

Daniel E. Spooner

CONTACT INFORMATION

Lock Haven University
East Campus Science Center, Room 204
301 W. Church Street, Lock Haven, PA, 17745

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Phone: 570-484-2596

EDUCATION

- 2007 Ph.D. Zoology; University of Oklahoma, Norman, Oklahoma
Dissertation: An integrative approach to understanding mussel community structure: linking biodiversity, environmental context and physiology.
- 2002 M.S. Zoology; University of Oklahoma, Norman, Oklahoma
- 1998 Honors BSc. Environmental Science; Carleton University, Ottawa, ON, Canada

CURRENT POSITION

- 2018- Present Assistant Professor. Lock Haven University, Lock Haven, PA
- 2010- 2018 Research Associate, United States Geological Survey.
Contracted via: IAP World Services (06/10-01/12); University of Massachusetts (01/12-12/12); Cherokee Nations Technological Solutions (12/12-01/16); and George Mason University (01/16-08/18).
- 2011- Adjunct Assistant Professor, Department of Biology Mansfield University, Mansfield, PA
- 2007- 2010 *Post-Doctoral Research Fellow*, Trent University, Peterborough, ON, Canada

TEACHING EXPERIENCE

- 2019 Instructor: *Zoology* (Biol 201), Lock Haven University, Lock Haven, PA
- 2018 Instructor: *Aquatic Biology Lecture* (Biol 411), Lock Haven University, Lock Haven, PA
- 2018 Lab Instructor: *Aquatic Biology Laboratory* (Biol 411), Lock Haven University, Lock Haven, PA
- 2018 Lab Instructor: *Principles of Biology I* (Biol 106), Lock Haven University, Lock Haven, PA
- 2015 Instructor: *Experimental design and biostatistics*, Mansfield University of Pennsylvania
- 2014 Instructor: *Limnology*, Mansfield University of Pennsylvania
- 2012 Instructor: *Introduction to Biology for Non-Majors*, Mansfield University of Pennsylvania
- 2007 Instructor: *Experimental Design in Ecology*, Oklahoma Biological Station, University of Oklahoma
- 2007 Instructor: *Science Institute for Secondary and Elementary School Teachers*, Sam Noble Oklahoma Museum of Natural History, University of Oklahoma
- 2007 Graduate Teaching Assistant: *Principles of Ecology*, University of Oklahoma
- 2007 Graduate Teaching Assistant: *Human Physiology*, University of Oklahoma
- 2001 - 2005 Graduate Teaching Assistant: *Stream Ecology*, University of Oklahoma
- 2000 - 2003 Graduate Teaching Assistant: *Experimental Design in Ecology*, Oklahoma Biological Station, University of Oklahoma
- 2002 Graduate Teaching Assistant: *Introduction to Zoology*, University of Oklahoma

PUBLICATIONS

30. Boggs, K., **D.E. Spooner**, D.C. Honeyfield, D Shull, and S. Sweet. "Phylogeny and foraging mode correspond with thiaminase activity in freshwater fishes: potential links to environmental factors" In Press, *Freshwater Science*.

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29. D'Amario, S. C., Rearick, D. C., Fasching, C., Kembel, S. W., Porter-Goff, E., **Spooner, D. E.**, ... & Xenopoulos, M. A. (2019). The prevalence of nonlinearity and detection of ecological breakpoints across a land use gradient in streams. *Scientific reports*, **9(1)**, 3878.
28. Lee, K.Y., L. Graham, **D.E. Spooner**, and M.A. Xenopoulos. 2018. Tracing anthropogenic inputs in stream foods webs with stable carbon and nitrogen isotope systematics along an agricultural gradient. *PloS one*, 13(7), p.e0200312.
27. Galbraith H.S., D. Iwanowicz, **D.E. Spooner**, L. Iwanowicz, D. Keller, P. Zelanko, and C. Adams. 2018. Exposure to synthetic hydraulic fracturing waste influences the mucosal bacterial community structure of the brook trout (*Salvelinus fontinalis*) epidermis. *AIMS Microbiology*, 4(3): 413-427. doi: 10.3934/microbiol.2018.3.413.
26. Atkinson, C.L., A.D. Christian, **D.E. Spooner**, and C.C. Vaughn. 2014. Long-lived organisms provide an integrative footprint of agricultural land use. *Ecological Applications* **24 (2)**, 375-384
25. Newton, T. J., C. C. Vaughn, **D.E. Spooner**; and M. Arts. 2013. Profiles of biochemical tracers in unionid mussels across a broad geographic range. *Journal of Shellfish Research: v. 32, i. 2, p. 497-507*
24. **Spooner, D. E.**, M. E. Xenopoulos, P. Frost, Arts, M.C.; and H. Hillebrand. 2013. Nutrient loading associated with agriculture land use dampens the importance of consumer-mediated niche construction. *Ecology Letters* **16 (9)**1115-1125.
23. Allen, D. C., H. S. Galbraith, C. C. Vaughn, and **D.E. Spooner**. 2013. A tale of two rivers: implications of water management practices on freshwater mussel biodiversity outcomes during a multi-year drought. *Ambio* 42(7) 881-891.
22. **Spooner, D. E.**, C. C. Vaughn, H.S. Galbraith 2012. Species traits and environmental conditions determine congruence of biodiversity effects across adjacent trophic levels. *Oecologia*. 168(2): 533-548.
21. **Spooner, D. E.**, and C. C. Vaughn 2012. Species' dominance and environmental gradients interact to govern primary productivity in freshwater mussel communities. *Oikos*. 3: 403-416.
20. McFeeters, B. J, M.A. Xenopoulos, **D. E. Spooner**, N. D. Wagner, and P. C. Frost. 2011. Intraspecific mass-scaling of metabolic rates of a freshwater crayfish varies with land cover. *Ecosphere*. 2(2): 1-12 (**Student mentored publication**).
19. **Spooner, D. E.**, M.E. Xenopoulos, C. Schneider, and D. A. Woolnough 2011. Co-extirpation of host-affiliate relationships in rivers: The role of, climate change, water withdrawal, and host-specificity. *Global Change Biology*. 17: 1720-1732

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18. Griffen, B.B. D. E., Kramer, A.; Santoro, A.; Spivak, A.; Noreen Kelly, N.; and **D.E. Spooner** 2010. When is species redundancy important? In P.F. Kemp [ed.] 2010. *Eco-DAS VIII Symposium Proceedings*. Waco, TX **American Society of Limnology and Oceanography**. doi:10.4319/ecodas.2010.978-0-9845591-1-4
17. Galbraith, H.S., **Spooner D. E.**, C. C. Vaughn 2010. Synergistic effects of regional climate patterns and local water management on freshwater mussel communities. *Biological Conservation*. 143:1175-1183.
16. **Spooner, D. E.**, and C.C. Vaughn. 2009. Species richness increases secondary production of freshwater mussels through complementarity. A partitioning approach applied to natural communities. *Ecology*. 90:781-790.
15. **Spooner, D. E.**, and C. C. Vaughn. 2008. A trait-based approach to evaluating species' roles in stream ecosystems: Implications for the effects of climate change on community structure and material cycling. *Oecologia*. 158 (2):307-317.
14. Galbraith, H.S., **D. E. Spooner**, C. C. Vaughn. 2008. Status of rare and endangered mussels in southeastern Oklahoma. *Southwestern Association of Naturalists*. 53: 45-50.
13. Vaughn C. C., S. J. Nichols, and **D. E. Spooner**. 2008. Community and foodweb ecology of freshwater mussels. *Journal of the North American Benthological Society*. 27: 409-423.
12. Riesch, R., J. Clifton, J. Fisher, A. Forney, E. Geurin, A. Kuzmic, D. Morris, M. Riley, C. Shelley, E. Sivanesan, T. Sprague, G. Washington, D. Williams, M. Wong, and **D. E. Spooner**. 2007. The role of habitat type and nutrient quality on invertebrate dispersal and diversity. *Proceedings of the Oklahoma Academy of Science*. 87: 89-84. (Student mentored publication).
11. Vaughn, C.C., **D. E. Spooner**, and H. S. Galbraith. 2007 Context-dependent species identity effects within a functional group of filter-feeding bivalves. *Ecology*. 88: 1622-1634.
10. **Spooner, D. E.** and C. C. Vaughn. 2007. Mussels of the Mountain Fork River, Arkansas and Oklahoma. *Publications of the Oklahoma Biological Survey*. 8: 14-18.
9. **Spooner, D. E.**, and C. C. Vaughn. 2006. Context-dependent effects of freshwater mussels on stream benthic communities. *Freshwater Biology*. 51: 1016-1024.
8. Vaughn, C.C., and **D. E. Spooner**. 2006. Unionid mussels influence macroinvertebrate assemblage structure in streams. *Journal of North American Benthological Society*. 25(3): 691-700.
7. Vaughn, C.C., and **D. E. Spooner**. 2006. Scale-dependent associations between native freshwater mussels and invasive *Corbicula*. *Hydrobiologia*. 568: 331-339.
6. Martinez, A. D., **D. E. Spooner**, T. G. Adornata, S. Y. Duding and C. C. Vaughn. 2004. Occurrence of the Rock Pocketbook mussel, *Arcidens confragosus* (Bivalvia: Unionidae), in the Poteau and Deep Fork Rivers of Oklahoma. *Proceedings of the Oklahoma Academy of Science*. 84: 79-80.

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5. Vaughn, C. C., and **D. E. Spooner**. 2004. Status of the mussel fauna of the Poteau River and implications for commercial harvest. *American Midland Naturalist*. 152: 136-152.
4. Vaughn, C. C., K. B. Gido and **D. E. Spooner**. 2004. Ecosystem processes performed by unionid mussels in stream mesocosms: species roles and effects of abundance. *Hydrobiologia*. 527: 35-47.
3. Schaefer, J.F., E. Marsh-Matthews, **D. E. Spooner**, K. Gido, and W.J. Matthews. 2003. Effects of road crossings on movement of the threatened Leopard Darter (*Percina pantherina*). *Environmental Biology of Fishes*. 66: 391-400.
2. Vaughn, C. C., **D. E. Spooner** and B. W. Hoagland. 2002. River weed growing epizooically on freshwater mussels. *Southwestern Naturalist*. 47: 604-605.
1. **Spooner, D. E.**, and C.C. Vaughn. 2000. Impact of drought conditions on a freshwater mussel (Family Unionidae) bed in the Kiamichi River, Oklahoma. *Ellipsaria*. December 2000.

TECHNICAL REPORTS

Shank, M. K., Potapova M, Maloney, K.M., Honeyfield D.C., and **D.E. Spooner**. 2016 *Didymosphenia geminata* in Pennsylvania: an investigation of current and historic distribution, habitat suitability, and nutritional content. *Final report to Pennsylvania Sea Grant*.

Spooner, D. E. 2016. Draft report on the use of fatty acids as a nutritional indicator for *Didymo geminata* in stream periphyton communities. *Report submitted to Susquehanna River Basin Commission*.

Spooner, D.E., Ottinger, C., and D.C. Honeyfield 2016. Research Memorandum: Summary of Thiamine Depletion and Antibody Production in Smallmouth Bass (*Micropterus dolomieu*). Report submitted Pennsylvania DEP.

Galbraith, H.S., **Spooner, D.E.**, and Blakeslee, C.J. 2016. Physiological ecology of the federally listed endangered dwarf wedgemussel, *Alasmidonta heterodon*, and its host fish in the Upper Delaware Scenic River. U.S.G.S. Administrative Report to the U.S. Fish and Wildlife Service, 19 p. IP-072332.

Spooner, D. E., C. C. Vaughn, and H. S. Galbraith. 2005. "Physiological determination of mussel sensitivity to water management practices in the Kiamichi River and review and summarization of literature pertaining to mussels of the Kiamichi and Little River watersheds, Oklahoma." Final report to Oklahoma Department of Wildlife Conservation. 54 pages.

Galbraith, H. S., **D. E. Spooner**, and C. C. Vaughn. 2005. "*Arkansia wheeleri* monitoring in the Kiamichi River." Final report to Oklahoma Department of Wildlife Conservation. 59 pages.

Vaughn, C. C., **D. E. Spooner**, and H. S. Galbraith. 2004. "Physiological determination of mussel sensitivity to water management practices in the Kiamichi River and review and summarization of literature

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pertaining to mussels of the Kiamichi and Little River watersheds, Oklahoma.” Annual performance report to Oklahoma Department of Wildlife Conservation.

Vaughn, C. C., **D. E. Spooner**, and H. S. Galbraith. 2004. “*Arkansia wheeleri* monitoring in the Kiamichi River.” Annual performance report to Oklahoma Department of Wildlife Conservation.

Vaughn, C. C. and **D. E. Spooner**. 2000. Mussel survey of the Mountain Fork River. Final report to the United States Department of Agriculture, Forest Service.

Vaughn, C.C., **D. E. Spooner**, and M. Moore. 1999. Freshwater mussel fauna of the Mountain Fork River, McCurtain County, Oklahoma. Final report to United States Fish and Wildlife Service.

Pathy, D., **D. E. Spooner**, J. Maddill, and A. Martel. 1998. Preliminary report on the diversity of native freshwater mussels (Unionidae) of the Rideau River, eastern Ontario. Rideau River biodiversity project. Canadian Museum of Nature.

Spooner, D. E. 1997. Abundance, distribution and diversity of freshwater mussels (Unionidae) in the Mississippi River of eastern Ontario. Undergraduate thesis submitted to the Ontario Ministry of Natural Resources.

SELECTED FUNDED RESEARCH GRANTS

- \$1,434,000 Department of Defense (DOD): Strategic Environmental Research Development Program (SERDP) 2019-2021. SEMS ER-13 C1-1032: Uptake and bioaccumulation/biomagnification of subsurface-derived PFASs by lotic, warm-water food webs. **Spooner funds to be received (\$131,000)**
- \$100,000 Pennsylvania DEP 2016-17 (**DEP**): *Write-up and analysis of Fatty Acid and Smallmouth bass project.*
- \$341,940 Sustaining Environmental Capital 2015-17 (**SEC**): *Integration of flow management, nutrient modeling, and biofiltration into ecosystem services. Heather G albraith Co-PI.*
- \$30,000 Geisinger Health Care 2015-2016: *Effects of a simulated brine spill on the health of benthic periphyton. Collaboration with Steve Rier at Bloomsburg University.*
- \$375,000 National Park Service 2013-16 (**NRPP**). *Ecosystem services provided by natural capital: Development of an economic and ecological based model for the role of natural capital on stream nutrient retention and removal.*
- \$20,000 National Park Service 2013 (**NRPP**). *Biofiltration of the federally endangered Dwarf Wedge mussel. (co-PI with Heather Galbraith)*
- \$60,000 National Park Service 2013 (**NRPP**). *Ecosystem Services performed by native Freshwater mussels and the American Eel.*
- \$198,000 National Science Engineering Research Strategic Research Grant (**NSERC**), Healthy Ecosystems. 2008. *Freshwater mussels as indicators of ecosystem health along a land-use gradient.*
- \$9,344 National Science Foundation (**NSF**) Doctoral Dissertation Improvement Grant (DDIG) 2006. *How does community structure affect ecosystem function? An integrative approach linking physiological performance and species interactions.*

SCHOLARSHIPS

- \$1,200 Robert E. and Mary B. Sturgis Scholarship. 2006. College of Arts and Sciences, University of Oklahoma.

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- \$3,000 M. Blanche Adams and M. Frances Adams Memorial Scholarship in Zoology. 2006. Department of Zoology, University of Oklahoma.
- \$1,200 Robert E. and Mary B. Sturgis Scholarship, 2005, College of Arts and Sciences, University of Oklahoma.
- \$3,000 M. Blanche Adams and M. Frances Adams Memorial Scholarship in Zoology. 2005. Department of Zoology, University of Oklahoma.
- \$3,000 M. Blanche Adams and M. Frances Adams Memorial Scholarship in Zoology. 2004. Department of Zoology, University of Oklahoma.

HONORS AND AWARDS

- 2008 Selected as a participant for the Ecological Dissertations in Aquatic Sciences (Eco-Das) Symposium (Honolulu, Hawaii).
- 2005 Second place, Best Graduate Student Paper, Oklahoma Water Conference, Tulsa, OK. "Effects of flow and temperature on freshwater mussel physiological condition and community integrity in southeastern Oklahoma rivers."
- 2005 Best Student Platform Paper, Freshwater Mollusk Conservation Society, Minneapolis, MN. "Physiological ecology of freshwater mussel communities."

MENTORED STUDENTS

- 2018 Jessica Cover, Lock Haven University of Pennsylvania, Honors augmentation
- 2014-2016 Brett Marcellus, Mansfield University, Undergraduate thesis
- 2014-Cornelia Twinning, Cornell University, graduate student
- 2012-2013: Hilary Abraham, Mansfield University, Undergraduate thesis
- 2012: Anita Fleegor, Mansfield University, Undergraduate thesis
- 2012-13: Kevin Pulv, Mansfield University, Undergraduate thesis
- 2008-2011: Rathika Balthisar, Trent University, Master's Thesis
- 2008-2009: Olivia Puckerin, Trent University, Undergraduate Honors Thesis
- 2007-2008: Brian McFeeters, Trent University, Independent Study
- 2006-2007: Daniel Rhodes, University of Oklahoma, Independent Study

INVITED TALKS

- D.E. Spooner**, H.S. Galbraith, D. Iwanowicz , L. Iwanowicz, S. Rier, and V. Blazer. 2016. Large-scale experiment assessing brine spill impacts in aquatic ecosystems: A genes to ecosystem approach. **Invited Poster** presented to 2nd Annual Shale Gas Meeting. State College, PA.
- D.E. Spooner**, B.S.J White, D. Hamilton. 2017. Implementing an ecosystem services approach in the Delaware River. Success, Challenges and future directions. **Invited talk** presented to Rivers Symposium. Lewisburg, PA.
- D.E. Spooner**, B.S.J White, D. Hamilton. 2017. Integrating ecosystem services into water management. **Invited talk** presented to Susquehanna River Heartland Coalition. Lewisburg, PA.
- D.E. Spooner**, H.S. Galbraith, D. Iwanowicz , L. Iwanowicz, S. Rier, and V. Blazer. 2016. Large-scale experiment assessing brine spill impacts in aquatic ecosystems: A genes to ecosystem approach. **Invited Poster** presented to 2nd Annual Shale Gas Meeting. State College, PA.
- D.E. Spooner**, H.S. Galbraith, D. Iwanowicz , L. Iwanowicz, S. Rier, and V. Blazer. 2016. Large-scale experiment assessing brine spill impacts in aquatic ecosystems: A genes to ecosystem approach. **Invited Poster** presented to 2nd Annual Shale Gas Meeting. State College, PA.

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- D. E. Spooner** 2016. Ecosystem functioning along gradients of human disturbance: The role of freshwater biofilms. Invited by graduate student association, Department of Biological Science. Sam Houston State University. Huntsville, TX.
- D. E. Spooner** 2016. Update on Smallmouth bass nutritional studies. Pennsylvania Department of Environmental Protection biologists meeting.
- D. E. Spooner** 2014. Ecological functioning of freshwater biofilms. Pennsylvania Department of Environmental Protection biologists meeting.
- D. E. Spooner** 2014. Ecosystem Services along gradients of human disturbances: Poster Presentation. A community of ecosystem services (ACES), Washington, DC.
- D. E. Spooner** 2014. Role of Consumers across nitrogen gradients: The consumer connection. Special session of nutrient cycling. Joint Aquatic Sciences Meeting, Portland, Oregon.
- D. E. Spooner** 2014. Linking material cycling and community structure across gradients of human land-use. Cornell University Biogeochemistry Series.
- D. E. Spooner** 2012. Bridging Science and Society- Linking Economics, Ecosystem Health & Services. Invited seminar to Department of Biology, University of Auburn.
- D. E. Spooner** 2012. Bridging Science and Society- Linking Economics, Ecosystem Health & Services. Invited seminar to the Director of USGS Ecosystems Mission area.
- D. E. Spooner** 2012. Species traits and ecosystem services: Linking environmental change and biodiversity. University of Pittsburgh, Pymatuning Ecological Laboratory.
- Xenopoulos, M. A., **D. E. Spooner**, and D. A. Woolnough. 2008. Suitability of flow regimes in sustaining unionids and fishes in North America. Managing ecosystems, regulated rivers and watersheds: a conference series highlighting 50 years of hydroelectric power development and the construction of the St. Lawrence Seaway on the international section of the St. Lawrence River, Cornwall, Ontario.
- Xenopoulos, M. A., **D. E. Spooner**, and D. A. Woolnough. 2008. Suitability of flow regimes in sustaining unionids and fishes in North America. American Fisheries Society, Annual Meeting, Ottawa, Ontario.
- Spooner, D. E.** 2007. The role of species interactions and environmental context on stream ecosystem function. Department of Biology, Trent University.
- Vaughn, C. C., S. J. Nichols and **D. E. Spooner**. 2007. Community and foodweb ecology of freshwater mussels. Plenary Lecture, Freshwater Mollusk Conservation Society Symposium, Little Rock, Arkansas.
- Spooner, D. E.** 2006. Community ecology of freshwater mussel beds: The role of temperature and dominant species on community structure and rendered ecosystem services. Annual Meeting of the National Shellfisheries Association, Monterey, California.
- Vaughn, C. C., **D. E. Spooner** and multiple co-authors. 2006. Freshwater mussels: Species roles, ecosystem services, and conservation. Annual Meeting of the National Shellfisheries Association, Monterey, California.
- Spooner, D. E.** 2006. Freshwater mussel ecology. American Fisheries Society, Freshwater Mussel Workshop, Ardmore, Oklahoma.
- Spooner, D. E.** 2005. Physiological ecology of freshwater mussel communities: effects of temperature on community structure and ecological services. Special session on Unionid ecology, North American Benthological Society, New Orleans, Louisiana.
- Vaughn, C. C. and **D. E. Spooner**. 2005. Context-dependent species effects in freshwater mussel communities. Special session on Unionid ecology, North American Benthological Society, New Orleans, Louisiana.
- Spooner, D. E.** and C. C. Vaughn. 2004. An integrative approach to understanding freshwater mussel (Unionidae) community structure: linking biodiversity, environmental context, and physiology. Gordon Research Conference on the Metabolic Basis of Ecology, Bates College, Maine.

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Spooner, D. E. and C. C. Vaughn. 2005. Effects of flow and temperature on freshwater mussel physiological condition and community integrity and southeastern Oklahoma River. Oklahoma Water Conference, Tulsa, Oklahoma.

Spooner, D. E. 2002. A field experiment examining the effects of freshwater mussels on sediment ecosystem function. Department of Zoology, University of Oklahoma.

Spooner, D. E. and C. C. Vaughn. Small-scale ecological function of freshwater mussels (Unionidae) in the Kiamichi River, OK. Annual Meeting of the National Shellfisheries Association, Mystic, Connecticut.

PRESENTATIONS AT PROFESSIONAL MEETINGS

ASSOCIATION OF MID-ATLANTIC BIOLOGISTS

2016: Examination of dietary thiamine deficiency as a potential cause for Smallmouth bass decline in the Susquehanna River.

2016: Utility of biofilm fatty acid signatures as a tool to characterize watershed environmental stress.

GREAT PLAINS LIMNOLOGICAL SOCIETY

2002: Spooner, D. E. and C. C. Vaughn.

2000: Spooner, D. E. and C. C. Vaughn.

SOCIETY FOR FRESHWATER SCIENCE

2012-14 Spooner, D.E. Ecosystem functioning of benthic periphyton: The microbial connection.

2010 Spooner, D. E., M. Arts and Xenopoulos

2009 Spooner, D. E., M. Arts and Xenopoulos

2008 Spooner, D. E., and Xenopoulos

2006: Vaughn, C. C., D. E. Spooner, H. S. Galbraith, K. L. Reagan and D. E. Allen.

2004: Spooner, D. E. and C. C. Vaughn.

2004: Vaughn, C. C. and D. E. Spooner.

2003: Vaughn, C. C., D. E. Spooner, M. Moore and F. March.

2002: Spooner, D. E. and C. C. Vaughn.

2002: Vaughn, C. C., M. E. Moore, and D. E. Spooner.

2001: Spooner, D. E. and C. C. Vaughn.

2001: Vaughn, C. C., D. E. Spooner, M. Moore, and K. B. Gido.

2000: Spooner, D. E., C. C. Vaughn, M. Moore, J. Johnson.

2001: Vaughn, C. C., K. B. Gido, and D. E. Spooner

OKLAHOMA ACADEMY OF SCIENCE

2001: Spooner, D. E. and C. C. Vaughn.

2001: Vaughn, C. C. and D. E. Spooner

FRESHWATER MOLLUSK CONSERVATION SOCIETY

2012: Spooner, D. E., Ecosystem services provisioned by freshwater mussels.

2005: Spooner, D. E. and C. C. Vaughn.

2005: Vaughn, C. C., D. E. Spooner, and H. S. Galbraith

2003: Spooner, D. E. and C. C. Vaughn.

2003: Vaughn, C. C., D. E. Spooner, M. Moore, and F. March.

2001: Spooner, D. E. and C. C. Vaughn.

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2001: Vaughn, C. C., K. B. Gido, and D. E. Spooner

SOCIETY INTERNATIONAL LIMNOLOGIE

2007: Spooner, D. E.

SOUTHWESTERN ASSOCIATION OF NATURALISTS

2008: Vaughn, C. C., H. S. Galbraith and D. E. Spooner.

2004: Vaughn, C. C. and D. E. Spooner

2003: Spooner, D. E. and C. C. Vaughn.

2003: Vaughn, C. C., D. E. Spooner, M. Moore, and F. March.

2001: Spooner, D. E. and C. C. Vaughn.

2000: Vaughn, C. C., K. B. Gido, and D. E. Spooner

2000: Moore, M., C. C. Vaughn, D. E. Spooner, and J. Johnson

WORLD CONGRESS OF MALACOLOGY

2015: Spooner, D.E., Functional role of freshwater mussels along an agricultural gradient

2007: Vaughn, C. C., D. E. Spooner, H. S. Galbraith, and D. C. Allen

2004: Vaughn, C. C. and D. E. Spooner

PROFESSIONAL SERVICE AND OUTREACH

2003-present *Ad-hoc reviewer for:*

- Ecology Letters, Journal of the North American Benthological Society (Now Freshwater Science), Journal of Animal Ecology, Southwestern Naturalist, American Midland Naturalist, Conservation Biology, Limnology and Oceanography. Freshwater Biology, Ecological Monographs, Ecology, Oikos, Hydrobiologia, Journal of Great Lakes Research, River Management, Journal of Knowledge in Aquatic Science, Journal of Fisheries and Aquatic Science, Diversity and Distributions, PLOS.

2006-2007 *Graduate Student Faculty Representative*, University of Oklahoma

- Attended departmental faculty meetings representing the interests of the graduate students.

2003-2005 *Oklahoma Water Resources Commission*, Oklahoma City, Oklahoma

- Served as a biological expert examining the role of water diversion on the economical, recreational, and ecological sustainability of Southeastern Oklahoma streams.

Fall, 2003 *Public School Outreach Program*, Oklahoma Biological Survey, University of Oklahoma

- Traveled to local public schools and introduced students to the ecology of aquatic systems.

2002-2003 *Graduate Student Senator*, University of Oklahoma

- Attended weekly meetings of the University of Oklahoma Graduate Student Senate and served of the Ways and Means committee.

MEMBERSHIP IN PROFESSIONAL SOCIETIES

Ecological Society of America

National Shellfisheries Association

Oklahoma-Texas Aquatic Research Group

Freshwater Mollusk Conservation Society

North American Benthological Society

Daniel E. Spooner

Ontario Freshwater Mollusk Recovery Team

Vice-President of Board of Directors, Wellsboro Montessori School

TOOL SKILL SET

Ecosystem

- Freshwater mussel identification (Northeast, Midwest, Southeast)
- HPLC techniques to quantify ergosterol and algal pigments
- Stable isotope analyses (nitrogen and carbon) for nutrient tracking
- Nutrient determination (Nitrate, Nitrite, Ammonium, Phosphorus), nutrient uptake and denitrification assays
- Glycogen and protein determination, lipids and fatty acid assays
- Microbial assays using fluorescein diacetate, and Community level physiological profiling
- Primary and secondary production metrics using laboratory and field measurements
- Microbial Extracellular enzyme assays

Statistical

- GIS land-cover analyses
- R-programming
- Univariate and Multivariate analysis
- Bootstrapping and randomization tests
- Biodiversity ecosystem function partitioning techniques.
- Species-discharge modeling and climate change predictions
- Species modeling using Spatially explicit regressions of water quality (SPARROW)
- Shadow market estimation of biofiltration if wastewater treatments.