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AUDREY L. MAYER, PH.D.

Associate Professor in Ecology and Environmental Policy
Michigan Technological University
School of Forest Resources and Environmental Sciences & Department of Social Sciences
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EDUCATION:

2000 Ph.D., University of Tennessee, Knoxville.

Major: Ecology and Evolutionary Biology (minor in Environmental Policy)

Dissertation: Cape Sable seaside sparrow (*Ammodramus maritimus mirabilis*) habitat and the Everglades: Ecology and conservation.

1994 B.A., Pomona College, Claremont, California.

Major: Biology/Public Policy Analysis

Theses: Habitat selection of the California gnatcatcher (*Polioptila californica*); The Natural Communities Conservation Plan: A problematic solution to species conservation.

POSITIONS HELD:

2012-present Associate Professor of Ecology and Environmental Policy, Michigan Technological University

2016-2017 Visiting lecturer (sabbatical leave), Pomona College

2009-12 Assistant Professor of Ecology and Environmental Policy, Michigan Technological University

2007 Docent (Adjunct Professor) in Environmental Policy, University of Helsinki

2007-08 Researcher, University of Helsinki, Faculty of Biosciences

2006 Researcher, University of Tampere, School of Economics and Business Administration

2002-06 Ecologist, US Environmental Protection Agency, Office of Research and Development, National Risk Management Research Laboratory, Sustainable Technologies Division, Sustainable Environments Branch

2002-06 Adjunct Assistant Professor, University of Cincinnati, Department of Biological Sciences

2001-02 Post-doctoral Research Associate, USEPA, ORD, NRMRL, STD, SEB

2000-01 Post-doctoral Research Associate, University of Cincinnati, Department of Biological Sciences

1994-95 Research Assistant, Pomona College, Department of Biology

TEACHING EXPERIENCE:

Michigan Technological University

(*ENG=Engineering, FW=Forestry and Wildlife, SS=Social Sciences, UN=University-wide*)

ENG5540: Sustainable Biofuel Pathways (Fall 2014)

FW4380: Landscape Ecology and Planning (Spring 2010, 2012, then every spring 2014-2016)

FW5760: Graduate Tropical Forestry (Fall 2013, Spring 2015)

FW5780: Agroforestry (Spring 2016, 2017)

FW4810: Integrated Resource Assessment (Senior Capstone) (Fall 2011, 2012)

SS3930: Environmental Issues (Fall 2009)

SS/FW3313; SS5313: Sustainability Science, Policy and Assessment (Spring 2011, 2013, 2015)

SS3300: Environmental Problems (Every Spring 2009-2014, then every Fall 2014-2015)

SS5310: Ecological Economics (Fall 2013, 2015)

UN1001: Developing a Sustainability Mindset (Fall 2009, 2010)

Pomona College

BIOL51: General Biology (Instructor, Spring 1995)

EA10: Introduction to Environmental Analysis (Visiting Lecturer, Fall 2016)

BIOL104: Conservation Biology (Visiting Lecturer, Spring 2017)

University of Helsinki

“Natural scientific literature on environmental protection”, University of Helsinki (Spring 2007)

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University of Cincinnati (BS=Biological Sciences)

BS604: Ornithology (Fall 2003)

“Foundations of Ecology” graduate seminar (Fall 2002)

“All about birds”, University of Cincinnati – Communiversity (Fall 2001 and 2002)

University of Tennessee, Knoxville (Graduate Teaching Assistant, Fall 1995 through Fall 1999)

“General Ecology”, “Conservation Biology”, “Field Ornithology”, “Biodiversity”, “General Biology”

Tutor: biology, ecology, genetics and animal sciences, Women’s Athletic Department (Fall 1996 through Spring 1998)

GRANTS AND PROJECT MANAGEMENT:

- 2014-16 Mayer AL. USDA Forest Service, McIntire-Stennis, \$4666, “Spatial patterns of forest values for bioenergy production in the Western Upper Peninsula of Michigan.”
- 2012-17 Shonnard DR (PI), (Co-PIs) Ezra Bar Ziv, AL Mayer, Jeffrey Naber, Andrew Burton. National Science Foundation, \$1,800,000: “Sustainable Forest-Based Biofuel Pathways to Hydrocarbon Transportation Fuels: Biomass Production, Torrefaction, Pyrolysis, Catalytic Upgrading, and Combustion.”
- 2012-16 Angelstam P (PI), (Co-Is) T Beckley, G Chiasson, M Elbakidze, P Grahn, I Jönsson, A Khoroshev, AL Mayer, I Särilöv-Herrlin, E Skärbäck, H Sverdrup. FORMAS (Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning), 25,000,000 SEK: “Green infrastructures for ecological sustainability and human well-being: A network of forest, rural and urban landscapes as laboratories for integrative research.”
- 2013-14 Rouleau MD (PI), (Co-PIs) AL Mayer and R Winkler. National Science Foundation, \$80,000: “Self-Regulated Forest Sustainability: A Simulation and Sociological Analysis of Voluntary Incentive Programs.”
- 2012-14 Shonnard DR (PI), (Co-PIs) KE Halvorsen, BD Solomon, SE Sweitz; (Senior Personnel) AL Mayer et al. National Science Foundation, \$749,996: “A Research Coordination Network on Pan American Biofuels and Bioenergy Sustainability.”
- 2011-12 Mayer AL (PI). Oak Ridge Associated Universities, Ralph E. Powe Award, \$5,000: “Regional-scale impacts of bioenergy and carbon sequestration policies for nonindustrial private forest owners in Michigan and Tennessee.”
- 2010-13 Mayer AL. USDA Forest Service, McIntire-Stennis, \$25,667, “Correlating change in landscape scale carbon storage through shifting forest ownership and management goals.”
- 2010-11 Mayer AL. Earth and Space Foundation, £500, “Identifying regional-scale self-organized patchiness in ecosystems using remote sensing imagery.”
- 2010-11 Mayer AL (PI), MD Rouleau (Co-PI). MTU Research Excellence Fund - Scholarly and Creative Grant, \$11,000, “Computer simulation of private forest owner behavior in a forested UP landscape.”
- 2010-11 Mayer AL (PI). Michigan Space Grant Consortium Research Seed Grant, \$5000, “Identifying regional-scale self-organized patchiness in ecosystems using remote sensing imagery.”
- 2009 Mayer AL (PI). MTU Research Excellence Fund Seed Grant, \$5450, “Using data from Second Life to develop and test sustainability indices.”
- 2009-11 Mayer AS (PI), Senior Personnel AL Mayer et al. US Agency for International Development, \$250,000, “Enhancing the Capacity for Sustainable Forest Management and Ecosystem Service Provisioning in Chiapas and Oaxaca.”
- 2007-08 Kauppi PE (PI), (Co-PIs) AL Mayer and PM Tikka. Nordic Forest Research Cooperation Committee, €12,000 for workshop support.
- 2006-07 Kauppi PE (PI), (Co-PIs) AL Mayer and PM Tikka. Nordic Forest Research Cooperation Committee, €12,000 for workshop support.
- 2006-08 Kauppi PE (PI), (Co-PIs) AL Mayer and PM Tikka. Academy of Finland, €302,680, “Bumerangi-hypoteesin” testaus: Luoteis-Venäjä metsien [Testing the “boomerang hypothesis”: focus on northwestern Russian forests].
- 2003-05 Mayer AL (Project Officer). USEPA, \$45,000 contract for international meeting to develop statistical approaches for the identification of dynamic regime shifts.
- 2002-06 Mayer AL (Project Officer, PI), WD Shuster (PI), HW Thurston (PI). USEPA, Multidisciplinary approach to stormwater management at the watershed scale; biological identification contracts, \$115,000.
- 2002-06 Mayer AL (Project Officer, PI), M White, C Maurice and H Cabezas. USEPA’s RARE grant program with USEPA Region 5 – Chicago, identifying critical ecosystems using GIS and theoretical approaches and developing rapid assessment protocols, \$230,000.
- 2002-06 Mayer AL (Project Officer). USEPA, \$60,000 contract for Dr. Roy Frieden (University of Arizona).
- 2001 Mayer AL (PI), L Peyton (Co-PI). Ohio Department of Natural Resources, \$2000, “Spring and fall migratory bird kills at communication towers in southwest Ohio.”

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1998 Mayer AL (PI). University of Tennessee's Scholarly Activities Research Incentive Fund, \$3000.

AWARDS AND HONORS:

Research

2011: Ralph E. Powe Junior Faculty Enhancement Award, Oak Ridge Associated Universities
2007: Scientific and Technological Achievement Award (with H Thurston, CW Pawlowski), USEPA
2005: Superior Accomplishment Recognition Award, USEPA
2005: Scientific and Technological Achievement Award (with H Cabezas, CW Pawlowski, NT Hoagland), USEPA
2004: Superior Accomplishment Recognition Award, USEPA
2003: Team Achievement Award, USEPA
2002: Superior Accomplishment Recognition Award, USEPA
1999: Science Alliance Graduate Student Award of Excellence, University of Tennessee
1996: National Science Foundation Graduate Fellowship – Honorable Mention
1994: Vaile Prize in Biology, Pomona College

Teaching

2013: Top 10% of Michigan Tech instructors based on student evaluation forms (Spring 2013, Fall 2013)
1999: Graduate Teaching Assistant Merit Award, University of Tennessee

PROFESSIONAL SOCIETIES AND CERTIFICATIONS:

American Association for the Advancement of Science, Ecological Society of America, International Association for Landscape Ecology, Society of the Sigma Xi, Society for Human Ecology.

Certified Senior Ecologist (Ecological Society of America)

LEADERSHIP, SERVICE AND ADMINISTRATION:

Professional:

- 2016-2018: Program Co-Chair, US-IALE Annual Conference in Chicago, IL, April 2018
- 2015-2017: USEPA Science Advisory Board, STAA committee
- 2016-present: Chair, Policy Working Group, International Association for Landscape Ecology
- 2013-present: Chair, Policy Committee, US-International Association for Landscape Ecology
- 2011-present: Curriculum Technical Advisor, Association for the Advancement of Sustainability in Higher Education (AASHE) STARS program
- 2012-2014: Councilor-At-Large, US-International Association for Landscape Ecology
- September 2010: Regional consultant, United Nations Environment Programme GEO+5 report
- 2005: Conference organizing committee, “Green Makeover: Retrofitting sites in urban areas to enrich city environments”, 19-20 October 2005, Milwaukee, Wisconsin. Hosted by the USEPA, the Wisconsin Department of Natural Resources, and the University of Wisconsin – Milwaukee.
- 2003-2005: Steering committee member, Ohio Bird Conservation Initiative
- 1998-1999: Secretary, Southern Appalachian chapter of the Society for Conservation Biology
- 1994-1995: Technical advisor, Claremont Colleges land development committee

University (Michigan Tech):

- 2015-present: Coordinator, Course facilitator (2012-2015), Diversity Literacy Workshop program
- 2014-2016: Co-Director, Women In Science and Engineering (WISE) faculty organization
- 2014-2015: Member of Provost search committee
- 2013-present: Associate Director, Sustainable Futures Institute
- 2013-present: Coordinator, Peace Corps Master’s International Program in Forestry, (<http://forest.mtu.edu/pcforestry/>)
- 2013-2015: Committee on Academic Tenure, Promotion and Reappointment, chair (2015)

Journals and Funding Programs:

- Editorial Board: *Landscape and Urban Planning* (2014-present), *Sustainability* (2015-present), *Land* (2016-present; also serve on Travel Award Evaluation Committee)

- Special issues of journals:
 - Guest Editor, “Landscape Dynamics of Family Forest Owners”, *Landscape and Urban Planning*, in progress.
 - Guest Co-Editor (with WD Shuster and A Garmestani), “Sustaining the shrinking city: Concepts, dynamics and management” *Sustainability* 8(9), 2016.
 - Guest Editor, “Ecosystem function and land use change,” *Land* 4(1), 2015.
 - Guest Ad Hoc Co-Editor, “Learning for sustainable use of natural resources in Europe’s East and West: landscapes with different histories and governance systems as laboratories,” *Ambio* 42(2):2013.
 - Guest Editor, “Remote Sensing in Support of Environmental Policy,” *Remote Sensing* 3(6), 2011.
- Journal reviewer: *Biological Conservation; Biology Letters; BioScience; Clean Technologies and Environmental Policy; Community Development; Conservation Letters; Ecological Applications; Ecological Economics; Ecological Indicators; Ecology and Society; Ecosphere; Ecosystem Services; Entropy; Environment, Development and Sustainability; Environmental Conservation; Environmental Management; Environmental Monitoring and Assessment; Environmental Science and Policy; Forests; Frontiers in Ecology and the Environment; Global Environmental Change; International Journal of Ecological Economics and Statistics; International Journal of Environmental Policy and Public Health; International Journal of Sustainable Development; Journal of Applied Ecology; Journal of Environmental Management; Journal of Field Ornithology; Journal of Forestry; Journal of Cleaner Production; Journal of Industrial Ecology; Journal of the North American Benthological Society; Land Use Policy; Landscape and Urban Planning; Mitigation and Adaptation Strategies for Global Change; Northern Journal of Applied Forestry; Open Journal of Forestry; Oryx; PLOS ONE; Policy Sciences; Science; Social Science Research; Sustainability; Sustainability Science; TheScientificWorldJournal-Ecology; Wetlands Ecology and Management.*
- Grants reviewer: (US) National Science Foundation, US Environmental Protection Agency, US Department of Agriculture, National Academy of Sciences (with US Agency for International Development), Canada Foundation for Innovation, Israel Science Foundation, Natural Environment Research Council (NERC) – UK, Netherlands Organization for Scientific Research (NWO), National Science Centre – Poland.

ADVISING:

- *Post-doctoral researchers — Advisor*
 - Dr. Allison Roy (2004-2006), U.S. Environmental Protection Agency
- *Graduate students — Major Advisor (Total = 12 at Michigan Tech)*
 - Ph.D.:
 - Azad Henareh Khalyani (2012, Forest Science)
 - SM Mizanur Rahman (2016, Environmental and Energy Policy)
 - Ashma Vaidya (2016, Environmental and Energy Policy)
 - Stacy Cotey (in progress, Forest Science)
 - Hongmei Lu (in progress, Environmental and Energy Policy)
 - M.S.:
 - Jillian Schubert (2011, Environmental and Energy Policy)
 - Aino Virtanen (2012, co-advised with Anne Toppinen at University of Helsinki, Forest Ecology and Management)
 - Jennifer Lind Riehl (2015, Environmental and Energy Policy)
 - Xuna Yang (2015, Environmental and Energy Policy)
 - Saska Lohi (2015, co-advised with Kari Heliövaara at University of Helsinki, Forest Ecology and Management)
 - Aric Devens (in progress, PCMI-Forestry)
 - Rhiley Allbee (in progress, PCMI-Forest Ecology and Management)
- *Graduate students — Committee Member (Total = 17 at Michigan Tech)*
 - Environmental Policy/ Environmental and Energy Policy: Karl Makinen (2010, MS), Courtney Goss (2011, MS), Naima Khan (2015, MS), Amanda Kreuze (2015, MS), Zoë Coombs (in progress, MS), Mayra Sanchez Gonzales (in progress, Ph.D.), Robert Zupko (in progress, Ph.D.)
 - Forestry: Brian Barbre (2013, MS-PCMI), Samuel Clair (2016, MS-PCMI), Robin Clark (in progress, PhD in Forest Science)
 - Civil & Environmental Engineering: Lauren Fry (2010, Ph.D.), Bradley Weiss (2016, MS-PCMI), Chase West (in progress, MS-PCMI)
 - Chemical Engineering: LiLu Funkenbusch (in progress, Ph.D.), Olumide Winjobi (in progress, Ph.D.)
 - Rhetoric & Technical Communication: Katie Snyder (2016, Ph.D.)
- *Visiting Graduate Scholar Advisor*

Bo Mu (2014), Yanfang Hu (2014-2015), Tian Bai (2016-2017): Ph.D. in Landscape Architecture, Henan Agricultural University, China (advisor: Prof. Guohang Tian)

- *Master's students — Mentor (all 2006-2007)*
Annukka Luomi, Noora Nieminen, Leena Nukari, M.S. program in Environmental Science, University of Helsinki

PEER-REVIEWED PAPERS:

*(Students, postdoctoral researchers, visiting graduate scholars denoted by *.)*

56. Hopton ME, A Berland, GN Cameron, KM Hinkel, AL Mayer. *Submitted*. Environmental and anthropogenic indicators of species richness of terrestrial vertebrates and species of concern: uses for conservation planning at a state level. *Land*.
55. Rahman SMM*, C Schelly, ES Norman, AL Mayer. *Submitted*. Breaking ships to build a nation: Uncovering discursive framings of the Bangladesh shipbreaking industry. *Environmental Sociology*.
54. Mu B*, HW Li, AL Mayer, RZ He, GH Tian. 2017. Dynamic changes of green-space connectivity based on remote sensing and graph theory: a case study in Zhengzhou, China. *Acta Ecologica Sinica* 37(14):13pp. [In Chinese]
53. Lind-Riehl J*, AL Mayer, AM Wellstead, O Gailing. 2016. Hybridization, agency discretion, and the implementation of the Endangered Species Act. *Conservation Biology* 30(6):1288-1296.
52. Vaidya A* and AL Mayer. 2016. Critical review of The Millennium Project in Nepal. *Sustainability* 8(10):1043; doi: 10.3390/su8101043.
51. Vaidya A* and AL Mayer. 2016. Criteria and indicators for a bioenergy production industry via stakeholder participation. *International Journal of Sustainable Development and World Ecology* 23(6):526-540.
50. Vaidya A* and AL Mayer. 2016. Use of multiple criteria analysis to develop a regional assessment tool for bioenergy production. *Biomass and Bioenergy* 94:1-11.
49. Rahman SMM* and AL Mayer. 2016. Policy compliance recommendations for international shipbreaking treaties for Bangladesh. *Marine Policy* 73:122-129.
48. Rahman SMM*, R Handler, AL Mayer. 2016. Life Cycle Assessment of steel in the ship recycling industry in Bangladesh. *Journal of Cleaner Production* 135:963-971.
47. Rouleau MD, JF Lind-Riehl*, MN Smith*, AL Mayer. 2016. Failure to communicate: Inefficiencies in voluntary incentive programs for private forest owners in Michigan. *Forests* 7(9):199; doi:10.3390/f7090199
46. Mu B*, AL Mayer, R He, G Tian. 2016. Land use dynamics and policy implications in Central China: a case study of Zhengzhou. *Cities* 58:39-49.
45. Mayer AL, B Buma, A Davis, SA Gagné, EL Loudermilk, R Scheller, F Schmiegelow, Y Wiersma, J Franklin. 2016. How landscape ecology informs global land-change science and policy. *BioScience* 66(6):458-469.
44. Rahman SMM* and AL Mayer. 2015. How social ties influence metal resource flows in the Bangladesh ship recycling industry. *Resources, Conservation and Recycling* 104(A):254-264.
43. Kline KL, FS Martinelli, AL Mayer, R Medeiros, COF Oliveira*, G Sparovek, ACS Walter, and L Venier. 2015. Bioenergy and biodiversity: Key lessons from the Pan American region. *Environmental Management* 56(6):1377-1396.
42. Hu Y*, G Tian, AL Mayer, R He. 2015. Risk assessment of soil erosion by application of remote sensing and GIS in Yanshan Reservoir catchment, China. *Natural Hazards* 79(1):277-289.
41. Tortini R*, AL Mayer, and P Maianti. 2015. Using an OBCD approach and Landsat TM data to detect harvesting on nonindustrial private property in upper Michigan. *Remote Sensing* 7(6):7809-7825.

40. Toppinen A, A Virtanen*, AL Mayer and A Tuppuru. 2015. Standardizing social responsibility via ISO 26000: empirical insights from the forest industry. *Sustainable Development* 23(3):153-166.
39. Lind-Riehl J*, S Jeltama*, M Morrison*, G Shirkey*, AL Mayer, MD Rouleau, and R Winkler. 2015. Family legacies and community networks shape private forest management in the western Upper Peninsula of Michigan (USA). *Land Use Policy* 45:95-102.
38. Mayer AL, RP Donovan and CW Pawlowski. 2014. Information and entropy theory for the sustainability of Coupled Human And Natural Systems (CHANS). *Ecology and Society* 19(3): 11. [online]
37. Vaidya A* and AL Mayer. 2014. Use of the participatory approach to develop sustainability assessments for natural resource management. *International Journal of Sustainable Development and World Ecology* 21(4):369-379.
36. Henareh Khalyani A*, AL Mayer, and ES Norman. 2014. Water flows towards power: Socioecological degradation of Lake Urmia, Iran. *Society and Natural Resources* 27(7):759-767.
35. Roy AH*, LK Rhea, AL Mayer, WD Shuster, JJ Beaulieu, MA Hopton, MM Morrison, and A St. Amand. 2014. How much is enough? Minimal responses of water quality and stream biota to partial retrofit stormwater management in a suburban neighborhood. *PLoS ONE* 9(1):e85011.
34. Henareh Khalyani A*, AL Mayer, MJ Falkowski, and D Muralidharan. 2013. Deforestation and landscape structure changes in relation to socioeconomic dynamics and climate change in Zagros forests. *Journal of Land Use Science* 8(3):321-340.
33. Mayer AL and MD Rouleau. 2013. ForestSim model of impacts of smallholder dynamics: forested landscapes of the Upper Peninsula of Michigan. *International Journal of Forestry Research*, article ID 520207, 13pp. <http://dx.doi.org/10.1155/2013/520207>.
32. Henareh Khalyani A* and AL Mayer. 2013. Spatial and temporal deforestation dynamics of Zagros forests (Iran) from 1972 to 2009. *Landscape and Urban Planning* 117:1-12.
31. Henareh Khalyani A*, AL Mayer, CR Webster, and MJ Falkowski. 2013. Ecological indicators for protection impact assessment at two scales in the Bozin and Marakhil protected area, Iran. *Ecological Indicators* 25:99-107.
30. Schubert JR* and AL Mayer. 2012. Peer influence of nonindustrial private forest owners in the Western Upper Peninsula of Michigan. *Open Journal of Forestry* 2(3):147-155.
29. Henareh Khalyani A*, MJ Falkowski, and AL Mayer. 2012. Classification of Landsat images based on spectral and topographic variables for land-cover change detection in Zagros forests. *International Journal of Remote Sensing* 33(21):6956-6974.
28. Mayer AL, WD Shuster, JJ Beaulieu, ME Hopton, LK Rhea, AH Roy*, HW Thurston. 2012. Building green infrastructure via citizen participation – a six-year study in the Shepherd Creek (Ohio, USA). *Environmental Practice* 14(1):57-67.
27. Mayer AL and RD Lopez. 2011. Use of remote sensing to support forest and wetlands policies in the USA. *Remote Sensing* 3(6):1211-1233.
26. Ståhls MH, AL Mayer, PM Tikka, PE Kauppi. 2010. Disparate geography of consumption, production, and environmental impacts: Forest products in Finland 1991-2007. *Journal of Industrial Ecology* 14(4):576-585.
25. Mayer AL, L Vihermaa, N Nieminen, A Luomi, M Posch. 2009. Epiphytic macrolichen community correlates with modeled air pollutants and forest conditions. *Ecological Indicators* 9:992-1000.
24. Mayer AL. 2008. Ecologically-based approaches to evaluate the sustainability of industrial systems. *International Journal of Sustainable Society* 1(2):117-133.

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23. Mayer AL. 2008. Strengths and weaknesses of common sustainability indices for multidimensional systems. *Environment International* 34:277-291.
22. Mayer AL and PM Tikka. 2008. Family friendly policies and gender bias in academia. *Journal of Higher Education Policy and Management* 30(4):363-374.
21. Cabezas H, HW Whitmore, CW Pawlowski, and AL Mayer. 2007. On the sustainability of an integrated model system with industrial, ecological, and macroeconomic components. *Resources, Conservation and Recycling* 50:122-129.
20. Mayer AL, CW Pawlowski and H Cabezas. 2006. Fisher information and dynamic regime changes in ecological systems. *Ecological Modelling* 195(1-2):72-82.
19. Mayer AL and PM Tikka. 2006. Biodiversity conservation incentive programs for privately owned forests. *Environmental Science and Policy* 9:614-625.
18. Mayer AL, PE Kauppi, PM Tikka, and PK Angelstam. 2006. Conservation implications of exporting domestic wood harvest to neighboring countries. *Environmental Science and Policy* 9:228-236.
17. Hopton ME and AL Mayer. 2006. Using Self-Organizing Maps to explore patterns in species richness and protection. *Biodiversity and Conservation* 15:4477-4494.
16. Roy AH, AL Mayer, WD Shuster, HW Thurston, MP Clagett, PK Parikh, and MA Taylor. 2005. A multidisciplinary approach to stormwater management at the watershed scale. *10th International Conference for Urban Drainage, 21-26 August 2005, Copenhagen, Denmark*.
15. Cabezas H, CW Pawlowski, AL Mayer and NT Hoagland. 2005. Sustainable systems theory: ecological and other aspects. *Journal of Cleaner Production* 13(5):455-467.
14. Pawlowski CW, BD Fath, AL Mayer and H. Cabezas. 2005. Towards a sustainability index using information theory. *Energy* 30(8):1221-1231.
13. Cabezas H, CW Pawlowski, AL Mayer and NT Hoagland. 2005. Simulated experiments with complex sustainable systems: Ecology and technology. *Resources, Conservation and Recycling* 44:279-291.
12. Mayer AL, PE Kauppi, PK Angelstam, Y Zhang and PM Tikka. 2005. Importing timber, exporting ecological impact. *Science* 308(5720):359-360.
11. Meshaka, WE Jr. and AL Mayer. 2005. Diet of the southern toad from the southern Everglades. *Florida Scientist* 68(4):261-266.
10. Mayer AL and M Rietkerk. 2004. The dynamic regime concept for ecosystem management and restoration. *BioScience* 54(11):1013-1020.
9. Mayer AL, HW Thurston and CW Pawlowski. 2004. The multidisciplinary influence of common sustainability indices. *Frontiers in Ecology and the Environment* 2(8):419-426.
8. Mayer AL, CW Pawlowski and H Cabezas. 2003. Estimating sustainability of a simple human society and its associated ecosystem using resilience and Fisher Information. Proceedings of the International Congress on Modelling and Simulation, MODSIM 2003 conference, Townsville, Queensland, Australia, 14-17 July 2003, Volume 2:765-770.
7. Cabezas H, CW Pawlowski, AL Mayer and NT Hoagland. 2003. Sustainability: ecological, social, economic, technological, and systems perspectives. *Clean Technologies and Environmental Policy* 5(3-4):167-180. (Also pp. 37-64 In: Technological choices for sustainability (2004), SK Sikdar, P Glavic, and R Jain, eds., Springer)

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6. Mayer AL and GN Cameron. 2003. Landscape characteristics, spatial extent, and breeding bird diversity in Ohio. *Diversity and Distributions* 9:297-311.
5. Mayer AL and GN Cameron. 2003. Consideration of grain and extent in landscape-scale studies of terrestrial vertebrate ecology. *Landscape and Urban Planning* 65(4):201-217.
4. Mayer AL, K Petren, A Shelton, MJ Cramer, B Keane, J Markert, B Heath, E Maurer, JA Roberts and B Tonnis. 2002. Scaling natal dispersal distances: confounding factors. *Conservation Ecology* 6(1):r8. [online] URL: <http://www.consecol.org/vol6/iss1/resp8>.
3. Mayer AL. 2001. The effects of limited options and policy interactions on water storage policy in south Florida. *Journal of Environmental Management* 63:87-102.
2. Curnutt JL, AL Mayer, TM Brooks, L Manne, OL Bass Jr, DM Fleming and SL Pimm. 1998. Population dynamics of the Endangered Cape Sable Seaside Sparrow. *Animal Conservation* 1:11-21.
1. Lockwood JL, KH Fenn, JL Curnutt, D Rosenthal, KL Balent and AL Mayer. 1997. Life history of the Endangered Cape Sable Seaside Sparrow (*Ammodramus maritimus mirabilis*). *Wilson Bulletin* 109(4):720-731.

BOOK CHAPTERS:

5. Mayer AL. 2015. Biology in Environmental Management. Pp. 47-73 In Sarkar D, Mukherjee A, Datta R, and Hannigan R (eds.), *An Integrated Approach to Environmental Management*. John Wiley & Sons, Inc., Hoboken NJ.
4. Mayer AL. 2012. Principles of Sustainability from Ecology. Pp. 9-39 In Cabezas H and Diwekar U (eds.), *Sustainability: Multidisciplinary Perspectives*. Bantam.
3. Brida JG, AL Mayer, C McCord, and LF Punzo. 2011. A theoretical, multidisciplinary view of catastrophic regime change. Pp. 223-236 In Peixoto MM, AA Pinto and DAJ Rand (eds.), *Dynamics, Games and Science Vol. II, in honour of Mauricio Peixoto and David Rand*. Springer Proceedings in Mathematics.
2. Mayer AL, CW Pawlowski, BD Fath, and H Cabezas. 2007. Applications of Fisher Information to sustainable environmental management. Pp. 217-244 In Frieden BR and RA Gatenby (eds.), *Exploratory data analysis using Fisher Information*. Springer-Verlag.
1. Mayer AL and SL Pimm. 1998. Integrating endangered species protection and ecosystem management: the Cape Sable sparrow as a case study. Pp. 53-68 In Mace GM, A Balmford and JR Ginsberg (eds.), *Conservation in a Changing World: Integrating processes into priorities for action*. Cambridge University Press.

US GOVERNMENT REPORTS:

2. Mayer AL, AH Roy*, M White, CG Maurice, and L McKinney. 2008. *Quick Assessment Protocols for measuring relative ecological significance of terrestrial ecosystems*. US Environmental Protection Agency, Office of Research and Development, EPA/600/R-08/061, 37 pp.
1. Whitmore HW, CW Pawlowski, H Cabezas, AL Mayer, and NT Hoagland. 2006. *Integration of an economy under imperfect competition with a twelve-cell ecological model*. US Environmental Protection Agency, Office of Research and Development, EPA/600/R-06/046. 92 pp.

OTHER PUBLICATIONS:

17. Mayer AL. 2017. Stormwater Facts and Figures (book review). *BioScience* 67(2):179-180.
16. Mayer AL. 2017. A scientist on any schedule. *Science* 355(6323):426.

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15. Herrmann DL, WD Shuster, AL Mayer, AS Garmestani. 2016. Sustainability for shrinking cities (Introduction to Special Issue). *Sustainability* 8(9): 911; doi:10.3390/su8090911

14. Virtanen A*, A Toppinen and AL Mayer. 2013. CSR and competitive advantage through an ISO 26000 lens: comparison between forest industry in North America and Europe. Proceedings of the Corporate Responsibility Research Conference (CRRC), Graz, Austria, 11-13 September 2013.

13. Mayer AL. 2012. Green Gross Domestic Product. Pp. 176-179 in (I Spellerberg, Ed.) *Berkshire Encyclopedia of Sustainability Vol.6: Measurements, Indicators and Research Methods for Sustainability*. Berkshire Publishing Group.

12. Henareh Khalyani A*, AL Mayer, and M Namiranian. 2012. Restoring oak regeneration after overgrazing and fire in Zagros forests. Pp. 237-240 in (DC Dey, MC Stambaugh, SL Clark, CJ Schweitzer, Eds.) *Proceedings of the 4th Annual Fire in Eastern Oak Forests Conference*, Springfield MO, USDA – Forest Service, Northern Research Station, General Technical Report NRS-P-102.

11. Mayer AL and A Henareh Khalyani*. 2011. Grass trumps trees with fire (Perspectives). *Science* 334(6053):188-189.

10. Shuster WD, JJ Beaulieu, AL Mayer, MA Morrison, L Rhea, AH Roy*, and HW Thurston. 2011. Management of urban hydrology via citizen participation – a six-year study in the Shepherd Creek (Ohio, USA). *Proceedings, 12th International Conference on Urban Drainage, Porto Alegre/Brazil, 11-16 September 2011*, 8 pp.

9. Mayer AL. 2007. Sustainability Rule #1: Learn from past mistakes (book review). *Ecology* 88(12):3211-3212.

8. Roy AH*, H Cabezas, MP Clagett, NT Hoagland, AL Mayer, MA Morrison, WD Shuster, JJ Templeton, and HW Thurston. 2006. Retrofit stormwater management: Navigating multidisciplinary hurdles at the watershed scale. *Stormwater* 7(3).

7. Mayer AL. 2004. Bird diversity and landscape characteristics in Ohio. *Ohio Bird Banding Association Newsletter* 18(4).

6. Mayer AL. 2003. Managing natural resources from a landscape perspective (book review). *Ecology* 84(12):3404-3405.

5. Mayer AL. 2003. “Putting the right parks in the right places” (book review). *Ecology* 84(1):273-274.

4. Mayer AL. 2001. Standard operating procedure for ecological assessments (book review). *Ecology* 82(12):3564-3565.

3. Mayer AL and SL Pimm. 1997. Tropical rainforests: Diversity begets diversity. *Current Biology* 7(7):R430-432.

2. Wirtz WO II, AL Mayer, MM Raney and JL Beyers. 1997. Effects of fire on the ecology of the California gnatcatcher, *Poliioptila californica*, in California sage scrub communities. Pp. 91-96 in: *Proceedings – Fire Effects on Rare and Endangered Species and Habitats Conference, Nov. 13-16, 1995*. International Association of Wildland Fire, Fairfield, WA.

1. Mayer AL and WO Wirtz II. 1995. Response of the California gnatcatcher to fire in the California sage scrub community. Pp. 77-79 in: Keeley, J. E. and T. Scott (eds.), *Brushfires in California Wildlands: Ecology and Resource Management*. International Association of Wildland Fire, Fairfield, WA.

CONFERENCE PRESENTATIONS (*student, **invited; †presenter):

55. Rouleau MD, AL Mayer†, R Zupko*. Agent-Based Modeling (ABM) 17: A symposium that advances the science of ABM, San Diego CA, April 20-22. “ForestSim: An ABM simulation of bioenergy sustainability.”

54. Mayer AL. 2017. International Association for Landscape Ecology – US Region, Baltimore MD. “When agencies move on: Agenda setting and research cycles.”

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53. Lu H*†, AL Mayer, A Wellstead. 2017. Workshop on Policy Instruments for Pollution Control in China: Design, Implementation and Impact, Hong Kong University of Science and Technology, March 3-4. “Public-private co-governance in Chinese urban green infrastructure initiatives: the case of Shanghai.”
52. Shuster WD, T Bai†*, AL Mayer, S Dadio. 2016. 3rd International Conference on Hydropedology, Beijing, China. “A field hydropedology approach to planning for “sponge cities” and managing the urban water cycle.”
51. Herrmann DL†, WD Shuster, AL Mayer, AS Garmestani. 2016. International Symposium for Society and Natural Resource Management, Houghton MI. “Transitioning to sustainable trajectories in shrinking cities.”
51. Shuster WD†, Dustin Herrmann, AL Mayer, A Garmestani. 2016. International Symposium for Society and Natural Resource Management, Houghton MI. “A coming of age for vacant lots as urban service providers.”
50. Mayer AL† and A Vaidya*. 2016. International Association for Landscape Ecology – US Region, Asheville NC. “Family forest owners in Upper Michigan: priorities for bioenergy policies.”
49. Vaidya A*† and AL Mayer. 2016. Society for Human Ecology, Santa Ana CA. “Use of multiple criteria analysis to develop a participatory regional assessment tool for bioenergy production.”
48. Mayer AL† and A Vaidya*. 2015. International Association for Landscape Ecology, World Congress, Portland OR. “Spatial patterns of forest values for bioenergy production in the Western Upper Peninsula of Michigan.”
47. Vaidya A*† and AL Mayer. 2015. International Congress on Sustainability Science and Engineering (ICOSSE), Balatonfüred, Hungary. “Participatory approach used to develop a sustainability assessment tool for wood-based bioenergy industry in upper Michigan, USA.”
- **46. Vaidya A*† and AL Mayer. 2015. European Geosciences Union General Assembly 2015, Vienna Austria. “Participatory approach used to develop a sustainability assessment tool for wood-based bioenergy industry in upper Michigan, USA.”
45. Aho M*†, AL Mayer and MD Rouleau. 2014. Michigan Political Science Association, Rochester MI. “Barriers to Voluntary Incentive Program enrollment from the perspectives of program managers versus landowners.”
44. Aho M*, AL Mayer† and MD Rouleau. 2014. Annual Joint Conference of the Wisconsin Sociological Association and Wisconsin Political Science Association, Whitewater WI. “Barriers to Voluntary Incentive Program enrollment from the perspectives of program managers versus landowners.”
43. Mayer AL. 2014. AIChE RCN conference on Pan American Biofuel and Bioenergy Sustainability, Recife, Brazil. “Land sparing versus land sharing: How might biodiversity and bioenergy coexist?” (Session Chair for “Biodiversity and Bioenergy” session).
- **42. Mayer AL† and A Vaidya*. 2014. Trans-Atlantic Research & Development Interchange on Sustainability (TARDIS), Estes Park, CO. “Sustainable natural resource policies developed through the participatory approach.”
41. Mayer AL† (with US-IALE Policy Committee). 2014. International Association for Landscape Ecology – US Region, Anchorage AK. Symposium convener: “Prioritizing Landscape Ecology’s Contribution to Policy Development and Analysis.”
40. Tortini R*†, AL Mayer, and P Maianti. 2014. International Association for Landscape Ecology – US Region, Anchorage AK. “Geographic Object-Based Image Analysis for detection and quantification of nonindustrial forest harvests in the Western Upper Peninsula of Michigan, USA.”
39. Vaidya A*† and AL Mayer. 2014. International Association for Landscape Ecology – US Region, Anchorage AK. “Use of a participatory sustainability assessment for landscape management.”

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38. Mayer AL, R Tortini*† and P Maianti. 2013. American Geophysical Union annual meeting, San Francisco CA. “Interoperability of Landsat and DMC imagery for continuous detection and quantification of nonindustrial forest harvests in the Western Upper Peninsula of Michigan, USA.”
37. Mayer AL†. 2013. Feminist Interdisciplinarity, Technology, and the Natural Environment; 36th Annual Meeting of the Organization for the Study of Communication, Language and Gender, Houghton MI. “Sustainable forest management in the Upper Peninsula of Michigan from an ecofeminist perspective.”
36. Virtanen A*, A Toppinen† and AL Mayer. 2013. Corporate Responsibility Research Conference (CRRC), Graz, Austria. “CSR and competitive advantage through an ISO26000 lens: comparison between forest industry in North America and Europe.”
35. Rahman SMM*† and AL Mayer. 2013. International Congress on Sustainability Science and Engineering (AIChE), Cincinnati OH. “How social ties influence resource flow: a case study on the Bangladesh ship-breaking industry.”
34. Tortini R* and AL Mayer†. 2013. International Association for Landscape Ecology – US Region, Austin TX. “Remote detection of harvesting of nonindustrial private forests in the Western Upper Peninsula of Michigan (USA) using Landsat annual series.”
33. Cotey SR*† and AL Mayer. 2012. The Wildlife Society, Portland OR. “Connectivity of the Landscape for Northern River Otter in the western Upper Peninsula of Michigan.”
32. Henareh Khalyani A*, AL Mayer†, CR Webster, and MJ Falkowski. 2012. Ecological Society of America, Portland OR. “Protection impact assessment at two scales in the Bozin and Marakhil protected area, Iran.”
- **31. Mayer AL† and RP Donovan. 2012. Trans-Atlantic Research & Development Interchange on Sustainability (TARDIS), Leibnitz, Austria. “Information and entropy theory for sustainability.”
- **30. Mayer AL† and RP Donovan. 2012. International Association for Landscape Ecology – US Region, Newport RI. “Information and entropy theory for the sustainability of Combined Human And Natural Systems (CHANS).”
29. Henareh Khalyani A*†, AL Mayer, CR Webster, and MJ Falkowski. 2012. International Association for Landscape Ecology – US Region, Newport RI. “Protection impact assessment at two scales in Bozin and Marakhil protected area, Iran.”
28. Henareh Khalyani A*†, AL Mayer, and MJ Falkowski. 2011. 1st World Sustainability Forum e-conference. “Effects of protection on amount and structure of forest cover at two scales in Bozin and Marakhil protected area, Iran.”
27. Shuster WD†, JJ Beaulieu, AL Mayer, L Rhea, AH Roy and HW Thurston. 2011. 12th International Conference on Urban Drainage, Porto Alegre, Brazil. “Management of urban hydrology via citizen participation – a six-year study in the Shepherd Creek (Ohio, USA)” (with WD Shuster, JJ Beaulieu, L Rhea, AH Roy, and HW Thurston, presented by WD Shuster).
26. Henareh Khalyani A* and AL Mayer†. 2011. Ecological Society of America, Austin TX. “Analyzing effective protection for roe deer (*Capreolus capreolus*) habitat in Iranian Zagros forests at two scales.”
25. Henareh Khalyani A*†, MJ Falkowski and AL Mayer. 2011. Ecological Society of America, Austin TX. “Use of Random Forest Algorithm for the Classification of Multi-sensor Landsat Images from Zagros Forests.”
24. Henareh Khalyani A*† and AL Mayer. 2011. Fourth Annual Fire in Eastern Oak Forests Conference, Springfield MO. “Oak regeneration under pressure from overgrazing and fire in Zagros oak forests.”
23. Seagren E† and AL Mayer. 2011. Association of Environmental Engineering and Science Professors (AEESP), Tampa FL. “Using ‘Collapse’ to teach sustainability.”
22. Mayer AL†, MD Rouleau, M Roeser, and J Schubert*. 2011. International Association for Landscape Ecology – US Region, Portland OR. “Modeling the impacts of communication among nonindustrial private forest owners on forested landscapes.”

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21. Henareh Khalyani A*†, MJ Falkowski and AL Mayer. 2010. Ecological Society of America, Pittsburg PA. “Assessment of land cover change as a function of climate change and anthropogenic disturbance in Iranian Zagros forests.”

**20. Tikka PM† and AL Mayer. 2010. International Union of Forest Research Organizations, Seoul, South Korea. “Biodiversity conservation incentive programs for European and American forest owners.”

19. Mayer AL†. 2009. American Institute of Chemical Engineers, First International Congress on Sustainability Science and Engineering, “Improving sustainability indices through judicious inclusion of indicators.”

18. Mayer AL†. 2009. Ecological Society of America, Albuquerque NM. “Achieving sustainable urban watersheds through incentive-based decentralized stormwater mitigation.”

17. Mayer AL†. 2009. International Society for Technology in Education/Hewlett Packard Earth Week Celebration. “Sustainability science in Second Life.” 23 April 2009, ISTE Island [<http://slurl.com/secondlife/ISTE%20Island/61/178/23>]

**16. Mayer AL†. 2006. Trans-Atlantic Research & Development Interchange on Sustainability (TARDIS), Estes Park, Colorado, USA. “Sustainability and scale: Biodiversity conservation and international trade.”

15. Mayer AL†, PE Kauppi, PM Tikka, T Virtanen, and P Angelstam. 2006. 1st European Congress of Conservation Biology, Eger, Hungary. “Exporting forest harvest to neighboring countries can impact domestic conservation efforts.”

**14. Mayer AL†. 2005. Ecological Society of America, Montréal, Canada. “Factors affecting population trends in North American migratory birds.”

13. Mayer AL†, AH Roy, L Boczek, WD Shuster, HW Thurston and M Clagett. 2005. Society for Conservation Biology, Brasília, Brazil. “Potential aquatic community improvement through a multidisciplinary stormwater management experiment.”

12. Mayer AL†, PK Parikh, MA Taylor, HW Thurston and WD Shuster. 2004. International Association of Landscape Ecologists, Las Vegas, NV. “A multidisciplinary approach to managing stormwater runoff in an urban watershed.”

11. Mayer AL†, CW Pawlowski and H Cabezas. 2004. International symposium on dynamical systems theory and its application to biology and environmental sciences, Hamamatsu City, Japan. “An index to detect externally-forced dynamic regime shifts in ecosystems.”

10. Mayer AL†, CW Pawlowski and H Cabezas. 2003. Joint annual meeting of the Ecological Society of America and the International Society of Ecological Modeling, Savannah, GA. “Using Fisher Information to detect gradual and rapid ecosystem regime shifts.”

**9. Mayer AL†, CW Pawlowski and H Cabezas. 2003. Chicago Chapter of INFORMS (Institute for Operations Research and the Management Sciences), Managing risk in an uncertain world, Chicago, IL. “Using Fisher Information to assess the risk of dynamic regime changes in ecological systems.”

8. Pawlowski CW†, BD Fath, AL Mayer and H Cabezas. 2002. Sustainable Development of Energy, Water and Environment Systems Conference, Dubrovnik, Croatia, “Towards a sustainability index using information theory.”

7. Mayer AL†, CW Pawlowski and H Cabezas. 2002. Annual Conference of the American Institute of Chemical Engineers, Indianapolis, IN. “Fisher Information of dynamic regime transitions in ecological systems.”

6. Mayer AL†, CW Pawlowski and H Cabezas. 2002. Third Conference for the International Society for Ecological Informatics, Rome, Italy. “Fisher information and dynamic regime changes in ecological systems.”

5. Mayer AL†. 1998. North American Ornithological Conference, St. Louis, MO. “Habitat indicators for the endangered Cape Sable seaside sparrow (*Ammodramus maritimus mirabilis*).”

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**4. Pimm SL† and AL Mayer. 1996. Royal Zoological Society of London, annual meeting. Conservation in a Changing World: integrating processes into priorities for action, London, United Kingdom. “Integrating endangered species protection and ecosystem management: the Cape Sable sparrow as a case study.”

3. Mayer AL† and WO Wirtz II. 1994. American Ornithologists’ Union, Wilson Ornithological Society, and Cooper Ornithological Society, first joint annual meeting, Missoula, MT. “The effects of fire on the ecology of the California gnatcatcher (*Polioptila californica*), and associated bird species, in the coastal sage scrub community of southern California.”

**2. Mayer AL†. 1994. Fifth annual “New directions” Undergraduate Research Conference, University of California Riverside, CA. “Plant species utilization by the California gnatcatcher (*Polioptila californica californica*).”

1. Mayer AL† and WO Wirtz II. 1994. Southern California Academy of Sciences, annual meeting, Los Angeles, CA. “The effects of fire on the ecology of the California gnatcatcher (*Polioptila californica*), and associated bird species, in the coastal sage scrub community of southern California.”

ACADEMIC PRESENTATIONS (*invited):

*2015. Henan Agricultural University, College of Forestry, Zhengzhou China. “Landscape Ecology’s Contribution to Global Change Science and Policy”; “Sustaining the Shrinking City”.

*2014. Pomona College, Environmental Analysis Program. “Linear thinking in a nonlinear world”.

*2012. University of Missouri, Department of Forestry. “Landscapes of private forest owners: dynamics, management and policy” (with M Rouleau and R Tortini).

2011. Center for BioEnergy Sustainability forum, Oak Ridge National Lab, Tennessee. “Using agent-based models to understand the impact of NIPF owner preferences and bioenergy policies on forested landscapes.”

*2008. Michigan Technological University. “Indices for spatial and temporal sustainability.”

*2007. University of Illinois-Chicago, Landscape, Ecological & Anthropogenic Processes program. “International markets, ecological connectivity, and sustainability debt.”

*2004. University of Helsinki, Department of Biological and Environmental Sciences, Helsinki, Finland. “Economic auction system for environmental protection: a stormwater management case in Cincinnati, Ohio.”

*2004. Helsinki University of Technology, Laboratory of Information Technology, Helsinki, Finland. “The challenges of understanding dynamic ecosystems through large datasets.”

*2004. Illinois Natural History Survey, Urbana-Champaign, Illinois, USA. “Scale and bird diversity in Ohio”.

*2003. Pomona College, California, USA. “Sparrows versus Gators: Who wins in Everglades conservation?”

*2002. University of Cincinnati, Ohio, USA. “Avian ecology and conservation policy in the Everglades.”

*2002. University of Dayton, Ohio, USA. “Avian ecology and conservation policy in the Everglades.”

PUBLIC OUTREACH:

2016: Podcast with *BioScience* senior editor James Verdier (June 8): <https://www.aibs.org/publications/news/latest-biosciences-talks-podcast.html>

2016: Interview on Public Radio station KJZZ’s The Show, Endangered Species Act (June 2): <http://kjzz.org/node/313434>

2011-2015: Creator and administrator for Michigan Tech’s “Sustainability” blog (<http://blogs.mtu.edu/sustainability/>)

2011: Clearwater/Melbourne Water District public forum, “Improving urban streams through a stormwater retrofit approach”, June 29th in Melbourne, Australia.

2004: Cincinnati Bird Club (migratory bird kills at communication towers)

2002: Sierra Club, Miami Group-Cincinnati (migratory bird kills at communication towers)

2001: Audubon Society of Ohio, Cincinnati (bird ecology in the Everglades)

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2001: Dayton Audubon Society (migratory bird kills at communication towers)

1999: Tennessee Ornithological Society, Knoxville Chapter (bird ecology in the Everglades)