

# Curriculum Vitae

WILLIAM S. CURRIE

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## Professional Appointments

Current: *Associate Dean for Research and Engagement* (since 2021), University of Michigan, School for Environment and Sustainability (SEAS)  
*Professor* (since 2016) School for Environment and Sustainability (SEAS)  
*Professor*, Program in the Environment, College of Literature, Science, and the Arts

2010-2012 *Associate Dean for Academic Affairs*, School of Natural Resources and Environment (SNRE), University of Michigan

2006-2016 *Associate Professor*, University of Michigan, SNRE

2003-2005 *Assistant Professor*, University of Michigan, SNRE

1997-2003 *Assistant Professor*, University of Maryland Center for Environmental Science, Appalachian Laboratory, Frostburg, MD

1995-1997 *Visiting Postdoctoral Scholar*, The Ecosystems Center, Marine Biological Laboratory, Woods Hole, MA

1986-1988 *Stock Options Trader*, holding seats on the Philadelphia Stock Exchange, Philadelphia PA, and the Pacific Coast Exchange, San Francisco, CA

1984-1986 *Senior Scientist II*, Booz, Allen & Hamilton consulting firm, Bethesda, MD

1983-1984 *Systems Engineer*, Rockwell International Corporation, Space Shuttle Orbiter Division, Downey, CA

## Research Interests

I am a biogeochemist, landscape ecologist, and ecosystem modeler who works on interdisciplinary topics related to environmental quality, water quality, and sustainability. I study the linkages among carbon, nutrient, and water cycling in terrestrial landscapes, watersheds, wetlands, and human-environment systems. I collaborate with researchers across a range of fields and with students to integrate understanding and build models for synthesis. I develop and teach interdisciplinary case studies on sustainability issues in the Great Lakes region. A current interest is in developing artificial intelligence tools and approaches for progress in the environment and sustainability domain, with a particular interest in grounding and alignment of AI.

## Education

1995 Ph.D., Natural Resources, Inst. for Earth, Oceans and Space, University of New Hampshire.  
1991 M.S., Environmental Sciences, University of Virginia.  
1983 B.S., *magna cum laude with honors thesis*, Physics, Brown University.

## Affiliations and Awards

American Association for the Advancement of Science (AAAS), Elected Fellow 2019  
Program in the Environment Outstanding Instructor Award, 2021

Provost's Teaching Innovation Prize, 2020 finalist (10 finalists across all of University of Michigan)  
Ecological Society of America (ESA)  
American Geophysical Union (AGU)  
North American chapter of the International Association of Landscape Ecologists (NA-IALE)  
Affiliated Faculty, Michigan Institute for Data Science (MIDAS), University of Michigan, 2015-present  
Affiliated Faculty, Global Change Biology Institute, University of Michigan, 2019-present  
Affiliated Faculty, Sustainable Food Systems Initiative, University of Michigan, 2018-present  
Affiliated Faculty, University of Michigan Energy Institute, 2014-present  
Affiliated Faculty, Graham Sustainability Institute, University of Michigan, 2010-present  
Faculty Associate, Applied Physics PhD Program, University of Michigan, 2006-present  
Stockholm University – University of Michigan Faculty Exchange Program Award, 2010

## Academic Leadership

I serve as the Associate Dean for Research and Engagement in the School for Environment and Sustainability (SEAS), part of the SEAS strategic leadership team. SEAS has 87 faculty and ca. 650 graduate students. Under my research leadership, SEAS had \$21M in research expenditures in fiscal 2023 and acquired a \$53M NOAA cooperative agreement, the largest grant in the school's history. SEAS also received an \$11M gift, the largest gift in the school's history, to establish the Tishman Center for Social Justice and the Environment. We also launched the Institute for Global Change Biology and the SEAS Sustainability Clinic - Detroit (I served as PI on the latter). I lead research development in SEAS and work with our finance team to manage research activities and expenditures. I ensure faculty and researchers have access to resources for cutting-edge research and external engagement for both scholarly and societal impact. I manage space allocation within the School as well as \$800k to \$1.1M annually in seed funding, incentives, and discretionary funds to promote research development. I ensure compliance with SEAS, UM and other regulations. I participate in the campus-wide Research Associate Deans group and Associate Deans group and occasionally substitute for the SEAS dean at the Academic Program Group, the all-deans monthly meeting with the U-M Provost.

Previously, I served a leadership role in planning the new School for Environment and Sustainability at U-M, which opened its doors in 2017. I chaired the Provost's Faculty Transition Team to plan the new school, an effort involving 37 faculty from across campus working over a 9-month period in 2016-2017.

I previously served as Associate Dean for Academic Affairs in the School of Natural Resources and Environment (the predecessor to SEAS). Duties included review and approval of faculty teaching portfolios, standing in for the Dean at university and public events as needed, joint oversight of the undergraduate Program in the Environment (PitE, with 500+ students as majors and minors), and oversight of the Student Center (graduate student admissions and recruiting, student support and financial aid, allocation of teaching assistants, the registrar, and career services). I participated in the UM Vice Provosts and Associate Deans Group and the Provost's Campus Leadership Mentoring Program.

I currently serve as Co-Director of the Eric and Wendy Schmidt Artificial Intelligence in Science Postdoctoral Fellows Program, funded by the Schmidt Sciences Foundation, housed in the Michigan Institute for Data Science (MIDAS) at U-M. This is a \$13.9M externally funded program that will support and train 55 U-M postdocs over 7 years to apply artificial intelligence in a wide range of sciences and engineering domains in schools and colleges across the U-M campus. This is part of a \$148M program across 9 universities in North America, the UK, and Asia.

I developed a new SEAS Dean's Junior Faculty Mentoring Program beginning in 2019, in which I assigned multi-mentor teams for junior faculty and organized group mentoring sessions on teaching, service,

faculty careers, and grantsmanship. I continue to lead this program.

As Associate Dean I established the Envoys Diversity Program in SEAS in 2011 and was its Founding Co-Director. This highly successful program provided \$300k in fellowships in its first three years to recruit and retain a more diverse graduate student population including underrepresented minority students.

As a PhD student at the University of New Hampshire I served as president of the graduate student body and served as the graduate student representative on the university President's Cabinet (1994-1995).

## Research Grants

Expanding the Eric and Wendy Schmidt AI in Science Postdoctoral Program for the Global South. Schmidt Sciences Foundation. 7/1/24 – 6/30/29. \$5,063,000. (Pending.) *Co-Principal Investigator*.

Impacts of changing plant communities on wetland biogeochemistry: A functional trait approach. US Department of Energy Biological and Environmental Research, Earth and Environmental System Sciences Division. 6/1/24 - 5/31/27. \$1,000,000. (Pending.) *Co-Principal Investigator*.

Collaborative Artificial Intelligence for Conservation Workshop. Schmidt Sciences Foundation. 2/15/24 – 9/15/24. \$15,000. *Co-Principal Investigator*.

Cooperative Ecosystem Studies Units U.S. Biosphere Network Capstone Internships. US Department of the Interior, National Park Service. 4/30/24-6/30/25. \$25,000. *Principal Investigator*.

Low Carbon Building R+D Initiative. U-M Vice President for Research-Research Associate Deans (VPR-RAD) Catalyst Grants Program. 1/1/23 – 12/31/23. \$50,000. *Co-Principal Investigator*.

The Eric and Wendy Schmidt AI in Science Postdoctoral Fellowships, a program of Schmidt Sciences. Schmidt Sciences Foundation. 10/20/22 – 9/30/28. \$13,890,000. *Co-Principal Investigator*.

Launching the SEAS Sustainability Clinic in Detroit. The Kresge Foundation. 5/2/21 – 4/30/24. \$1,000,000. *Principle Investigator*.

McIntire-Stennis Program of Research 2024. USDA Forest Service, NIFA McIntire-Stennis Program. \$348,000. 10/1/23 – 9/30/25. *Principal Investigator*.

McIntire-Stennis Program of Research 2023. USDA Forest Service, NIFA McIntire-Stennis Program. \$325,000. 10/1/22 – 9/30/24. *Principal Investigator*.

McIntire-Stennis Program of Research 2022. USDA Forest Service, NIFA McIntire-Stennis Program. \$359,099. 10/1/21 – 9/30/23. *Principal Investigator*.

McIntire-Stennis Program of Research 2021. USDA Forest Service, NIFA McIntire-Stennis Program. \$351,383. 10/1/20 – 9/30/22. *Principal Investigator*.

Integrating Systems Models and Remote Sensing to Explore Aquatic Ecosystem Vulnerability to Global Change in Lake Huron. NASA OCEAN-MUREP (Minority University Research and Education Project). \$750,000. 9/1/21 – 8/31/24. *Co-Principal Investigator*.

Data science approach towards a socio-ecological framework for the investigation of continental urban stream water quality pattern. MIDAS (Michigan Institute for Data Science) PODS program (Propelling Original Data Science). 7/1/21 - 6/30-22. \$70,000. *Co-Principal Investigator*.

A new model of climate and forest health pressures on forest succession and biomass at the University of Michigan Biological Station. U.S.D.A. McIntire-Stennis Program. 10/1/18 – 9/30/20. \$139,867. *Co-Principal Investigator*.

Quantifying how Global Change and Land Use Legacies Affect Ecosystem Processes at the Land Water

Interface Across the Great Lakes Basin. NASA IDS Program. \$1,500,000. 8/1/17 – 7/31/21. *Co-Principal Investigator.*

Modeling socio-ecological adaptation to climate change in temperate forests. Graham Sustainability Institute Catalyst Grant Program. 3/1/17 - 2/28/18. \$10,000. *Co-principal Investigator.*

Human adaptation to climate change and effects on Upper Midwest forests. U.S.D.A. McIntire-Stennis Program. \$146,265. 10/1/16 – 9/30/18. *Co-Principal Investigator.*

Supporting conservation and decision-making in the Northwoods: Mapping forest values, services, and threats. Department of Interior, U.S. Fish & Wildlife Service. \$20,000. 7/5/16 – 7/5/17. *Principal Investigator.*

Factors in forest management to protect carbon sinks on private forestland in the Great Lakes region. UM Energy Institute Beyond Carbon Neutral Seed Funding Program. 7/1/17 – 6/30/18. \$20,000. *Co-Principal Investigator.*

Assessing the potential to protect and enhance carbon sinks on nonindustrial private forest land in the northern Great Lakes region. UM Energy Institute Beyond Carbon Neutral Seed Funding Program. 7/1/16 – 6/30/17. \$20,000. *Co-Principal Investigator.*

Implementing Adaptive Management and Monitoring for Restoration of Wetlands invaded by *Phragmites*. EPA Great Lakes Restoration Initiative Program. \$648,799. 4/1/16 – 9/30/18. *Co-Principal Investigator.*

Comprehensive Invasive *Phragmites* Management Planning. Michigan Invasive Species Grants Program, Michigan Dept. of Natural Resources. \$203,000. 2/1/16 – 1/31/18. *Co-Principal Investigator.*

Climate Change Mitigation: Moving Beyond Carbon Neutral. University of Michigan Office of Research 2016 Distinguished Faculty / Graduate Student Seminar program. \$12,600. 7/1/16 – 6/30/17. *Co-Principal Investigator.*

Investigating social-ecological metrics of forest landscape characteristics across scales: A regional gradient study in northern Michigan. U.S.D.A. McIntire-Stennis Program. \$69,000. 10/1/14 – 9/30/17. *Principal Investigator.*

Assessing Ecosystem Services Provided by Restored Wetlands Under Current and Future Climate and Land-Use Scenarios. University of Michigan Water Center. \$50,000. 9/1/13 – 8/31/14. *Co-Principal Investigator.*

Modeling social-ecological interactions driving land-atmosphere exchanges in forested landscapes. UM Provost's M-Cubed Program. \$60,000. 5/1/13 – 11/10/14. *Lead Principal Investigator.*

Spatial Land-Use Change and Ecological Effects: Interactions of Exurban Land Management and Carbon Dynamics. NSF Coupled Natural-Human Systems Program. \$1,500,000. 3/1/08 – 9/30/14. *Co-Principal Investigator.*

Evidence-based future scenarios for Great Lakes forested landscapes: Development of a new framework. U.S.D.A. McIntire-Stennis Program. \$60,000. 10/1/12 – 9/30/14. *Principal Investigator.*

SNRE Envoys Diversity Initiative. Faculty Allies for Diversity Grant Program, University of Michigan Rackham Graduate School. \$100,000. 9/1/11—8/31/13. *Co-Principal Investigator, Founding*

*Co-Director.*

Linking Remote Sensing and Process-Based Models to Better Understand the Influence of Land Use and Climate Changes on Great Lakes Coastal Wetlands. NASA Interdisciplinary Research in Earth Science Program. \$1,500,000. 1/1/10 – 12/31/14. *Co-Principal Investigator.*

Incorporating ecosystem processes controlling landscape carbon balance into models of coupled human-natural systems. U.S.D.A. McIntire-Stennis Program. \$67,260. 10/1/10 – 9/30/13. *Principal Investigator.*

Atmospheric N Deposition and C Storage in Northern Temperate Forests: Testing and Scaling up with an Enhanced Ecosystem Process Model. U.S.D.A. McIntire-Stennis program. \$60,000. 10/1/08 – 9/30/10. *Principal Investigator.*

Modeling linkages among forest ecology, management, and biogeochemistry in Great Lakes forests. U.S.D.A. McIntire-Stennis Program. \$60,000. 10/1/06 – 9/30/08. *Principal Investigator.*

Alcoa Foundation Conservation and Sustainability Fellowship Program: Enabling Technology for a Sustainable Energy Future Through Interdisciplinary Research and Training. Alcoa Foundation. \$844,000. 11/1/05-10/31/10. *Co-Principal Investigator.*

Modeling the trajectories of forest carbon storage in the Great Lakes region based on interactions among global change, forest history, and management. U.S.D.A. McIntire-Stennis Program. \$59,928. 10/1/04 – 9/30/06. *Principal Investigator.*

Collaborative Research: Effects of elevated CO<sub>2</sub> on forest N cycling: Assessment with large-scale <sup>15</sup>N tracers and modeling. National Science Foundation, Ecosystems Program. \$790,000. 1/1/03-2/28/07. *Co-Principal Investigator.*

Effects of N deposition on forest C balance: long-term responses at stand and regional scales. National Science Foundation, Ecosystems Program. \$639,999. 1999-2003. *Co-Principal Investigator.*

Predicting the influence of N deposition on temperate forest carbon uptake and storage using <sup>15</sup>N tracers and modeling (1). U.S.D.A. Forest Service NERC Program. \$71,818. 2001-2004. *Principal Investigator.*

Predicting the influence of N deposition on temperate forest carbon uptake and storage using <sup>15</sup>N tracers and modeling (2). U.S.D.A. Forest Service NERC Program. \$33,200 subcontract from Marine Biological Laboratory. 2002-2004. *Principal Investigator on subcontract.*

The role of forest-floor nitrogen leaching in ecosystem N retention. U. S. Department of Agriculture, National Research Initiative Competitive Grants Program. \$80,000. 1995-1997. *Principal Investigator.*

Research Opportunities and Collaboration in the Appalachians. Andrew W. Mellon Foundation. \$414,000. 1999-2001. *Senior Personnel.*

Research Opportunities and Collaboration in the Appalachians, Renewal. Andrew W. Mellon Foundation. \$431,751. 2001-2003. *Senior Personnel.*

Assessment of forest disturbance in the Mid-Atlantic region: A multi-scale linkage between terrestrial and aquatic ecosystems. Environmental Protection Agency, NCERQA. \$697,834. 1998-1999. *Senior Personnel.*

A general framework for debiting / crediting carbon sequestration in natural resource industries. Environmental Protection Agency. \$100,000. 1998-1999. *Senior Personnel*.

## Peer-Reviewed Publications

Calvo, Clementina, Kenneth Elgersma, Deborah E. Goldberg, **William S. Currie**, Evan Batzer and Jason P. Martina. Biotic resistance across a nutrient gradient in experimental coastal wetlands. *Ecological Applications* *in review*.

Shayka, B. F., M. H. K. Hesselbarth, S. R. Schill, **William S. Currie** and J. E. Allgeier. 2023. The natural capital of seagrass beds in the Caribbean: evaluating their ecosystem services and blue carbon trade potential. *Biology Letters* 19(6): 20230075. <https://doi.org/10.1098/rsbl.2023.0075>

Frank, Kaitlyn M. Mark A. Ditmer, David C. Stoner, **William S. Currie**, Daniel D. Olson, and Neil H. Carter. 2023. Dark roads aid movement but increase mortality of a generalist herbivore in the American Southwest. *Ecosphere* 14:e4508. <https://doi.org/10.1002/ecs2.4508>

Barnett, Jared W., Kathleen M. Bergen, and **William S. Currie**. 2022. Tracking beech bark-diseased forest canopies using high resolution open-source imagery and methods. *Forest Ecology and Management* 523:120486. <https://doi.org/10.1016/j.foreco.2022.120486>

Jameson, Emily E., Kenneth Elgersma, Jason P. Martina, **William S. Currie**, and Deborah E. Goldberg. 2022. Size-dependent analyses provide insights into the reproductive allocation and plasticity of invasive and native *Typha*. *Biological Invasions*, <https://doi.org/10.1007/s10530-022-02881-9>

Yuan, Ye, Kenneth Elgersma, Jason P. Martina, Sean J. Sharp, and **William S. Currie**. 2021. Sustained-flux global warming potential driven by nitrogen inflow and hydroperiod in a model of Great Lakes coastal wetlands. *JGR Biogeosciences* 126: e2021JG006242. <http://dx.doi.org/10.1029/2021JG006242>

Weinstein, C. B., L. Bourgeau-Chavez, S. L. Martin, **William S. Currie**, K. Grantham, Q. F. Hamlin, D. W. Hyndman, K. P. Kowalski, J. P. Martina, and D. Pearsall. 2021. Enhancing Great Lakes coastal ecosystems research by initiating engagement between scientists and decision-makers. *Journal of Great Lakes Research* 47(4):1235-1240. DOI: <https://doi.org/10.1016/j.jglr.2021.04.018>

Sharp, S. J., K. Elgersma, J. P. Martina, and **William S. Currie**. 2021. Hydrologic flushing rates drive nitrogen cycling and plant invasion in freshwater coastal wetlands. *Ecological Applications* 31(2):e02233, 1-17. DOI: <https://doi.org/10.1002/eap.2233>

Barton, Erin M., Douglas R. Pearsall, and **William S. Currie**. 2020. Human appropriated net primary productivity as a metric for land use planning: A case study in the US Great Lakes region. *Landscape Ecology* 35:1323-1339. <https://rdcu.be/b30EW>

Haber, L. T., R. T. Fahey, S. B. Wales, N. Correa Pascuas, **William S. Currie**, and C. M. Gough. 2020. Forest structure, diversity, and primary production in relation to disturbance severity. *Ecology and Evolution* 10(10):4419-4430. <https://onlinelibrary.wiley.com/doi/10.1002/ece3.6209>

Jenkins, Liza K., Tom Barry, Karl Bosse, **William S. Currie**, Tom Christensen, Sara Longan, Robert A. Shuchman, Danielle Tanzer, and Jason Taylor. 2020. Satellite-based decadal change assessments of pan-Arctic environments. *Ambio*, 49: 820-832. <http://link.springer.com/article/10.1007/s13280-019-01249-z>

- Xu, Hui, Daniel G. Brown, Michael R. Moore, and **William S. Currie**. 2018. Optimizing spatial land management to balance water quality and economic returns in a Lake Erie watershed. *Ecological Economics* 145:104-114.
- Graham, John B., Joan I. Nassauer, **William S. Currie**, Herbert Ssegane, and M. Cristina Negri. Assessing wild bee abundance in perennial bioenergy landscapes: Effects of bioenergy crop composition, landscape configuration, and bioenergy crop area. 2017. *Landscape Ecology* 32:1023-1037.
- Goldberg, Deborah E., Jason P. Martina, Kenneth J. Elgersma, and **William S. Currie**. 2017. Plant size and competitive dynamics along nutrient gradients. *American Naturalist* 190(2): 229-243. doi:10.1086/692438
- Elgersma, Kenneth J., Jason P. Martina, Deborah E. Goldberg, and **William S. Currie**. 2017. Effectiveness of cattail (*Typha* spp.) management techniques depends on exogenous nitrogen inputs. *Elementa, Science of the Anthropocene* 5:19. DOI: <http://doi.org/10.1525/elementa.147>
- Martina, Jason P., **William S. Currie**, Deborah E. Goldberg and Kenneth J. Elgersma. 2016. Nitrogen loading leads to increased carbon accretion in both invaded and uninvaded coastal wetlands. *Ecosphere* 7(9): e01459.
- Currie William S.**, Sarah Kiger, Joan I. Nassauer, Meghan Hutchins, Lauren L. Marshall, Daniel G. Brown, Rick L. Riolo, Derek T. Robinson, and Stephanie K. Hart. 2016. Multi-scale heterogeneity in vegetation and soil carbon in exurban residential land of Southeastern MI. *Ecological Applications* 26(5): 1421-1436.
- Brunner, Anna, **William S. Currie**, and Shelie Miller. 2015. Cellulosic ethanol production: Landscape scale net carbon strongly affected by forest decision making. *Biomass and Bioenergy* 83:32-41.
- Elgersma, K.J., R. Wildova, J.P. Martina, **W.S. Currie**, and D.E. Goldberg. 2015. Does clonal resource translocation relate to invasiveness of *Typha* taxa? Results from a common garden experiment. *Aquatic Botany* 126 (October 2015):48-53.
- Fouladbash, Lisa and **William S. Currie**. 2015. Agroforestry in Liberia: Household Practices, Perceptions and Livelihood Benefits. *Agroforestry Systems* 89(2):247-266.
- Currie, William S.**, Deborah E. Goldberg, Jason Martina, Radka Wildova, Emily Farrer, and Kenneth Elgersma. 2014. Emergence of nutrient-cycling feedbacks related to plant size and invasion success in a wetland community-ecosystem model. *Ecological Modelling* 282: 69-82.
- Visscher, Rachel S., Joan I Nassauer, Daniel G. Brown, **William S. Currie**, and Dawn C. Parker. 2014. Exurban residential household behaviors and values: Influence of parcel size and neighbors on carbon storage potential. *Landscape and Urban Planning* 132:37-46.
- Kahan, Ari, **William S. Currie**, and Daniel G. Brown. 2014. Nitrogen and Carbon Biogeochemistry in Forest Sites Along an Indirect Urban-Rural Gradient in Southeastern Michigan. *Forests* 5:643- 655.
- Nassauer, J.I., Cooper, D.A., Marshall, L.L., **Currie, William S.**, Hutchins, M., Brown, D.G. 2014. Parcel size related to household behaviors affecting carbon storage in exurban residential landscapes. *Landscape and Urban Planning* 129:55-64.
- Robinson, Derek T., Shipeng Sun, Meghan Hutchins, Rick L. Riolo, Daniel G. Brown, Dawn C. Parker, Tatiana Filatova, **William S. Currie**, and Sarah Kiger. 2013. Effects of land markets and land

- management on ecosystem function: A framework for modeling exurban land-change. *Environmental Modeling and Software* 45:129-140.
- Templer, PH, MC Mack, FS Chapin III, LM Christenson, JE Compton, HD Crook, **WS Currie**, C Curtis, B Dail, CM D'Antonio, BA Emmett, H Epstein, CL Goodale, P Gundersen, SE Hobbie, K Holland, DU Hooper, BA Hungate, S Lamontagne, KJ Nadelhoffer, CW Osenberg, SS Perakis, P Schleppi, J Schimel, IK Schmidt, M Sommerkorn, J Spoelstra, A Tietema, WW Wessel and DR Zak. 2012. Sinks for Nitrogen Inputs in Terrestrial Ecosystems: A Meta-Analysis of <sup>15</sup>N Tracer Field Studies. *Ecology* 93(8): 1816–1829.
- Whittinghill, Kyle A., **William S. Currie**, Donald R. Zak, Andrew J. Burton and Kurt S. Pregitzer. 2012. Anthropogenic N deposition increases soil C storage by decreasing the extent of litter decay: analysis of field observations with an ecosystem model. *Ecosystems* 15(3): 450-461.
- Krause Kim, Isabelle Providoli, **William S. Currie**, Harald Bugmann, Patrick Schleppi. 2012. Long-term tracing of whole catchment <sup>15</sup>N additions in a mountain spruce forest: measurements and simulations with the TRACE model. *Trees - Structure and Function* 26:1683-1702.
- Currie, William S.** 2012. Energy Flow. In *Oxford Bibliographies Online: Ecology*. Ed. David Gibson. New York: Oxford University Press. <http://oxfordbibliographiesonline.com> DOI: 10.1093/OBO/9780199830060-0047.
- Currie, William S.** 2011. Units of nature or processes across scales? The ecosystem concept at age 75. (Invited *Tansley Review*.) *New Phytologist* 190:21-34.
- Hofmockel, Kirsten, Anne Gallet-Budynek, Heather McCarthy, **William S. Currie**, Robert B Jackson, and Adrien C Finzi. 2011. Sources of increased N uptake in forest trees growing under elevated CO<sub>2</sub>: Results of a large-scale <sup>15</sup>N tracer study. *Global Change Biology* 17: 3338–3350.
- Currie, William S.**, Harmon, M.E., Burke, I.C., Hart, S.C., Parton, W.J., and Silver, W.L. 2010. Cross-biome transplants of plant litter show decomposition models extend to a broader climatic range but lose predictability at the decadal time scale. *Global Change Biology* 16: 1744-1761.
- Robinson. D.T., Brown, D.G., and **W.S. Currie**. 2009. Modelling carbon storage in highly fragmented and human-dominated landscapes: linking land-cover patterns and ecosystem models. *Ecological Modelling* 220:1325-1338.
- Harmon, M. E., W. L. Silver, B. Fasth, H. Chen, I. C. Burke, W. J. Parton, S. C. Hart, and **W. S. Currie**. 2009. Long-term patterns of mass loss during the decomposition of leaf and fine root litter: an intersite comparison. *Global Change Biology* 15:1320-1338.
- Simmons, J. A., **W. S. Currie**, K. N. Eshleman, K. Kuers, S. Monteleone, T. L. Negley, B. R. Pohlrad, and C. L. Thomas. 2008. Forest to reclaimed mine land use change leads to altered ecosystem structure and function. *Ecological Applications* 18:104-118.
- Currie, William S.**, and Kathleen M. Bergen. 2008. Temperate Forest. Pages 3494-3503 in S. E. Jorgensen and B. D. Fath, Editors-in-chief, *Ecosystems*, vol. 5 of *Encyclopedia of Ecology*, 5 vols. Elsevier B. V., Oxford.
- Currie, William S.** 2007. Modeling the dynamics of stable-isotope ratios for ecosystem biogeochemistry. Pp 450-479 In Lajtha, K. and Michener, R., Eds, *Stable Isotope Ratios in Ecology and Environmental Science*, 2nd Edition. Blackwell.



- Parton, William, Whendee L. Silver, Ingrid Burke, Leo Grassens, Mark E. Harmon, **William S. Currie**, Jennifer King, E. Carol Adair, Leslie Brandt, Steve Hart, and Becky Fasth. 2007. Global-Scale Similarities In Nitrogen Release Patterns During Long-Term Decomposition. *Science* 315: 361-364.
- Seidl, R., W. Rammer, D. Jäger, **W. S. Currie** and M. J. Lexer. 2007. Assessing trade-offs between carbon sequestration and timber production within a framework of multi-purpose forestry in Austria. *Forest Ecology and Management* 248:64-69.
- Castro, Mark S., Keith N. Eshleman, Louis F. Pitelka, Geoff Frech, Molly Ramsey, **William S. Currie**, Karen Kuers, Jeffrey A. Simmons, Bob R. Pohlrad, Carolyn L. Thomas, and David M. Johnson. 2007. Symptoms of nitrogen saturation in an aggrading forested watershed in western Maryland. *Biogeochemistry* 84:333-348.
- Chastain, Robert A. Jr., **William S. Currie**, and Philip A. Townsend. 2006. Carbon Sequestration and Nutrient Cycling Implications of the Evergreen Understory Layer in Appalachian Forests. *Forest Ecology and Management* 231: 63-77.
- Johnston, C. A., P. Groffman, D. D. Breshears, Z. G. Cardon, **William S. Currie**, W. R. Emanuel, J. B. Gaudinski, R. B. Jackson, K. Lajtha, K. Nadelhoffer, D. W. Nelson, W. M. Post, G. J. Retallack, and L. Wielpolski. 2004. The frontier below: Carbon cycling in soil. *Frontiers in Ecology and the Environment* 10:522-528.
- Currie, William S.**, Knute J. Nadelhoffer, and John D. Aber. 2004. Redistributions of  $^{15}\text{N}$  highlight turnover and replenishment of mineral soil organic N as a long-term control on forest C balance. *Forest Ecology and Management*, 196:109-127.
- Nadelhoffer, Knute J., Benjamin P. Colman, **William S. Currie**, Alison Magill, and John D. Aber. 2004. Decadal-scale fates of  $^{15}\text{N}$  tracers added to oak and pine stands under ambient and elevated N inputs at the Harvard Forest (USA). *Forest Ecology and Management*, 196:89-107.
- Magill, Alison H., John D. Aber, **William S. Currie**, Knute J. Nadelhoffer, Mary Martin, William H. McDowell, Jerry M. Melillo, and Paul Steudler. 2004. Ecosystem response to 15 years of chronic nitrogen additions at the Harvard Forest LTER, Massachusetts, USA. *Forest Ecology and Management* 196:7-28.
- Luo, Y., B. Su, **William S. Currie**, J. S. Dukes, A. Finzi, U. Hartwig, B. Hungate, R. McMurtrie, R. Oren, W. J. Parton, D. Pataki, R. Shaw, D. R. Zak, and C. Field. 2004. Progressive nitrogen limitation of ecosystem responses to rising atmospheric carbon dioxide. *BioScience* 54:731-739.
- Aber, John D., Alison Magill, Knute J. Nadelhoffer, Jerry Melillo, Paul Steudler, Patricia Micks, Joseph Hendricks, Richard Bowden, **William S. Currie**, William H. McDowell, and Greg Berntson. 2004. Exploring the process of nitrogen saturation. Pages 259-279 in D. Foster and J. D. Aber, editors. Forests in Time: The Environmental Consequences of 1,000 Years of Change in New England. New Haven: Yale University Press, p. 259-279.
- Aber, John D., **William S. Currie**, Mark Castro, Mary Martin, and Scott Ollinger. 2004. Synthesis and Extrapolation: Models, Remote Sensing and Regional Analysis. Chapter 17 In: Foster, D., and J. Aber (eds.) Forests in Time: The Environmental Consequences of 1,000 Years of Change in New England. New Haven: Yale University Press, p. 338-362.

- Yanai, Ruth D., **William S. Currie**, and Christine L. Goodale. 2003. Soil carbon dynamics following forest harvest: an ecosystem paradigm reconsidered. *Ecosystems* 6:197-212.
- Currie, William S.** 2003. Relationships between carbon turnover and bioavailable energy fluxes in two temperate forest soils. *Global Change Biology* 9(6):919-930.
- Townsend, Philip A., Jane R. Foster, Robert A. Chastain, Jr., and **William S. Currie**. 2003. Application of imaging spectroscopy to mapping canopy nitrogen in forests of the Central Appalachian Mountains using Hyperion and AVIRIS. *IEEE Transactions on Geosciences and Remote Sensing* 41(6):1347-1354.
- Currie, William S.**, Ruth D. Yanai, Kathryn B. Piatek, Cynthia E. Prescott and Christine L. Goodale. 2003. Processes affecting carbon storage in the forest floor and in downed woody debris. Chapter 9 In Kimble, J. M. et al., Eds., The Potential for U.S. Forest Soils to Sequester Carbon and Mitigate the Greenhouse Effect. Lewis Publishers, Boca Raton, FL.
- Currie, William S.** and Knute J. Nadelhoffer. 2002. The imprint of land use history: Patterns of carbon and nitrogen in downed woody debris at the Harvard Forest. *Ecosystems* 5(5):446-460.
- Currie, William S.**, Knute J. Nadelhoffer and Benjamin Colman. 2002. Long-term movement of <sup>15</sup>N tracers into fine woody debris under chronically elevated N inputs. *Plant and Soil* 238:313-323.
- Wullschleger, S. D., R. B. Jackson, **William S. Currie**, A. D. Friend, Y. Luo, F. Mouillot, Y. Pan, and G. Shao. 2001. Below-ground processes in gap models for simulating forest responses to global change. *Climatic Change* 51:449-473.
- Ramsey, Molly, **William S. Currie**, and Madhura V. Kulkarni. 2001. Contrasting pattern and process in natural and rehabilitated ecosystems: The role of microtopography. *Recent Research Developments in Ecology* 1:129-144. Trivandrum, India: Transworld Research Network.
- Currie, William S.** and Knute J. Nadelhoffer. 1999. Dynamic redistribution of isotopically labelled cohorts of nitrogen inputs in two temperate forests. *Ecosystems* 2:4-18.
- Currie, William S.** 1999. The responsive C and N biogeochemistry of the temperate forest floor. *Trends in Ecology and Evolution* 14:316-320.
- Currie, William S.**, Knute J. Nadelhoffer, and John D. Aber. 1999. Soil detrital processes controlling the movement of <sup>15</sup>N tracers to forest vegetation. *Ecological Applications* 9:87-102.
- Currie, William S.**, John D. Aber, and Charles T. Driscoll. 1999. Leaching of nutrient cations from the forest floor: Effects of nitrogen saturation in two long-term manipulations. *Canadian Journal of Forest Research* 29:609-620.
- Moorhead, Darryl, **William S. Currie**, Edward Rastetter, William Parton, and Mark Harmon. 1999. Climate and litter quality controls on decomposition: An analysis of modeling approaches. *Global Biogeochemical Cycles* 13:575-589.
- Aber, John D., William H. McDowell, Knute J. Nadelhoffer, Alison Magill, Greg Berntson, Mark Kamakea, Steven G. McNulty, **William S. Currie**, Lindsey Rustad, and Ivan Fernandez. 1998. Nitrogen saturation in temperate forest ecosystems: Hypotheses revisited. *BioScience* 48:921-934.

- McDowell, William H., **William S. Currie**, John D. Aber, and Yuriko Yano. 1998. Effects of chronic nitrogen amendment on production of dissolved organic carbon and nitrogen in forest soils. *Water, Air and Soil Pollution* 105:175-182.
- Currie, William S.** and John D. Aber. 1997. Modeling leaching as a decomposition process in humid montane forests. *Ecology* 78:1844-1860.
- Hadjimichael, E., **William S. Currie**, and Stavros Fallieros. 1997. The Thomas-Reiche-Kuhn sum rule and the rigid rotator. *American Journal of Physics* 65:335-341.
- Currie, William S.**, John D. Aber, William H. McDowell, Richard D. Boone, and Alison H. Magill. 1996. Vertical transport of dissolved organic C and N under long-term N amendments in pine and hardwood forests. *Biogeochemistry* 35:471-505.
- Currie, William S.**, James N. Galloway, and Herman H. Shugart. 1996. Watershed base-cation cycle dynamics modeled over forest regrowth in a Central Appalachian ecosystem. *Water, Air and Soil Pollution* 89:1-22.
- Merriam, Jeffrey, William H. McDowell, and **William S. Currie**. 1996. A high-temperature catalytic oxidation technique for determining total dissolved nitrogen. *Soil Science Society of America Journal* 60:1050-1055.

## Other Publications

- Bourgeau-Chavez, L., C. Weinstein, S. L. Martin, and **W. S. Currie**. 2020. Outcomes of a workshop on planning for the future of Great Lakes coastal ecosystems. Michigan Technological Research Institute (MTRI), 17 pp.
- Gundersen, P., B. Berg, **W. S. Currie**, N. B. Dise, B. A. Emmett, V. Gauci, M. Holmberg, O. J. Kjønaas, J. Mol-Dijkstra, C. van der Salm, I. K. Schmidt, A. Tietema, W. W. Wessel, L. S. Vestgarden, C. Akselsson, W. De Vries, M. Forsius, H. Kros, E. Matzner, F. Moldan, K. J. Nadelhoffer, L.-O. Nilsson, G. J. Reinds, U. Rosengren, A. O. Stuanes and R. F. Wright. 2006. Carbon-Nitrogen Interactions in Forest Ecosystems – Final Report. Forest & Landscape Working Papers no. 17- 2006, Danish Center for Forest, Landscape and Planning, Hørsholm, Denmark. 62 p.
- Simmons, Jeffrey A. and **William S. Currie**. 2005. Alteration of soil phosphorus pools from coal mining and reclamation. *Annual Proceedings of the West Virginia Academy of Science*, 77(2):31-41 (2005).
- Providoli, Isabel, Harald Bugmann, **William S. Currie** and Patrick Schleppei. 2005. A model-based evaluation of nitrogen cycling in a Norway spruce mountain forest. Chapter 5, p. 83-106 in Providoli, I., Pathways of atmospherically deposited nitrogen in two ecosystems in central Switzerland: An experimental and model-based study using the <sup>15</sup>N isotope. PhD Dissertation ETH No. 15887, Swiss Federal Institute of Technology Zurich.
- Currie, William S.** 2000. Modeling Nutrient Cycling and Decomposition Processes in Forest Vegetation and Soils. In Nolan, R. S. (Ed.), *Electric Biology: Ecosystems*. Published on CD-ROM by Digital Studios, 209 Santa Clara Avenue, Aptos CA 95003.
- Currie, William S.** 2000. Definitions of the 'Ecosystem' Concept. In Nolan, R. S. (Ed.), *Electric Biology: Ecosystems*. Published on CD-ROM by Digital Studios, 209 Santa Clara Avenue, Aptos CA 95003.

**Currie, William S.** 1996. Book review of Fundamentals of Soil Ecology, by D. C. Coleman and D. A. Crossley. *Trends in Ecology and Evolution* 11(9):390-391

### Other Scholarly Products

**Currie, William S.** 2008-2023. MONDRIAN community-ecosystem model (Modes of Nonlinear Dynamics, Resource Interactions And Nutrient cycling), version 5.1. Computer model code in Visual Basic.

**Currie, William S.**, Jason Martina, and Kenneth Elgersma. A User Guide for the MONDRIAN model, version 5.1. 2023. 75 pp.

**Currie, William S.** and David Helmers. 2004. A User Guide for the TRACE Model, version 4.2.0 update 1. 70 pp.

**Currie, William S.** 1997-2004. Tracer Redistributions Among Compartments in Ecosystems (TRACE), Ecosystem model, version 4.2.0. Computer model code in Visual Basic 6.0.

### Synergistic Research Activities (selected)

"AI Horizons: How machine learning and artificial intelligence will shape Great Lakes observations, modeling, and forecasting in the coming decade." Steering Committee, 2024 Summit sponsored by the Cooperative Institute for Great Lakes Research (CIGLR), Ann Arbor, MI.

Eric and Wendy Schmidt AI in Science Postdoctoral Fellowship, a Schmidt Futures Program. Session host, U-M Annual Data Science & AI Summit 2022, November 14-15, 2022.

"Building a Sustainable Water Future for Detroit: Infrastructure, Climate Resilience, Restoration, and Social Equity," workshop co-Organizer and host with 43 participants from U-M and community groups in downtown Detroit, May 12, 2023.

"Low Carbon Building R+D Initiative," workshop co-organizer and host for two workshops with participants from across three U-M schools and colleges. Held at Taubman College of Architecture and Urban Planning, U-M, June 15, 2023 and Nov. 3, 2023.

Environmental Justice and Social Equity in Great Lakes Research and Practice. Session organizer and facilitator, SEAS External Advisory Board, Oct 28, 2022.

Planning for the Future of Great Lakes Coastal Ecosystems. Co-organizer of NASA-funded stakeholder workshop with 27 participants, Ann Arbor, MI, Nov. 4, 2019.

U-M Distinguished Faculty & Graduate Student Seminar Series titled "Climate Change Mitigation: Moving Beyond Carbon Neutral." PI and Co-organizer of seminar series sponsored by the UM Office of Research, 2016-2017.

Upper Midwest and Great Lakes Landscape Conservation Cooperative (UMGL LCC). Member of Northern Forests working group, 2015-2018. Workshop participant, Regional Forest Management Workshops, Rhinelander, WI, May 21, 2014, and Sault Ste. Marie, MI, June 27-29, 2016.

Spatial Land Use Change and Ecological Effects: Land Markets, Land Management, and Land Carbon in Exurban Environments. Co-organizer, NSF-sponsored workshop, May 19-20, 2014, Ann Arbor, MI.

SESYNC (National Socio-Environmental Synthesis Center) Theme Meeting Workshop, Ann Arbor, MI, May 3-4, 2012. Workshop participant.

Stockholm University – University of Michigan Faculty Exchange Award: collaborative research in

residence at the Stockholm Resilience Centre, Stockholm, Sweden, 2010. Project title: Designing ecosystem models for sustainability science.

NCEAS (National Center for Ecological Analysis and Synthesis) working group on meta-analyses and modeling for cross-site comparison of large-scale <sup>15</sup>N studies in forest ecosystems, 2005 - 2006. (Publication, Templer et al. 2012). Working group on progressive N limitation under elevated CO<sub>2</sub>, 2001 – 2002. (Publication, Luo et al. 2004.)

LIDET project (LTER Intersite Decomposition Experiment Team); NCEAS working group to analyze 10-year dataset, 2004. Team member and workshop participant 1993, 1996, 2002, 2004 (Publications, Moorhead et al. 1999, Parton et al. 2007, Harmon et al. 2009, Currie et al. 2010).

Organizer or Co-organizer of two international workshops on synthesis and modeling of forest carbon-nitrogen interactions under elevated N deposition: Workshop at the University of Michigan Biological Station, 2003 (Organizer), and in Woods Hole MA, 2002 (Co-organizer).

CNTER (Carbon and Nitrogen Interactions; a US – European collaborative project sponsored by the European Union); member of scientific team and modeler of C, N, and <sup>15</sup>N across US and European forest sites, 2001 – 2005.

ROCA (Research Opportunities for Collaboration in the Appalachians), project co-organizer, collaborator, and workshop co-organizer, “Watershed Research Workshop,” Appalachian Laboratory, June 1999, 2000, 2001, 2002, 2003.

## University Service

Associate Dean for Research and Engagement, School for Environment and Sustainability (SEAS), 2021-present.

Co-Director, the Eric and Wendy Schmidt Postdoctoral Fellowship Program, a program of Schmidt Futures. Michigan Institute for Data Science, 2022-present.

Associate Dean for Academic Affairs, School of Natural Resources and Environment (SNRE), 2010-2012. Executive Committee, SEAS (*ex officio*) 2010-2012, 2021-present.

Chair, Provost’s Faculty Transition Team for planning a new School for Environment and Sustainability at the University of Michigan, 2016-2017.

Detroit Advisory Group, UM Provost’s Office, 2021-present.

Michigan Institute for Data Science (MIDAS), Management Committee, 2022-present.

Michigan Institute for Data Science (MIDAS) mentor, Future Leaders Summit 2023; presenter, Environmental Data Science bootcamp 2022.

Graham Sustainability Institute, Executive Committee 2019-present. Panelist for Carbon Neutrality Acceleration Program grants 2021.

Tishman Center for Social Justice and the Environment, SEAS, Launch Committee 2022.

Promotion and Tenure Committee, SEAS, 2016-2017, 2018-2019.

SEAS Deans Faculty Mentoring Program, developed and led this new program, 2019 - present.

Space Committee, SEAS, 2019-2021; Chair, 2021 – present.

MiWorkspace Leadership Committee, SNRE, 2015. Centrally-organized university effort to restructure computing and software delivery for staff, faculty, and research and teaching needs.

Chair, Task force on corporate and external engagement, SEAS, 2021-22.

Chair, Scholarship Committee, SNRE, 2010-2012.

Chair, PhD Committee, SNRE, 2010-2012; member, 2004-2006; chair of PhD admissions 2021.

Chair, Field of Study Coordinating Committee, SNRE, 2010-2012.

Chair, Properties Committee, SNRE, 2010-2012; member, 2009. Oversight and management of

University properties including Stinchfield Woods, Newcomb Tract, and Saginaw Forest.  
 Executive Advisory Board (*ex officio*), Erb Institute for Sustainable Enterprise, University of Michigan, 2010-2012.  
 Member, UM Vice Provosts and Associate Deans Group (VPADG), 2010-2012; Associate Deans Group, 2021-present.  
 Founding Co-Director, Envoys Diversity Program, 2011-2012; Chair, task force for diversity program development, 2011.  
 Search Committee (for the U-M Provost's Office), Director, University of Michigan Center for Innovation in Detroit, 2023.  
 Faculty Search Committees, University of Michigan: Spatial Science of Coupled Human-Natural Systems, SEAS, 2018; Economics of Climate Change, SNRE, 2015-2016; Environmental Informatics, SNRE, 2013 and 2016; Sustainable Food Systems, SNRE, 2012; Sustainable Food Systems, Department of Ecology and Evolutionary Biology, 2012; Aquatic Conservation Ecology, SNRE, 2009; Terrestrial Conservation Ecology, SNRE, 2009; Ecologist, Department of Ecology and Evolutionary Biology, 2004-2005. At University of Maryland: Environmental Educator, 2000; Landscape Ecologist, 1998.  
 CRLT (Center for Research on Learning and Teaching at UM) faculty Special Interest Group on Instructional Technology in Learning and Teaching, 2013  
 UM Ginsberg Center External Review, 2012.  
 Curriculum Committee, University of Michigan Biological Station, 2010-2011.  
 UM Senate Assembly, elected representative from SNRE, 2006 – 2009.  
 Specialization (Field of Study) Coordinator, SEAS, Geospatial Data Science 2019-2021, Environmental Informatics 2005-2009, 2015-2016, and 2018-2019; Terrestrial Ecosystems 2008.  
 Graduate Student Instructor Selection Committee, Program in the Environment, University of Michigan 2006, 2008.  
 Steering Committee, SNRE Interdisciplinary Seminar and Workshop Series, 2005.  
 Faculty Advisory Committee, Program in The Environment, University of Michigan 2004 - 2005.  
 Doris Duke Fellowship Selection Committee (ad hoc), SNRE, 2004.  
 Faculty Senator, University of Maryland, 2000 - 2003.  
 Co-chair, Ecology Area of Specialization in the MEES graduate program (Marine, Estuarine, and Environmental Sciences), University of Maryland, 2000 - 2003.  
 Graduate Council, University of Maryland Center for Environmental Science (UMCES), 2001 – 2003.  
 Chair, Graduate Education Committee, UMCES Appalachian Laboratory, 2001 – 2003.  
 Chair, Committee to develop a permanent research station in Maryland, UMCES, 2001.  
 Other committee membership at UMCES, 1997-2003: Computer Committee, Library Committee, Colloquium Committee, Faculty Forum Committee, Faculty Convocation Committee, Space Allocation Committee.  
 Organizer of the Ecosystems Center Seminar Series, Marine Biological Laboratory, 1996.  
 President, Graduate Student Organization, University of New Hampshire, 1994-1995.  
 Graduate Council, graduate student representative, University of New Hampshire, 1994-1995.  
 University President's Cabinet, graduate student representative, University of New Hampshire, 1994-1995.

## Professional service and outreach

*Subject-Matter Editor*, [Ecological Applications](#), 2013 – 2021.  
*Panelist*, US Department of Energy, Office of Energy Efficiency and Renewable Energy, FY20 Bioenergy Technologies Program Panel, June 29, 2020.  
*Collaborator*, Saginaw Bay CISMA (Cooperative Invasive Species Management Area), 2016 – 2018.

*Panelist*, National Academies of Science, Engineering, and Medicine, Gulf Research Program, Research and Development Panel, Washington DC, 2017, 2020.

*Member*, Sustainability Task Force for Scio Township, Michigan, 2021.

*Chair*, review of Editor-In-Chief for Ecological Issues, for the Ecological Society of America, 2015.

*Participant*, Great Lakes Wetland Mapping Workshop, The Nature Conservancy, Grand Rapids, MI, 2015. *Panelist*, National Science Foundation Ecosystem Studies Program, 2004, 2006, 2007, 2008, 2013.

*Panelist*, EPA STAR Grants Program, 2000, 2006, 2013.

*Instructor*, Michigan Math and Science Scholars, a summer program exposing advanced high school students to college-level mathematics and science courses at the University of Michigan; taught a 2-week full-day course in 2006, 2007, 2008, 2009, 2010.

*Co-organizer and Moderator*, Symposium, “Advances in Modeling Coupled Human-Natural Systems for Sustainability,” at the 2007 AAAS (American Association for the Advancement of Science) Annual Meeting, 15-19 February 2007, San Francisco, CA.

*Associate Editor*, Biogeochemistry, 2002 – 2006.

*Session Presider*, “Forest Ecology III, historical and environmental changes”, at the 91<sup>st</sup> Annual Meeting of the Ecological Society of America, Memphis TN, August 2006.

*Panelist*, MISTRA Scientific Review Panel to assess LUSTRA Program (Land Use Strategies to Reduce Greenhouse Gas Emissions). MISTRA Foundation for Strategic Environmental Research, Stockholm, Sweden, 2002.

*SEEDS Diversity Program field trip participant and presenter*, UM Biological Station, 2005; *SEEDS Diversity Mentor* at the Annual Meeting of the Ecological Society of America, 2002.

*Member*, Finance and Investment Committee, Ecological Society of America, 2001 – 2005.

*Session Chair*, “Ecosystem Ecology,” 87th Ann. Meeting of the Ecological Society of America, 2002.

*Session Chair*, “Facilitating the input of data into models and model-data comparisons,” Cary Conference IX, “The Use of Models in Ecosystem Science,” Institute for Ecosystem Studies, Millbrook, NY, 2001.

*Symposium Organizer and Chair*, “Modeling soil N turnover and the availability of inorganic and organic N to forest trees”, for combined annual meeting of the International Society for Ecological Modeling and the Ecological Society of America, August 1999.

*Session Chair*, “Nitrogen cycling,” 83<sup>rd</sup> Ann. Meeting of the Ecological Society of America, 1998.

*Session Chair*, “Biogeochemistry of the Forest Floor,” 81<sup>st</sup> Ann. Meeting of the Ecological Society of America, 1996.

*Organizer*, “Science Safari,” bringing local teachers to the Ecosystems Center at the Marine Biological Laboratory, 1997.

*Peer reviewer* (past 10 years):  
*Biogeochemistry, Ecology, Ecological Applications, Ecological Modelling, Ecosystems, Forest Ecology and Management, Journal of Ecology, Journal of Mountain Science, Nature Climate Change, Oecologia, Global Change Biology*, Austrian Science Fund, U.S. Department of Energy, U.S. Environmental Protection Agency Western Ecology Division, US EPA STAR Grants Program, Great Lakes Integrated Sciences and Assessments (GLISA), NSF Division of Environmental Biology, NSF EPSCoR, NSF Integrative Research Challenges, NSF LTREB (Long-Term Research in Environmental Biology), NSF Physical Oceanography, USDA National Research Initiative Competitive Grants Program, Netherlands Organization for Scientific Research, W. H. Freeman, Pearson, Oxford University Press, Elsevier, Cengage Learning.

## Courses taught

### **Major courses**

“Sustainability Issues in the Great Lakes Region” (Environ 305.004, 3 cr), 2018-2023.

“Ecological Issues” (Environ 201, 4 cr), an undergraduate introductory course in the Program in the Environment (PitE), lectures and 6 discussion sections, 2015-2016.

“Applied Ecosystem Modeling” (NRE 545, 2 cr), graduate interactive-learning course, 2014-2021.

“Landscape Ecology” (NRE 501, 2 cr), graduate lecture course, fall 2014, 2015, winter 2017, 2019, 2020, 2021, 2023.

“Ecology: Science of Context and Interaction” (NRE 509, 4 cr), graduate lecture course with 7 lab sections, SNRE, 2009-2013.

“Biofuels and Sustainability” (NRE 501, 3 cr), graduate lecture course, SNRE, 2013.

“Bio-based Carbon Mitigation and Biofuels” (NRE 501, 3 cr), graduate lecture course, SNRE, 2009.

“Modeling Coupled Human-Natural Systems” (Environ 401, 3 cr), interactive lecture & laboratory course, Program in the Environment, fall 2007, 2008, 2009, winter 2011.

“Ecosystem Modeling and Synthesis” (NRE 501, 3-4 cr), graduate lecture & laboratory course, SNRE, fall 2004, 2005, winter 2008.

“Introduction to Environmental Analysis” (Environ / NRE 239, 4 cr), undergraduate introductory course, lectures and 6 lab sections, Program in the Environment, winter 2004, 2005, 2006.

“Land Margin Interactions”, 4-cr graduate course, including two overnight field trips, University of Maryland Center for Environmental Science (UMCES), 2001-2002.

“Energetics,” 3-cr graduate course, University of Maryland Center for Environmental Science (UMCES), 1999.

### ***Seminar and laboratory courses***

Ecology and Management of Great Lakes Coastal Wetlands (EAS 639, 1 cr), graduate seminar course, SEAS, 2017.

Future scenarios of global food security (NRE 639, 1 cr), graduate seminar course, SNRE, 2013-2014.

Modeling dynamic ecological systems in Stella (NRE 507, 1 cr), graduate computer laboratory course, SNRE, 2011-2013.

Resilience Thinking: Reading case studies of sustainability analysis in human-natural systems (NRE 639, 1 cr), graduate seminar course, SNRE, 2008.

Forest history, disturbance, and management in the Great Lakes region (NRE 639, 1 cr), SNRE, 2006.

Ecosystem Models as Tools for Research and Decision Making (NRE 639, 1 cr), graduate seminar course, SNRE, 2003.

Advanced Ecosystem Modeling (NRE 639, 1 cr) graduate computer laboratory course, SNRE, 2005.

Graduate thesis and proposal writing (1 cr), graduate seminar course, University of Maryland Center for Environmental Sciences (UMCES), 2001.

Biogeochemical and Hydrogeochemical Recovery of Disturbed Watersheds (1 cr), graduate seminar course (co-taught), UMCES, 1999.



Nutrient Dynamics at Landscape Scales (1 cr), graduate seminar course (co-taught), UMCES, 1998.

## Students and postdocs advised

### ***Postdoctoral fellows advised:***

#### University of Michigan

Sean Sharp, 2018-2020  
Preeti Rao (co-advised), 2016-2017  
Zhiyuan Song (co-advised), 2013-2014  
Jason Martina (co-advised), 2012-2014  
Kyle Whittinghill (co-advised), 2010-2011  
Willem W. Wessel, 2005-2006

### ***PhD student committees chaired:***

#### University of Michigan

Liza Jenkins, 2011-2019  
Sarah Kiger, 2009-2020  
Kristine Crous, 2005-2007  
Shanna Shaked, 2004-2005  
Tao Zhang, 2003-2005

### ***PhD student committee membership:***

#### University of Michigan

Bridget Shakya, 2019-  
Benjamin Lee, 2014-2020  
Arthur Endsley, 2014-2019  
John Graham, 2013-2016  
Susan Cheng, 2012-2016  
Hui Xu, 2012-2016  
Elizabeth Entwistle, 2011-2012  
Lauren Cline, 2010-2011  
Jasmine Crumsey-2007-2014  
Derek Robinson, 2006-2009  
John Hassett, 2006-2009  
Irem Daloglu, 2007-2008  
Jason Taylor, 2006-2008  
Yuka Makino, 2005-2008  
Amy Burnicki, 2004-2008  
Nathan Bosch, 2004-2007  
Dan Rucinski, 2007-2008  
Deborah Hudleston, 2006-2007  
Haejin (Jinny) Han, 2005-2006

#### Swiss Federal Institute for Forest, Snow and Landscape Research, Switzerland

Kim Krause, 2008-2012

#### University of Maryland

Chris Welcker, 1999-2002

#### University of New Hampshire

Mark Kamakea, 1996-1998

### ***Masters theses chaired:***

#### University of Michigan

Ye Yuan, 2018-2020  
Erin Barton, 2016-2018  
Lisa Fouladbash, 2011-2013  
Anna Brunner, 2009-2012  
Meghan Hutchins, 2007-2009  
Nicolas Enstice, 2005-2007  
Ari Kahan, 2005-2007  
Alicia Lindauer-Thompson, 2005-2007

#### University of Maryland

Cynthia Giffen (co-advised), 2001-2003  
Madhura Kulkarni, 2001-2003  
Molly McFarland Ramsey, 1999-2002

### ***Masters projects and practica advised:***

#### University of Michigan

Kate Keeley, 2016-2017  
Elliot Kurtz, 2016-2017  
Luxian Li, 2016-2017  
Ed Waisanen, 2016-2017  
Yu Xin, 2016-2017  
Fan Zhang, 2016-2017  
Christina Carlson, 2016-2017  
Sarah Turner, 2016-2017  
Alex Clayton, 2016-2017  
Flora Yifan He, 2016-2017  
Joshua Flickinger, 2016-2017  
Haosong Jiao, 2012-2014  
Nancy Gephart, 2012-2013  
Hannah Erickson, 2012-2013  
Sam Stevenson, 2012-2013  
Abby Goldstein, 2012-2013  
Karly Zimmerman (co-advised), 2011-2013  
Nathan Springer, 2010-2011  
Brian Hartmann, 2010-2011  
Mike Kasameyer, 2010-2011

Russell Martin, 2009-2010

***Masters students advised (non-thesis):***

University of Michigan

Marisa Smedsrud, 2021-present  
Alice Colville, 2021-present  
Journ Galvan, 2021-present  
Jacob Steere, 2021-present  
Ariana Bautista (coadvised), 2021-present  
Austin Crane, 2020-2022  
Daniel Dominique, 2020-2022  
Kaitlyn Frank (co-advised), 2020-2022  
Pradip Shrestha, 2020-2022  
Luke Skowronek, 2020-2022  
Julian Tabron, 2020-2022  
Colin Welk, 2019-2021  
Shannon Blair, 2019-2021  
Sebastian Kasparian, 2019-2021  
Miye Nakashima, 2019-2021  
Anna Urso, 2019-2021  
Joy Yakie, 2018-2020  
Jannice Newson, 2018-2019  
Rong Xu, 2017-2019  
Charlotte Weinstein, 2016-2018  
Alice Elliot, 2016-2018  
Tonghui Ming, 2015-2017  
Fan Zhang, 2015-2017  
Wanqi Ouyang, 2015-2017  
Meghan Bogaerts, 2014-2017  
Stephanie Miller, 2014-2017  
Bo Li, 2014-2016  
Jiawei Huang, 2014-2016  
Zu Dienle Tan, 2014-2016  
Gwen Oster, 2013-2015  
Meghan Hemken, 2013-2015  
Fumi Kikuyama, 2012-2014  
Seta Chorbajian, 2012-2013  
Xu Xin, 2012-2014  
Evan Crane, 2011-2013  
Melody Lopez (co-advised), 2011-2013  
Justin D'Atri, 2011-2012  
Zane Hadzick, 2010-2012  
Kailai Zhang, 2009-2010  
Zachary Brym, 2009  
Katie Pethan, 2008-2011  
Kevin Brown, 2008-2009

William Walters, 2007-2008

Peter Gamberg, 2008-2009

Sharon Gourджи, 2003-2005

***Masters students thesis committee membership or reader:***

University of Michigan

Teegan McClung, 2016  
Benjamin Connor Barrie, 2011-2013  
Joshua Sims, 2011-2013  
Karyl Wentzloff, 2011  
Justin Heslinga, 2009  
Lauren Lesch, 2009-2010

University of Maryland

Timothy Negley, 1999-2001  
Jeremiah Sawma, 1999  
Sarah Hypio, 1998-99

## Presentations (selected)

- Currie, William S.** Plant community dynamics linked to ecosystem biogeochemistry in Great Lakes coastal wetlands: modeling for both basic understanding and management applications. Seminar given at the Great Lakes Environmental Research Laboratory (GLERL), Ann Arbor, MI, January 11, 2024.
- Currie, William S.** Navigating research funding and early-career grantsmanship. Oral presentation given at Michigan Institute for Data Science, Ann Arbor, MI, March 14, 2024.
- Wang, Runzi, Chen Zou, Yuhan Zhou, Yang Chen, and **William S. Currie.** The influence of socioeconomic characteristics and urban form on urban stream phosphorous pollution in the continental U.S. Association of Collegiate Schools of Planning 63<sup>rd</sup> Annual Conference, Miami FL, October 19-21, 2023.
- Shayka, Bridget F., Maximilian H.K. Hesselbarth, Steven R. Schill, **William S. Currie**, Jacob E. Allgeier. The natural capital of seagrass beds in the Caribbean: evaluating their ecosystem services and blue carbon trade potential. Ecological Society of America Annual Meeting. Portland, OR. Aug 6-11, 2023.
- Calvo, Clementina, Kenneth Elgersma, Deborah E. Goldberg, **William S. Currie** and Jason P. Martina. Biotic resistance across a nutrient gradient in experimental wetlands. Presentation at the annual meeting of the Ecological Society of America, August 6-11, 2023, Portland, OR.
- Martina, J.P., R. Ramirez, K.J. Elgersma, Goldberg, D.E., Sharp, S. and **Currie, W.S.** The role of propagule pressure, biotic resistance, and nitrogen loading on invasion dynamics in freshwater coastal wetlands. Presentation at the annual meeting of the Ecological Society of America, August 6-11, 2023, Portland, OR.
- Calvo, Clementina, Michael Battaglia, Laura Bourgeau-Chavez, **William S. Currie**, Kenneth Elgersma, David Hyndman, Anthony Kendall, Michael Sayers, Jason P. Martina. Integrating Systems Models and Remote Sensing to Explore Aquatic Ecosystem Vulnerability to Global Change in Lake Huron. 2023 NASA Carbon Cycle and Ecosystems Joint Science Workshop, May 8-12, 2023, College Park, MD.
- Amaya, J., Horan, E., Elgersma, K., **Currie, W. S.**, Martina, J. Determining native plant recolonization success after invasive plant management using a simulation model. Poster presentation, Texas Society for Ecological Restoration Annual Conference, November 17-19th, 2022, Austin, Texas.
- Currie, William S.** Eric and Wendy Schmidt AI in Science Postdoctoral Fellowship, a Schmidt Futures Program: Session Summary. Oral presentation at the U-M Annual Data Science & AI Summit 2022, November 14-15, 2022, University of Michigan.
- Wang, Runzi, **William S. Currie**, Yang Chen, Chen Zuo, and Yuhan Zuo. Beyond imperviousness— Investigating the influence of urban form and socioeconomic characteristics on urban stream water quality in the Continental United States. Poster presentation, American Geophysical Union Fall Meeting, Chicago, IL, December 12-16, 2022 (anticipated).
- Kyriakakis, Stephanie, Doug Pearsall, Gust Annis, Kirsten Robinson, **William S. Currie**, Laura Bourgeau-Chavez and Mary Ellen Miller. Great Lakes Coastal Wetlands Flood Damage Reduction Modeling. Presentation given at the Joint Aquatic Sciences Meeting, May 14-20, 2022, Grand Rapids, MI.
- Frank, Kaitlyn, Mark Ditmer, David Stoner, **William S. Currie**, and Neil Carter. Landscape predictors of mule deer road crossing behavior in the American Southwest. Oral presentation given at the International Association of Landscape Ecology North America annual meeting, April 11-4,

2022, Virtual.

Frank, Kaitlyn, Mark Ditmer, David Stoner, Neil Carter, and **William S. Currie**. Landscape Predictors of Mule Deer Road Crossing Behavior in the American Southwest. Poster given at The Wildlife Society's 28<sup>th</sup> Annual Conference, 1-5 November 2021, Virtual.

Wang, Runzi, Yuhan Zhou, Theodore Wood, Gang Zhao, Zhongyao Liang, and **William S. Currie**. Development of the Continental Urban Stream Water Quality Dataset towards a socio-ecological framework. Poster presentation, American Geophysical Union Fall Meeting, New Orleans, LA, December 13-17, 2021.

**Currie, William S.** Modeling community-ecosystem interactions and invasive species management in Great Lakes coastal wetlands. Invited departmental seminar given at the University of Maryland Center for Environmental Science, Appalachian Laboratory, Frostburg, MD (remote), 29 April 2021.

Sharp S.J., Elgersma K.J., Martina J.P., Yuan Y., **Currie W.S.** Nutrient loading regime determines N and P limitation and alters ecosystem function in simulated coastal wetlands along a climate change gradient. Poster presentation and lightning talk, American Geophysical Union Fall Meeting (online), December 1-17, 2020.

Yuan, Ye, Jason P. Martina, Kenneth Elgersma, Sean J. Sharp, and **William S. Currie**. Modeling the effects of nitrogen and hydroperiod on greenhouse gas emissions in Great Lakes coastal wetlands. Poster presentation, American Geophysical Union Fall Meeting (online), December 1-17, 2020.

Martina J.P., Elgersma K.J., Goldberg D.E., Sharp S.J. and **Currie W.S.** Tipping the tipping point: After a regime shift to invader dominance can management of high water levels push a wetland community back to a pre-invaded state? Poster presentation, American Geophysical Union Fall Meeting (online) December 1-17, 2020.

Kendall, Anthony D., Michael Battaglia, Laura L. Bourgeau-Chavez, **William S. Currie**, Kenneth J. Elgersma, Deborah E. Goldberg, Quercus F.F. Hamlin, David W. Hyndman, Sherry L. Martin, Jason P. Martina, Sean J. Sharp, Luwen Wan. Connecting landscape-applied nutrients to widespread coastal wetland invasion across the Laurentian Great Lakes. Poster given at the American Geophysical Union Fall Meeting (online), December 1-17, 2020.

Meyer, Abigail, and **William S. Currie**. Clonal branching to occupy space provides increased native resistance to plant invasion: A modeling analysis. Presentation given at Michigan Sea Grant Symposium, Ann Arbor, MI, August 4, 2020.

**Currie, William S.** Modeling a wetland ecosystem as a complex adaptive system. Seminar given at the Center for the Study of Complex Systems, University of Michigan. January 30, 2020.

Sharp, Sean J, Ye Yuan, Anthony Kendall, Kenneth Elgersma, Sherry Martin, Luwen Wan, Jason Martina, and **William S. Currie**. Mapping watershed nitrogen removal in emergent wetlands of the Great Lakes. Poster presentation given at the Stewardship Network Conference, East Lansing, MI, Jan 17-18, 2020.

Martina, J.P., K.L. Elgersma, **William S. Currie**, and D.E. Goldberg. Can invasion be reversed by removing the main driver or has a regime shift occurred? A test case using a simulated wetland ecosystem. Oral presentation given at the Texas Aquatic Plant Management Society Annual Conference. Bryan, TX. November 2019.

Martina, J.P., K.L. Elgersma, **William S. Currie**, and D.E. Goldberg. Can invasion be reversed by removing the main driver or has a regime shift occurred? A test case using a simulated wetland ecosystem. Oral presentation given at the Texas Chapter of the Society of Ecological Restoration. Galveston, TX. November 8-10, 2019.

- Currie, William S.**, Kenneth J. Elgersma, Jason P. Martina, Sean Sharp, and Deborah E. Goldberg. Plant functional traits, community composition, and environmental conditions combine to produce ecosystem-level N cycling dynamics in an individual-based model of wetlands. Oral presentation given at the annual meeting of the Ecological Society of America, August 11-16, 2019 Louisville, KY.
- Martina, Jason P., Kenneth J. Elgersma, Sean Sharp, Deborah E. Goldberg, and **William S. Currie**. Propagule pressure and clonal branching architecture interact along a nitrogen gradient to influence invasion outcomes in a simulated wetland system. Oral presentation given at the annual meeting of the Ecological Society of America, August 11-16, 2019 Louisville, KY.
- Sharp, Sean, Kenneth J. Elgersma, Deborah E. Goldberg, Jason P. Martina, and **William S. Currie**. Disentangling interactions of *Phragmites* invasion, hydrology and nutrient loading helps predict N-removal in freshwater coastal wetlands. Oral presentation given at the annual meeting of the Ecological Society of America, August 11-16, 2019 Louisville, KY.
- Yuan, Ye, Kenneth Elgersma, Jason Martina, Sean Sharp, and **William S. Currie**. Hydroperiod and water level effects on GHG exchanges in Great Lake coastal wetlands. Poster presentation given at the annual meeting of the Ecological Society of America, August 11-16, 2019 Louisville, KY.
- Meyer, Abigail, and **William S. Currie**. Clonal branching effects on biotic resistance in coastal wetlands. Poster presentation given at Michigan Sea Grant Symposium, Ann Arbor, MI, August 2, 2019.
- Bourgeau-Chavez, Laura L., David Hyndman, **William S. Currie**, Deborah E. Goldberg, Kenneth Elgersma, Anthony Kendall, Jason P. Martina, Sherry Martin, Nancy H.F. French, Bruno Basso, Sean J. Sharp, Andrew F. Poley. Human and environmental effects on Great Lakes coastal ecosystems. Poster presentation at NASA LCLUC Spring Science Team Meeting, Rockville, MD, April 9-11, 2019.
- Sharp, Sean, Kenneth Elgersma, Deborah Goldberg, Jason Martina, and **William S. Currie**. Examining the role of hydroperiod, season, and nitrogen loading on denitrification and N-removal rates in Great Lakes coastal wetlands. Oral presentation given at The Science, Practice, & Art of Restoring Native Ecosystems, East Lansing, MI, January 11-12, 2019.
- Martina, Jason P., Kenneth Elgersma, **William S. Currie**, and Deborah Goldberg. Can invasion be reversed by removing the main driver or has a regime shift occurred? A test case using a simulated wetland ecosystem. Oral presentation given at the annual meeting of the Ecological Society of America, New Orleans, LA, August 5-9, 2018.
- Currie, William S.**, Jason Martina, and Kenneth Elgersma. The Mondrian model: Introduction of an interactive web-based tool for Great Lakes coastal wetland management and restoration. Presentation given at Michigan Tech Research Institute, Ann Arbor, MI, June 5, 2018.
- Currie, William S.**, Preeti Rao, and Stephanie Hart. Forest fragmentation and carbon storage along a regional social-ecological gradient. Poster presentation given at the US-IALE annual conference (US Regional Association of the International Association for Landscape Ecology), Chicago, IL, April 9, 2018.
- Currie, William S.** A sustainability science perspective on the regional scale gradient in forest cover in the Upper Midwest and Great Lakes basin. Invited joint seminar given to the Departments of Ecology and Evolutionary Biology and Ecosystem Science and Management, Texas A&M University, College Station, Texas, Feb 26, 2018.
- Bourgeau-Chavez, Laura, Phyllis Higman, and **William S. Currie**. Sharing insights on invasive *Phragmites* management. Oral presentation and panel discussion, The Science, Practice & Art of Restoring Native Ecosystems 2018. East Lansing, MI, January 12-13, 2018.

- Currie, William S.**, Kenneth J. Elgersma, Jason P. Martina, and Laura Borgeau-Chavez. The Mondrian model: a tool to develop an adaptive management framework to restore invaded wetlands. Oral presentation, International Association of Great Lakes Researchers (IAGLR), Detroit, MI, May 15-19, 2017.
- Fischer, Paige, **William S. Currie**, Michal Russo. Assessing Potential To Protect and Enhance Carbon Sinks on Private Forests in the Northern Great Lakes Region. Oral presentation, Beyond Carbon Neutral annual meeting, University of Michigan, April 27, 2017.
- Waisanen, Edward, Kathryn Keeley, Elliot Kurtz, Luxian Li, Yu Xin, Fan Zhang, Douglas Pearsall, and **William S. Currie**. Supporting Conservation and Decision-Making in the Northwoods: Mapping Values, Services, and Threats. Oral presentation, International Association of Great Lakes Researchers (IAGLR), Detroit, MI, May 15-19, 2017.
- Keely, Kathryn, Elliot Kurtz, Edward Waisanen, Luxian Li, Fan Zhang, Yu Xin, and **William S. Currie**. Supporting conservation and decision-making in the Northwoods: Mapping forest values, services, and threats. Webinar given to Upper Midwest and Great Lakes Landscape Conservation Cooperative (UMGL LCC), Northwoods Working Group, April 11, 2016.
- Currie, William S.** The Mondrian model role in the Saginaw Bay CISMA wetland restoration initiative. Phragmites Adaptive Management Webinar, Saginaw Bay CISMA, 20 October 2016.
- Currie, William S.** Modeling nutrient inflows and invasive plants in Great Lakes coastal wetlands. Great Lakes Wetland Mapping Workshop organized by The Nature Conservancy, Grand Rapids, MI, Nov. 17, 2015.
- Currie, William S.** Mapping factors likely to affect forest futures across the Great Lakes basin. Webinar given to Upper Midwest and Great Lakes Landscape Conservation Cooperative (UMGL LCC), Northwoods Working Group, October 8, 2015.
- Currie, William S.**, Laura L Bourgeau-Chavez, Kenneth J. Elgersma, Nancy H. F. French, Deborah E. Goldberg, Stephanie Hart, David W Hyndman, Anthony D Kendall, Sherry L Martin and Jason P. Martina. Nutrient-driven plant invasions in wetlands around the Michigan coastline: using satellite and field data to test a model linkage across scales. Oral presentation given at the 100<sup>th</sup> annual meeting of the Ecological Society of America, August 9-14, 2015, Baltimore, MD.
- Kenneth J. Elgersma, Jason P. Martina, **William S. Currie**, and Deborah E. Goldberg. Native wetland plants provide biotic resistance against non-native cattail invasion in oligotrophic and eutrophic wetlands. Poster presentation given at the 100<sup>th</sup> annual meeting of the Ecological Society of America, August 9-14, 2015, Baltimore, MD.
- Martina, J.P, K.J. Elgersma, **William S. Currie** and D.E. Goldberg. Effectiveness of cattail (*Typha* spp.) management techniques (mowing, burning, and herbiciding) depends on exogenous nitrogen inputs. Oral presentation given at the 100<sup>th</sup> annual meeting of the Ecological Society of America, August 9-14, 2015, Baltimore, MD.
- John B. Graham, John B., Joan Iverson Nassauer, **William S. Currie**, M. Cristina Negri, and Herbert Ssegane. A comparison of two techniques for modeling native bee habitat in alternative future landscapes that incorporate perennial bioenergy crops. Oral presentation given at the 100<sup>th</sup> annual meeting of the Ecological Society of America, August 9-14, 2015, Baltimore MD.

Deborah Goldberg, Deborah G., Jason Martina, Kenneth Elgersma, and **William Currie**. Community consequences of body size in clonal plants. Oral presentation given at the 11<sup>th</sup> Clonal Plant Meeting, August 4-7, 2015, Trebon, Czech Republic.

**Currie, William S.**, Laura L. Bourgeau-Chavez, Kenneth J. Elgersma, Nancy H. F. French, Deborah E. Goldberg, Stephanie Hart, David W. Hyndman, Anthony D. Kendall, Sherry L. Martin and Jason P. Martina. Linking a large-watershed hydrogeochemical model to a wetland community-ecosystem model to estimate plant invasion risk in the coastal Great Lakes region, USA. Oral presentation, AGU Annual Fall Meeting, December 15-19, 2014, San Francisco, CA.

Bourgeau-Chavez, L.L., Miller, M.E., Battaglia, M. Banda, E., Endres, S., **Currie, W.**, Elgersma, K.J., French, N.H.F., Goldberg, D. E., and Hyndman, D.W. 2014. Developing Remote Sensing Products for Monitoring and Modeling Coastal Great Lakes Wetland Vulnerability to Climate Change and Land Use. Poster presentation, AGU Annual Fall Meeting, Dec. 15-19, 2014, San Francisco, CA.

**Currie, William S.** and Stephanie K. Hart. Agriculture, forestry, and human settlements drive a regional gradient in forest fragmentation in the Great Lakes basin, USA. Oral presentation given at the annual meeting of the Ecological Society of America, August 10-15, 2014, Sacramento, CA.

Brown, Daniel, Shipeng Sun, **William S. Currie**, Joan Nassauer, Scott Page, Dawn Parker, Rick Riolo, Derek Robinson, and Sarah Kiger. Linking Land Markets and Landscape Carbon in Exurban Development. Presentation given at the Global Land Project, Berlin, Germany, March 19-21, 2014.

Song, Zhiyuan, **William S. Currie**, Arun Agrawal, and Allison Steiner. Modeling the dynamic pattern of household-based forest use driven by labor availability in rural communities of developing countries. Oral presentation given at the American Association for the Advancement of Science (AAAS) Pacific Division 95th Annual Meeting, University of California, Riverside, June 17-20, 2014.

Brown, Daniel G., **William S. Currie**, Sarah E. Kiger, Joan I. Nassauer, Scott E. Page, Dawn C. Parker, Rick L. Riolo, and Shipeng Sun. Modeling social and ecological processes and carbon outcomes in exurban landscapes. Oral presentation given at the annual meeting of the Ecological Society of America, August 10-15, 2014, Sacramento, CA.

Martina, J.P., **William S. Currie**, D.E. Goldberg, K.L. Elgersma. Investigating the major drivers of C storage in coastal wetlands using a simulation model: Do plant invasions matter? Invited oral presentation given at the Joint Aquatic Sciences Meeting, Portland, OR, May 18-23, 2014.

Elgersma, Kenneth J., Jason P. Martina, Deborah E. Goldberg, and **William S. Currie**. Assessing ecosystem services provided by restored wetlands under current and future land-use scenarios. Poster presentation at the UM Water Center Conference, June 24-25, 2014, Ann Arbor, MI.

Martina, Jason P., **William S. Currie**, Deborah E. Goldberg, and Kenneth J. Elgersma. Physiological trait variation in plant invaders influences invasion success and C cycling across a hydrology and nitrogen gradient in a simulated wetland ecosystem. Oral presentation given at the annual meeting of the Ecological Society of America, August 2014, Sacramento, CA.

**Currie, William S.**, Daniel G. Brown, Sarah Kiger, Joan I. Nassauer, and Derek T. Robinson. Scaling up



- carbon storage in human-dominated heterogeneous landscapes in the Great Lakes region. Annual fall meeting of the American Geophysical Union, Dec. 9-13, 2013, San Francisco, CA.
- Kiger, Sarah and **William S. Currie**. Modeling ecosystem processes in the human-dominated exurban landscape. Oral presentation given at the annual meeting of the Ecological Society of America, August 4-9, 2013, Minneapolis, Minnesota.
- Elgersma, Kenneth J., Ai Wen, Tomas Herben, **William S. Currie**, and Deborah E. Goldberg. Estimating dynamic allocation to clonal plant growth using static measurements. Oral presentation given at the annual meeting of the Ecological Society of America, August 4-9, 2013, Minneapolis, Minnesota.
- Martina, Jason P., **William S. Currie**, Deborah E. Goldberg, and Kenneth J. Elgersma. Interactive effects of invasion and hydrology influence C storage along a nitrogen gradient in a simulated clonal wetland ecosystem. Oral presentation given at the annual meeting of the Ecological Society of America, August 4-9, 2013, Minneapolis, Minnesota.
- Parker, Dawn, Dan Brown, Joan Nassauer, **William S. Currie**, Rick Riolo, Scott Page, Shipeng Sun, Megan Hutchins, Derek Robinson, Sarah Kiger, Tatiana Filatova, Qingxu Huang. The SLUCE2 project: A complex system approach to modeling exurban development trajectories and terrestrial carbon sequestration in Southeastern Michigan, USA. Oral presentation given at the 2013 Annual Meeting of the American Association of Geographers, Los Angeles, CA, , April 9-13, 2013.
- Fouladbash, Lisa, and **William S. Currie**. Agroforestry in Liberia: Exploring Rural Practices, Perceptions and Potential through a Household Survey. Oral presentation given a the 45th annual Liberian Studies Association conference, April 4-7, 2013, Rutgers University, New Brunswick, NJ.
- Visscher, Rachel, Joan I. Nassauer, Daniel G. Brown, **William S. Currie**, and Rick R. Riolo. Carbon-cycle Ecosystem Service Implications of Resident Behaviors for Exurban Residential Landscapes. Oral presentation given at the 19th International Symposium on Society and Resource Management (ISSRM), June 4-8, 2013, Estes Park, CO.
- Currie, William S.**, Daniel G. Brown, Anna Brunner, Lisa Fouladbash, Zane Hadzick, Meghan Hutchins, Sarah E. Kiger, Yuka Makino, Joan I. Nassauer, Derek T Robinson, Rick L. Riolo, Shipeng Sun. Incorporating Ecosystem Processes Controlling Carbon Balance Into Models of Coupled Human-Natural Systems. Poster presentation given at the annual meeting of the American Geophysical Union, December 3-7, 2012, San Francisco CA.
- Brown, Daniel G., Shipeng Sun, **William S. Currie**, Joan I. Nassauer, Scott E. Page, Dawn C. Parker, Rick L. Riolo. An Integrated Model of Market-Driven Dynamics of Carbon in Exurban Landscapes. Oral presentation given at the annual meeting of the American Geophysical Union, December 3-7, 2012, San Francisco CA.
- Currie, William S.**, Deborah E. Goldberg, and Jason Martina. Exploring interwoven cause and effect in nutrient cycling, plant size, and invasion success in a wetland community-ecosystem model. Oral presentation given at North Central Regional Conference, Society of Wetland Scientists, September 28-30, 2012, Indiana Dunes National Lakeshore, IN.
- Martina, Jason P., **William S. Currie**, and Deborah E. Goldberg. The interaction between litter, N loading, and allocation requirement determines invader success in a simulated clonal wetland ecosystem. Oral presentation, North Central Regional Conference, Society of Wetland

Scientists, September 28-30, 2012, Indiana Dunes National Lakeshore, IN.

Goldberg, Deborah E., Kenneth Elgersma, **William S. Currie**, Jason Martina. Building an integrated program to understand wetland plant invasions. Oral presentation given at North Central Regional Conference, Society of Wetland Scientists, September 28-30, 2012, Indiana Dunes National Lakeshore, IN.

**Currie, William S.** Scenario modeling of social-ecological system responses to external economic contact in a Himalayan forest and village. Poster presentation given at Resilience, Innovation and Sustainability: Navigating the Complexities of Global Change; Second International Science and Policy Conference, March 11-16, 2011, Tempe AZ.

**Currie, William S.** and Deborah E. Goldberg. Interwoven cause and effect in nutrient cycling, plant size, and invasion success in a simulated clonal wetland ecosystem. Oral presentation given at the annual meeting of the International Association of Vegetation Science, Lyon, France, June 19-24, 2011.

Kiger, Sarah, **William S. Currie**, and Meghan Hutchins. Linking an ecosystem process model to ecosystem services. Poster presentation given at the 96th annual meeting of the Ecological Society of America, Austin, TX, August 7-11, 2011.

Whittinghill, Kyle A., **William S. Currie**, Donald R. Zak. Using an ecosystem process model to examine effects of increased nitrogen deposition on soil carbon storage through decreased decomposition. Oral presentation given at the 96<sup>th</sup> annual meeting of the Ecological Society of America, Austin, TX, August 7-11, 2011.

**Currie, William S.** Interwoven cause and effect in nutrient cycling, plant size, and invasion success in a simulated clonal wetland ecosystem. Invited seminar given at the Swiss Institute for Snow and Landscape Research, Birmensdorf, Switzerland, June 28, 2011.

Kiger, Sarah and **William S. Currie**. Linking an Ecosystem Process Model to Ecosystem Services. Poster presentation given at meeting of ACES (A Community on Ecosystem Services), Chandler, AZ, 6-9 December 2010.

Hutchins, Meghan D., **William S. Currie**, Rick Riolo and Joan I. Nassauer. Trajectories of carbon storage in low-density residential landscapes: an agent-based modeling approach to study emergence at the neighborhood scale. Illustrated Paper given at the 2010 Annual Meeting of the American Association of Geographers, Washington DC, April 14-18, 2010.

Lesch, Lauren, Joan I. Nassauer, **William S. Currie**. Strategies for enhancing carbon sequestration in human dominated landscapes. Poster given at the annual meeting of the US section of the International Association of Landscape Ecology (US-IALE), Athens, GA, 5-9 April 2010.

Brown, Daniel G., Derek T. Robinson, Dawn C. Parker, Tatiana Filatova, Rick Riolo, Shipeng Sun, Meghan Hutchins, **William S. Currie**, and Joan I. Nassauer. A computational framework for integrated modeling of land system interactions in exurban Michigan. Presentation given at the Ester Boserup conference 2010, "Long-term trajectories in population, gender relations, land use, and the environment." Vienna, Austria, Nov. 15-17, 2010.

**Currie, William S.** Carbon, Kyoto, Ecosystem Processes and Mitigation Activities. Invited departmental seminar (graduate colloquium series) given at the Department of Geography, Northern Illinois

University, De Kalb IL, April 2009.

Lindauer-Thompson, Alicia, and **William S. Currie**. The potential use of models as decision support tools in Michigan state forest management: assessing the interplay of carbon storage with other management goals. Oral presentation given at the annual meeting of the American Association of Geographers, Boston, MA, April 2008.

Goldberg, Deborah E., **William S. Currie**, Radka Wildova, and Emily C. Farrer. Coexistence and dominance of introduced plants in marshes: the importance of clonal traits and plant size along nutrient gradients. 9th Clonal Plant Workshop, Clonal plants: beyond the patterns - ecological and evolutionary dynamics of asexual reproduction, Leuven, Belgium, June 2009.

**Currie, William S.**, K. S. Hofmockel, R. B. Jackson, A. S. Gallet-Budynek, and A. C. Finzi. More rapid acquisition of N in forest trees growing under elevated CO<sub>2</sub>. II. Modeling increased plant N demand and sources for N uptake at the Duke FACE site. Oral presentation given at the 91<sup>st</sup> meeting of the Ecological Society of America, Memphis, TN, August 2006.

Robinson, Derek T., Brown Daniel G., and **William S. Currie**. Linking Ecosystem and Land-Use Process Models: A Way Forward. Presented at the annual meeting of the American Association of Geographers (AAG), Chicago, IL, March 7-11, 2006.

**Currie, William S.** Dynamics in the ratios of nitrogen isotopes in ecosystem experiments: Modeling for numbers, and modeling for understanding. Invited seminar given at the University of Colorado at Boulder in the Ecology & Evolutionary Biology Colloquium Series, 2004.

**Currie, William S.** Legitimate purposes for ecosystem models. Invited seminar in the Biogeochemistry and Environmental Biocomplexity Seminar Series, Cornell University, 2004.

Gundersen, Per, Bjorn Berg, **William S. Currie**, et al. (15 co-authors). Carbon - Nitrogen interactions in forest ecosystems: constraints on soil C-sequestration and N-retention. Poster given at N2004, the 3rd International Nitrogen Conference, Nanjing, China, October 2004.

**Currie, William S.** Interpreting the redistributions of <sup>15</sup>N tracers in forests using a biogeochemical process model. Invited seminar given at the Danish Center for Forest, Landscape, and Planning, Copenhagen, Denmark, 2001.

**Currie, William S.** and Knute J. Nadelhoffer. Decadal-scale C/N interactions in temperate forests assessed with <sup>15</sup>N tracer redistributions. Given at N2001, the 2<sup>nd</sup> International Nitrogen Conference, Potomac, MD, 2001.

Eshleman, K. N., T. L. Negley, **William S. Currie**, M. S. Castro, M. Ramsey, C. J. Giffen. Comparative analysis of hydrological responses of surface-mined and forested watersheds in western Maryland, U.S.A. Given at the 11th Stockholm Water Symposium, Stockholm, Sweden, 2001 (winner of Best Poster Award).

**Currie, William S.** Coupling and decoupling of carbon and nitrogen cycles in temperate forests. Invited keynote address given at the "Workshop on nitrogen deposition to and cycling in forest ecosystems and linkages to carbon sequestration," held at Indiana University, 1999.

**Currie, William S.** Dissolved organic nitrogen in forest soils: its production and role in the N cycle across a heterogeneous landscape. Invited seminar given at the Norwegian Institute for Water Research, Oslo, Norway, 1996.