaluation Committee in Biological Sciences (1997 -)
1992 Apac, Jr. Committee (1992)
1990-93 Chair, Committee for Undergraduate Marine Biology Specialization (1990-93)
1990-93 MEES Advisory Committee (1990-93)
1994-95 Search Committee for Dean of Life Sciences (1994-95)
1996-97 BEES Program Executive Committee (1996-97)
1996-96 Instructor Search Committee for Plant Sciences labs (1996-97)
1999-00 Chair, Search Committee for Theoretical Ecologist (1999- 2000)
2001-02 Faculty Advisory Committee, Department of Biology (2001 – 2002)
2002-03 Promotion Committee, Department of Entomology (2002 – 2003)
2001-03 Biodiversity Center advisory Committee (2001 – 2003)
2003-05 Graduate Affairs Committee, Department of Entomology (2003 - 05)
2004-05 College of Life Science, Dean's Advisory Committee (2004 - 2005)
2006-07 Spearheaded Restoration Certificate Program development (2006 -07)
2005-09 Academic Administrators Advisory Committee (USM Provosts) (2005-2009)
2005-11 Director, Chesapeake Biological Laboratory, UM System
2010 Public Policy graduate student lecture series (2010)
2010 Journalism workshop speaker (UMCP – Baltimore Sun) (2010)
2010-11 BEES Graduate Program Executive Committee (2010-11)
2011 UM - NSF *ADVANCE* proposal review (2011)
2011 I-School, College of Information Studies, UM, "Futurist" Speaker, Public Panel
UM – NSF *ADVANCE* symposium speaker (2011)
2012-16 Council of Environment, University of Maryland (2012, 2013, 2014, 2015, 2016)
2013 Faculty mentor, Conservation Graduate Program team project (2013)
2012-13 Search Committee, Director, Appalachian Environmental Laboratory
2013 Panel Speaker, University of Maryland ADVANCE workshop on
Communications
2013 Promotion Committee, Chesapeake Biological Lab, UMCES (2013)
2013-14 Search Committee, Department of Entomology, University of Maryland (2013-14)
2014-15 Advisory Committee, Ctr for Smart Growth: "Plan for Regional Sustainability"
2012-15 CMNS Academic Council (2012, 2013, 2014, 2015)
2015-19 New Faculty Mentor, Department of Plant Sciences and Landscape Architecture
2015-19 New Faculty Mentor, Department of Environmental Science and Technology
2015-16 Entomology, Faculty Review Committee (2015-2016)
2015 CMNS Committee to Review the CONS program (2015)
2015-16 UMD Advisory Committee for Climate Implementation Summit (2015-2016)
2016 UM21 Panelist and Discussion Leader: UM Climate Summit (May 2016)
2017-18 Provost's Environmental Programs Committee (2017-)
2017 Dean of CMNS Search Committee (2017)
2017 Office of the VPR, Review of Science & Technology Center proposals (2017)
2017-18 Chair of Search Committee for 2 ecologists (ENTO Search) (2017-2018)
2018-19 Faculty Evaluation Committee, Department of Entomology
2019 Office of the V.P. for Research. Review cluster of six NSF pre-proposals for STCs
2019 Assist in Developing UMD proposal for an NSF Mathematical Institute

2020	Assist in design of VPR-Presidential Research Leadership Program
2020	Committee on CMNS Research Leadership Program
2021	UMD Scholarly Misconduct Investigations Committee
2021-23	Graduate Affairs Committee, Department of Entomology
2020-21	Faculty Affairs Committee, Department of Entomology
2022	Reviewer, Grand Challenges Research Proposals, UMD (VPR)
2022	Chair, Promotion Committee for Associate Professor Candidate
2022-23	Member, Promotion Committee for Assistant Professor Candidate
2022	Advisory, Search Committee for Ecology Position in Department of Biology
2023-24	Member, Faculty Advisory Committee, Depart of Entomology