

CURRICULUM VITAE - JONATHAN M. BOSSENBROEK

Professor
Department of Environmental Sciences
University of Toledo
Toledo, OH 43606-3390
Email: Jonathan.Bossenbroek@utoledo.edu; Tel. 419-530-8376

EDUCATION:

Ph.D. Colorado State University, Ecology – 2004
Committee: Dr. John Wiens (Advisor), Drs. Boris Kondratieff, Thomas Stohlgren, & Bea Van Horne
M.S. University of Wisconsin - Green Bay, Environmental Sciences and Policy - 1999
Committee: Dr. Jeffrey C. Nekola (Advisor), Drs. Clifford Kraft & Gregory Davis
B.S. Calvin College, Environmental Sciences (emphasis in Biology) - 1996
Advisor: Dr. Uko Zylstra

PROFESSIONAL EXPERIENCE:

2017-Present Director of the Office of Undergraduate Research, University of Toledo
2016-Present Professor, Department of Environmental Sciences, University of Toledo
2013-2014 Fulbright Scholar, Department of Agricultural Economics, University of West Indies.
2011-2016 Associate Professor, Department of Environmental Sciences, University of Toledo
2005-2011 Assistant Professor, Department of Environmental Sciences, University of Toledo
2003-2005 Postdoctoral Research Associate – University of Notre Dame
2002-2003 Graduate Teaching Assistant, Biology Department - Colorado State University
1999-2002 Graduate Research Assistant, Graduate Degree Program in Ecology - Colorado State University
1998-1999 Graduate Research Assistant, Institute for Land and Water Studies – University of Wisconsin-Green Bay
1998 Research Assistant, University of Wisconsin - Green Bay
1998 Research Technician, Great Lakes Research Center. Milwaukee, WI
1997-1998 Graduate Teaching Assistant, University of Wisconsin - Green Bay
1996-1997 Sample Receiving/GIS Technician, FTC&H Analytical Labs/Engineering. Ada, MI
1996 Research Tech., Grand Valley State University - Water Resources Institute. Allendale, MI

TEACHING EXPERIENCE:

University of Toledo

Introduction to Environmental Studies EEES2010 (Fall 2014 to present)
General Ecology EEES 3050 (Every Fall 2006 to present, excluding 2013)
Biodiversity EEES 2150 (Every Spring 2009 to present, excluding 2014)
Landscape Ecology 4760/6760 (Spring 2012, 2017)
Special Topics in Ecology: Applied Landscape Ecology (Spring 2006, 11), Biological Invasions and Risk Assessment (Spring 2007), Confronting Models with Data (Spring 2008), Applied Spatial Ecology (Fall 2008), Bioeconomics of Invasive Species (Spring 2010), Bayesian Statistics for Ecology (Spring 2011). Ecological Issues in Toledo and Trinidad (Spring 2015), Ecology Field Study in Trinidad (Spring 2016)

University of Notre Dame

Applied Landscape Ecology (Fall 2004)

STUDENTS

Current Graduate Students

Primary Advisor: Jessica Sherman (Ph.D.), Kristen Hebebrand (M.S.), Jake Kvistad (M.S.)

Committee Member: Mark DuFour (Ph.D.), Mathew Snyder (Ph.D.), Martin Simonson (M.S.), Jason Fischer (M.S.)

Past Graduate Students

Primary Advisor: Kamalika Ganguly (ABD), Jenn Sieracki (Ph.D. Defended 07/2014), Marc Morandi (M.S. Defended 12/2012), Maria Tumeo (M.S. Defended 5/2010), Audra Croskey (M.S. Defended 8/2009), Betsy Bodamer (M.S. Defended 8/2007)

Co-Advisor: Sara Guiher (M.S., co-advisor with Dr. Todd Crail, Defended Aug. 2017), Stephanie Nummer (M.S., co-advisor with Dr. Song Qian, Defended Aug. 2016), Nathan Manning (Ph.D with Dr. Chris Mayer, Defended June 2013), Todd Crail (Ph.D with Dr. Hans Gottgens, Defended 5/2012), Colleen Wellington (M.S. with Dr. Chris Mayer, Defended 7/2008)

Committee Member: Brittani Furlong (M.S. defended 8/16), Rachel Kuhaneck (M.S. defended 8/13), Lindsey Pierce (Ph.D defended 8/13), Gwen Laughlin (M.S. defended 7/13) Jason Ross (M.S. defended 6/13), Nick Bryan (M.S. defended 3/13), Kirk Zmijewski (M.S. defended 3/13), Mark DuFour (M.S. defended 7/2012), Mary Lynn Muehleisen (M.S. defended 1/2012), Erin Spetz (M.S. defended 11/2011), Kristen DeVanna (Ph.D defended 9/2011), Ranjeet John (Ph.D. defended 11/2010), Russ Freidrich (M.S. Defended 3/2010), Audrey Bobak (M.S. Defended 12/2009), Joshua Brown (Ph.D. Defended 11/2009), Jessica Schaefer (M.S. Defended 8/2009), Jacob LaCroix (Ph.D. Defended 4/2006)

Undergraduate Research Advisor

Current:

Austin Bartos (2017)

Past:

Linnea Vicari (Winter 2017), Kailey Doherty (2016), Jeanna Meisner (Summer 2016), Wendy Stevens (summers 2015-16, REU), Rachel Johnson (summer 2013), Stephanie Schnapp (summer/fall 2012), Lindsay Vollmar (graduated Dec. 2012 with honor and senior thesis from the College of Business), Rebecca Brent (graduated May 2012 with honors and thesis), Kelsey Navarre (graduated in May 2011 with honors, DES Outstanding Student, senior thesis), Lance Olsen (NSF Undergraduate Mentoring Fellow), Kevin Keeler (Undergraduate Research Tech & Honors Thesis: Graduated 2010), Marc Morandi (Undergraduate Research Technician: Graduated 2010), Phillip Mathias (Univ. of Toledo: Undergrad. Summer Research and Creative Activity Program USR&CAP – Summer 2008 & Honors Thesis and Undergrad Research Tech. Graduated 2009), Emily Heppner (Undergrad Research Technician. Graduate 2009), Jill Reighard (UT: USR&CAP 2007: Graduated 2009), Nathan Stroh (REU Student from North Dakota State Univ. – Summer 2007), Jena Buchhop (REU Student from Wittenberg College – Summer 2006)

PUBLICATIONS (Peer Reviewed; *indicates graduate student, **undergraduate student):

1. Stepien, CA, F. Calzonetti, **J.M. Bossenbroek**, K.P. Czajkowski, T.L. Bollin, and C.L. Gruden. *In press*. Enhancing environmental sustainability through a university field station. in Sustainability Practice and Education on University Campuses and Beyond. Ashok Kumar and Dong Shik Kim (Eds). Bentham Science Publishers.
2. Lodge, J.M. and 31 others including **J.M. Bossenbroek**. 2016. Risk analysis and bioeconomics of invasive species to inform policy and management. *Annual Review of Environment and Resources*. 41:453-488 DOI: 10.1146/annurev-environ-110615-085532
3. Beletsky D., R. Beletsky, E.S. Rutherford, J. Sieracki*, **J.M. Bossenbroek**, W.L. Chadderton, M.E. Wittmann, D.M. Lodge. 2017. Spread of aquatic invasive species by lake currents. *Journal of Great Lakes Research*. 43:14-32. <https://doi.org/10.1016/j.jglr.2017.02.001>

4. Tucker, A, W.L. Chadderton, C.L. Jerde, M.A. Renshaw, K. Uy, C. Gantz, A.R. Mahon, A. Bowen, T. Strakosh, **J.M. Bossenbroek**, J. Sieracki*, D. Beletsky, J. Bergner, D.M. Lodge. 2016. A sensitive environmental DNA (eDNA) assay leads to new insights on Eurasian Ruffe (*Gymnocephalus cernua*) spread in North America. *Biological Invasions*. doi:10.1007/s10530-016-1209-z
5. DeVanna, K., **J.M. Bossenbroek**, D.W. Schloesser, C.M. Mayer. *in press*. Spatial- and temporal-density fluctuations of native burrowing mayflies: An examination of abiotic and biotic factors. *Journal of Great Lakes Research*
6. Morandi*, M.J., N.F. Manning *, **J.M. Bossenbroek**, C.L. Jerde. 2015. Assessing the Influence of Different Inland Lake Management Strategies on Human-Mediated Invasive Species Spread. *Management of Biological Invasions*. 6(1): 57–69. doi: <http://dx.doi.org/10.3391/mbi.2015.6.1.05>
7. **Bossenbroek, J.M.**, A. Croskey*, D. Finnoff, L. Iverson, S.M. McDermott, A. Prasad, C. Sims, D. Sydnor. 2015. Evaluating the Economic Costs and Benefits of Slowing the Spread of Emerald Ash Borer in Ohio and Michigan. *Invasive Species in a Globalized World* edited by R. Keller, M. Cadotte and G. Sandiford.
8. Zanatta, D., **J.M. Bossenbroek** and 13 others. 2015. Twenty-five year post-dreissenid invasion assessment of native mussel (Unionidae) assemblages in coastal Lake Erie, Lake St. Clair, and connecting channels. *Northeastern Naturalist* 22(1):223-235. doi: dx.doi.org/10.1656/045.022.0115
9. Sieracki*, J. L., **J. M. Bossenbroek**, W.L. Chadderton. 2014. A Spatial Modeling Approach to Predicting the Secondary Spread of Invasive Species Due to Ballast Water Discharge. *PLoS ONE* 9(12): e114217. doi:10.1371/journal.pone.0114217
10. Vollmar**, L., C.R. McIntosh, **J.M. Bossenbroek**. 2014. Anglers' responses to bait certification regulations: the case of virus-free bait demand. *Journal of Environmental Economics and Policy*. DOI:10.1080/21606544.2014.974677
11. Sieracki*, J. L., **J. M. Bossenbroek**, M. Faisal. 2014. Modeling the Secondary Spread of Viral Hemorrhagic Septicemia Virus (VHSV) by Commercial Shipping in the Laurentian Great Lakes. *Biological Invasions*. DOI: 10.1007/s10530-013-0556-2
12. DeVanna, K.M., D.W. Schloesser, **J.M. Bossenbroek**, and C.M. Mayer. 2014. Interactions between an exotic ecosystem engineer (*Dreissena* spp) and native burrowing mayflies (*Hexagenia* spp) in soft sediments of western Lake Erie. 2nd edition of *Quagga and Zebra Mussels: Biology, Impacts, and Control*. Edited by T.F. Nalepa and D.W. Schloesser. ISBN-13: 978-1439854365
13. Deal, M.W., J. Xua, R. John, T. Zenonea, J. Chen, H. Chua, P. Jasrotiab, K. Kahmark, **J. Bossenbroek**, and C. Mayer. 2013. Net primary production in three bioenergy crop systems following land conversion. *Journal of Plant Ecology*. doi: 10.1093/jpe/rtt057
14. Manning*, N.F., J.M. Bossenbroek, C. M. Mayer, D.B. Bunnell, J.T. Tyson, L.G. Rudstam, J.R. Jackson. 2013. Modeling plumes and blooms: Turbidity type and intensity effects on the growth and starvation mortality of yellow perch. *Canadian Journal of Fisheries and Aquatic Sciences*. 71: DOI: 10.1139/cjfas-2013-0528
15. Manning, N.F.*, C.M. Mayer, **J.M. Bossenbroek**, J.T. Tyson. 2013. Effects of water clarity on the length and abundance in August of Age-0 Yellow Perch in the Western Basin of Lake Erie. *Journal of Great Lakes Research*. 39: 295–302. DOI: 10.1016/j.jglr.2013.03.010
16. DeVanna, K.M., B.L. Bodamer*, C.G. Wellington*, E. Hammer, C.M. Mayer and **J.M. Bossenbroek**. 2011. An alternative hypothesis to invasional meltdown in the Laurentian Great Lakes: General facilitation by *Dreissena*. *Journal of Great Lakes Research*. 37:632-641. DOI: 10.1016/j.jglr.2011.07.005
17. Warziniack, T., D. Finnoff, **J.M. Bossenbroek**, J. F. Shogren, and D. Lodge. 2011. Stepping stones for biological invasion: A bioeconomic model of transferable risk. *Environmental and Resource Economics* 50: 605-627.
Awarded Best Paper in the journal of Environmental and Resource Economics, 2011
18. Wellington, C. G.*, C.M. Mayer, and **J.M. Bossenbroek**. 2010. Effects of turbidity and prey density on the foraging success of age zero *Perca flavescens*. *J. of Fish Biology* 76: 1729-1741.

19. Prasad A., L.R. Iverson, M. Peters, **J.M. Bossenbroek**, D. Sydnor, M. Schwartz. 2010 Modeling the invasive emerald ash borer risk of spread using a spatially explicit cellular model. *Landscape Ecology* 25: 253-369.
20. Drake, J.M. and **J.M. Bossenbroek**. 2009. Profiling ecosystem vulnerability to invasion by zebra mussels with support vector machines. *Theoretical Ecology* 2:189-198.
21. **Bossenbroek**, J.M., D. Finnoff, J. Shogren and T.W. Warziniack. 2009. Advances in ecological and economical analysis of invasive species: dreissenid mussels as a case study. In *Bioeconomics of Invasive Species: Integrating Ecology, Economics and Management* (eds. Keller, Lodge, Lewis, and Shogren). Oxford University Press.
22. Jerde, C. and J.M. **Bossenbroek**. 2009. Uncertain Invasions: A biological perspective. In *Bioeconomics of Invasive Species: Integrating Ecology, Economics and Management* (eds. Keller, Lodge, Lewis, and Shogren). Oxford University Press.
23. Muirhead, J. R., A. M. Bobeldyk, **J. M. Bossenbroek**, K. Egan & C. Jerde. 2009. Estimating dispersal and predicting spread of nonindigenous species. In *Bioeconomics of Invasive Species: Integrating Ecology, Economics and Management* (eds. Keller, Lodge, Lewis, and Shogren). Oxford University Press.
24. Herborg, L.M., J. Drake, J. Rothlisberger & **J. M. Bossenbroek**. 2009. Forecasting suitable habitat for invasive species using ecological niche models and the policy implications of forecasts. In *Bioeconomics of Invasive Species: Integrating Ecology, Economics and Management* (eds. Keller, Lodge, Lewis, and Shogren). Oxford University Press.
25. Iverson LR, Prasad A, **Bossenbroek J**, Sydnor D, Schwartz MW. 2008. Modeling Potential Movements of the Emerald Ash Borer: the Model Framework. In *The Encyclopedia of Forest Environmental Threats* (eds. Lee, and Beatty). www.threats.forestencyclopedia.net.
26. Morzillo, A.T., J.W. Hollister, C. A. Drew, M.E. Rocca, M.E. Baker, **J.M. Bossenbroek**, and C.A. Mazarella. 2008. A young scientist's guide to gainful employment: recent graduates' experiences and successful strategies. *ESA Bulletin* 89:193-203.
27. Bodamer, B.L.* and **J.M. Bossenbroek**. 2008. Wetlands as barriers: Effects of vegetated waterways on downstream dispersal of zebra mussels (*Dreissena polymorpha*). *Freshwater Biology* 53:2051–2060.
28. **Bossenbroek, J.M.**, L.E. Johnson, B. Peters and D.M. Lodge. 2007. Forecasting the expansion of zebra mussels in the United States. *Conservation Biology* 21:800-810.
29. Leung, B., **J.M. Bossenbroek** and D.M. Lodge. 2006. Boats, pathways, and aquatic biological invasions: Estimating dispersal potential with gravity models. *Biological Invasions* 8:241-254.
30. Johnson, L.E., **J.M. Bossenbroek**, and C.E. Kraft. 2006. Pathways and patterns of the post-establishment spread of non-indigenous aquatic species across multiple spatial and temporal scales: the continuing invasion of the zebra mussels in North America. *Biological Invasions* 8: 475-489.
31. **Bossenbroek, J.M.**, H.H. Wagner and J.A. Wiens. 2005. Taxon-dependent scaling: beetles, birds and vegetation at four North American grassland sites. *Landscape Ecology* 20:675-688.
32. **Bossenbroek, J.M.**, J. McNulty and R. Keller. 2005. Can ecologists heat up the discussion on invasive species risk?. *Risk Analysis* 25:1595-1597.
33. Bobeldyk, A.M, **J.M. Bossenbroek**, M.A. Evan-White, D.M Lodge and G.A. Lamberti. 2005. Secondary spread of zebra mussels (*Dreissena polymorpha*) in lake-stream systems. *Ecoscience* 12:414-421.
34. Drake, J.M. and **J.M. Bossenbroek**. 2004. The Potential Distribution of Zebra Mussels (*Dreissena polymorpha*) in the U.S.A. *BioScience* 54:931-941.
35. Lehmer, E. M., **J. M. Bossenbroek**, and B. Van Horne. 2003. The influence of environment, energy status, and sex on body temperature patterns of free-ranging black-tailed prairie dogs (*Cynomys ludovicianus*). *Physiological and Biochemical Zoology* 76:72-83.
36. **Bossenbroek, J.M.**, C.E. Kraft, and J.C. Nekola. 2001. Prediction of Long-Distance Dispersal Using Gravity Models: Zebra Mussel Invasion of Inland Lakes. *Ecological Applications* 11:1778-1788

Submitted

Bossenbroek, J.M., L.E. Burlakova, T.C. Crail, A.Y. Karateyev, R.A. Krebs, D.T. Zanatta. Using ecological niche modelling to predict the presence of unionid refuges in the Laurentian Great Lakes. Submitted to *Freshwater Science*

Other Publications

Bossenbroek, J.M. 2011. Review of *Bioinvasions and Globalization: Ecology, Economics, Management, and Policy* edited by C. Perrings, H. Mooney, and M. Williamson. *The Quarterly Review of Biology* 86:40.

Bossenbroek, J.M. 2004. Review of *Ecosystem Management: Adaptive, Community-Based Conservation* by G.M. Meffe, L. Nielsen, R. Knight, and D. Schenborn (editors.). *Landscape Ecology* 19: 813-814.

Bossenbroek, J.M. 2004. *Spatial structure and scaling of beetle, bird and plant communities in North American grasslands*. Ph.D. Dissertation. Colorado State University

Bossenbroek, J.M. 1999. *Modeling the dispersal of Dreissena polymorph (zebra mussel) into the inland lakes of the western Great Lakes region using a gravity model*. Masters Thesis. University of Wisconsin – Green Bay.

PRESENTATIONS AT MEETINGS

International Association of Great Lakes Research (IAGLR) – 2006 at Windsor, Ontario (Oral presentation), 2008 Peterborough, Ontario (2 student led oral presentations), 2009 in Toledo, OH (Organized and presented an oral session on *The Bioeconomics of Invasive Species of the Great Lakes Region* + 2 student led oral presentations and 1 undergraduate student led poster), 2010 at Toronto, Ont (Student led poster), 2011 at Duluth, MN (Two student led oral presentations), 2013 at Lafayette, IN (Oral presentation + 2 co-authored presentations + 1 student led presentation), 2014 at Hamilton, Ont (1 co-authored presentation, 1 student led presentation), 2015 Burlington, VT (1 Student led presentation), 2016 Guelph, ON (3 Student led presentations)

U.S. Regional Chapter of the International Association of Landscape Ecology (US-IALE) – 2000 at Fort Lauderdale, FL (Poster + Co-author on 2 posters), 2001 at Tempe, AZ (Poster + Co-author on 2 posters), 2002 at Lincoln, NE (Oral presentation + coauthor on a poster), 2003 at Alberta, Canada (Oral presentation), 2004 at Las Vegas, NV (Oral presentation), 2005 at Syracuse NY (Oral presentation), 2006 at San Diego, CA (Invited oral presentation + Co-author on oral presentation), 2007 at Tucson, AZ (Oral presentation + one led by student), 2009 at Snowbird, UT (One student led oral presentation), 2010 at Athens, GA (Oral presentation). 2011 at Portland, OR (Oral presentation). 2012 at Newport, RI (Oral presentation + 2 undergraduate posters + 2 graduate student talks)

International Association of Landscape Ecologists World Congress – 1999 at Snowmass Colorado (Poster), 2003 at Darwin Australia (Poster), 2015 at Portland, OR (Invited Oral presentation in symposium honoring Dr. John Wiens)

Ecological Society of America (ESA) – 2000 at Snowbird, UT (Coauthor on poster), 2001 at Madison, WI (Invited oral presentation in symposium on *The role of spatial extent in ecological pattern and process.*), 2002 at Tuscon, AZ (Oral), 2004 at Portland, OR (Oral presentation), 2006 at Memphis, TN (Oral presentation), 2007 at San Jose, CA (Oral presentation + co-author on oral presentation), 2008 at Milwaukee, WI (Oral presentation), 2009 at Albuquerque, NM (Oral presentation), 2010 at Pittsburgh, PA (Oral presentation). 2011 at Austin, TX (Poster Presentation).

Midwest Fish & Wildlife Conf. – 2008 at Columbus, OH (Invited presentation + student led poster), 2011 (Student oral presentation), 2016 at Grand Rapids, MI (Oral presentation + 1 Student oral presentation)

Ohio State University, Aquatic Ecology Laboratory Research Review – 2008 at Columbus, OH (Student led oral presentation), 2010 at Columbus, OH (Student led oral presentation), 2016 (Student led oral presentation)

St. Clair – Detroit River System Initiative Annual Meeting – 2016 (Student Poster)

Aquatic Plant Management Society – 2016 at Grand Rapids MI, (Student led talk)

Joint Aquatic Sciences Meeting – 2014 at Portland, OR (Co-authored presentation)

Association for the Sciences of Limnology and Oceanography – 2013 at New Orleans, LA (1 student led presentation)

American Society of Ichthyologists and Herpetologists – 2011 at Minneapolis, MN (1 graduate student and 1 undergraduate led oral presentation)

Biennial Conf. of the Lake Erie Millennium Network – 2008 at Windsor, Ont. (1 student led poster), 2010 at Windsor, Ont. (1 student led poster)

Southeastern Fishes Council – 2007 at Chattanooga, TN (1 student led poster), 2009 at Guntersville, AL (Student led oral presentation), 2010 at Athens GA (1 student led oral presentation), 2011 at Chattanooga, TN (Student led oral presentation)

American Fisheries Society – 2009 at Nashville, TN (Student led oral presentation), 2010 at Pittsburgh, PA (1 student led and 1 co-authored oral presentation), 2012 at Saint Paul, MN (1 student led presentation)

International Conf. on Aquatic Invasive Species. – 2009 at Montreal, Quebec (Invited presentation), 2013 at Niagara Falls, Ontario (Co- author on oral presentation)

Freshwater Mollusk Conservation Society – 2013 at Guntersville, AL (Co- author on oral presentation)

International Conference on Soils, Sediments, Water and Energy – 2012 at Amherst, MA (1 student led poster)

Swarmfest Conference – 2013 at Orland, FL (1 student led oral presentation)

Oak Openings Research Forum – 2011 in Toledo, OH (one undergraduate poster presentation)

Posters at the Capitol – 2011 in Columbus, OH (one undergraduate poster presentation)

Agricultural & Applied Economics Assoc. – 2010 at Denver, CO (Co-author on oral presentation).

Fourth World Congress of Environmental and Resource Economists - 2010 at Montreal, Quebec (Co-author on oral presentation).

USDA Interagency Research Forum On Invasive Species – 2010 at Annapolis, MD (Invited Speaker)

Walleye and Yellow Perch Task Group, Pickerel Creek, OH. 2009 (Co-author on oral presentation)

Sigma Xi - University of Toledo Chapter – 2007 (1 student led poster), 2008 (1 graduate student oral presentation, 1 graduate student led poster + 1 undergrad student led poster)

Lake Erie Fisheries Genetics Workshop for Fishery Managers – 2008 at Oregon, OH (Co-author on oral presentation)

Advances in Threat Assessment and Their Application to Forest and Rangeland Management Conference. 2006 at Boulder, CO (Co-Author of oral presentation)

Estuarine Research Federation Biennial Conference – 2005 at Norfolk, VA (Invited presentation)

Emerald Ash Borer (EAB) Annual Review and Research Planning Session – 2005 at Pittsburgh, PA (Co-Author of oral presentation)

Research Conference on Environment Risk and Nonindigenous Species Invasions in the Great Lakes Region. – 2004 at Cleveland, OH (Poster)

American Fisheries Society – Western Division – 2004 at Salt Lake City, UT (Invited presentation)

INVITED SEMINARS AND SYMPOSIA

- Buffalo State Univ. – Biology Department Seminar – Buffalo, NY 3/15/2017
- Maumee Valley Country Day School – Issue Day Speaker – Toledo, OH 3/4/2016
- Great Lakes Environmental Center – Interagency Early Detection and Rapid Response Planning Meeting. Invited Speaker and Participant. – Detroit, MI 6/23-24/2015.
- Calvin College: Biology Department Seminar Series – Grand Rapids, MI 3/6/2015.
- Christ Presbyterian Church – Prime Time Lecture Series. Invited speaker. 2/04/2015
- Lake Erie Center/Univ. of Toledo – “Invasive species on the move”, 10/2/2014
- Policies, Strategies and Best Practices for Managing Invasive Alien Species (IAS) in the Insular Caribbean Conference, Port of Spain, Trinidad – Guest Speaker, <http://www.ciasnet.org/2014/05/04/mtiasic-conference-2014-videos/>
- Oxford University Alumni Society – Trinidad Branch, Guest Speaker, 11/25/2013
- University of West Indies – Department of Biological Sciences Seminar Series – 11/7/2013
- Young Adult Library Science Splash Invited Speaker, National Library and Information Services – Port of Spain, Trinidad, 10/29/2013
- Bowling Green State University – World Water Week. Invited speaker. 3/21/2013
- Christ Presbyterian Church – Prime Time Lecture Series. Invited speaker. 5/01/2013
- GreenTown Toledo Lucas County – State of the Lake. Panelist. 10/26/2012
- University of Chicago - Invasive Species in a Globalized World. Invited speaker. 5/11-13/2011
- University of Minnesota – IGERT Symposium titled. "Bioeconomic Modeling of Human-Mediated Invasive Species Dispersal: Tools for Resource Managers." Invited Speaker. 4/15/2011.
- University of Toledo – Environmental Sciences Departmental Seminar. 4/1/2011.
- University of Pittsburgh – Ecology and Evolution Seminar Series. 3/16/2011.
- Central Michigan University – Biology Department Seminar Series. 10/29/2010.
- National Resources Defense Council (NRDC). Invasive Species in the Great Lakes Round Table – Invited Speaker. 5/3/2010
- University of Toronto – Mississauga Biology Departmental Seminar. 3/19/2010.
- 5th Biennial - Lake Tahoe Basin Science Conference – Speaker in the Plenary Session on Invasive Species. Incline Village, NV. 3/16/2010.
- USDA-APHIS- Center for Plant Health Science and Technology - Plant Protection and Quarantine – Invited Seminar. Raleigh, NC. 12/9/2009
- University of Michigan – EEB Departmental Seminar. 11/12/2009.
- 2009 PREISM Organizational Meeting, Washington D.C. 10/22/2009.
- Cleveland State- Department of Biology Seminar, Cleveland, OH 10/3/2008
- Expert workshop preventing biological invasions: Best practices in pre-import risk screening for species of live animals in international trade. Organized by the Global Invasive Species Programme (GISP), the Invasive Species Specialist Group of the Species Survival Commission of IUCN and the Secretariat of the Convention on Biological Diversity (SCBD), in collaboration with the University of Notre Dame and Defenders of Wildlife. Univ. of Notre Dame, IN 4/9-11/2008.
- University of Georgia River Basin Center Symposium, Athens, GA, 12/14/2007.
- Student Watershed Watch Summit, Toledo, OH, 11/14/2007.
- 2007 PREISM Organizational Meeting, Washington D.C. 10/18/2007.
- Michigan 2007 Annual DNR Fisheries Research Meeting, Alpena, MI 10/10/2007
- Michigan State University – Workshop on the Economics of Invasive Species in the Great Lakes, organized by Dr. Rick Horan, Lansing, MI 10/8-9/2007.
- University of Pittsburgh – Pymatuning Seminar Series 2007, Linesville, PA 5/30/2007
- Ohio Agricultural Research and Development Center/Ohio State University, Wooster, OH 5/4/2007
- Wittenberg College: Biology Department Seminar, Springfield, OH 2/19/2007
- 2006 PREISM Organizational Meeting, Washington D.C. 10/18/2006.

- University of Windsor: GLIER Research Seminar Series – Windsor, Ont. 4/20/2006.
- Calvin College: Biology Department Seminar Series – Grand Rapids, MI 4/7/2006.
- Heidelberg College: Biology Department Evening Colloquium Series – Tiffin, OH 1/26/2006.
- University of Bowling Green: Department of Biological Sciences Seminar Series – Bowling Green, OH 11/9/2005.
- Lake Erie Center/Univ. of Toledo – “Onslaught of the Emerald Ash Borer”, Oregon, OH 10/11/2005
- University of Toledo – “Integrating scale and space in ecological systems: From grasslands to the Great Lakes”, Toledo, OH 03/03/2005
- University of Notre Dame – BioMass Student Seminar Series, Notre Dame, IN 10/29/2004.
- Western Regional Panel for Aquatic Nuisance Species - Anchorage, AK 9/09/2004 – Organized by Tina Proctor, USFWS.
- Bonneville Power Admin. – “Assessing the Potential Ecological and Economic Impacts of Zebra Mussels to Western River Systems”, Portland, OR 6/15/2004 – Organized by Jim Irish, BPA.
- Northeast Aquatic Nuisance Species Panel: Special Zebra Mussel Session, Newport, RI 5/18/2004 – Organized by Charles R. O’Neill, Jr. NY SeaGrant
- The Nature Conservancy Science Day at Colorado State University, Fort Collins, CO 11/2001 – Organized by the Colorado TNC.

EXTERNAL RESEARCH SUPPORT

Current Grants

Michigan Invasive Species Grant Program – \$54,000. June 2016 – June 2018. **Modeling Ballast Water Management Strategies to Slow Invasive Species Spread.**

EPA –Great Lakes Restoration Initiative - \$600,000 (\$56,000 to UT). May 2015 – Apr. 2017. Sub-Contractor with Lead PI – Steve Woods of The Nature Conservancy. **Oak Openings Regional Invasive Species Strategy**

Ecology and Environment Inc (via US Army Corp). - \$82,183. Dec. 2014 – Dec. 2016. Principal Investigator. **Great Lakes Hydrilla Risk Assessment.**

NSF – REU - \$322,944. March 2015 – 2018. Senior Investigator with Stepien (PI) et al. **Undergraduate Research and Mentoring - Using the Lake Erie Sensor Network to Study Land-Lake Ecological Linkages**

UT Green Fund - **Greening UT through Service Learning.** \$10,000 – Faculty Sponsor with Jeanna Meisner, Jessica Sherman, Dr. Crail

Pending Grants

EPA –Great Lakes Restoration Initiative - \$296,268 (\$20,000 to UT) Sub-Contractor with Lead PI – Steve Woods of The Nature Conservancy. **Oak Openings CWMA: Foundation for a landscape approach.**

Past Grants

USFWS - \$100,000. Aug. 2014 – Aug. 2016. Co-PI, with C. Mayer, T. Crail. **Maumee River Lake Sturgeon Restoration Plan**

NSF – K-3 \$10,000,000. 2012-2016. Collaborator with C. Czerniak (PI) and S. Molitor, J. Kaderaver, B. Mendenhall (Co-PIS) **Networking Urban Resources with Teachers and University to enRich Early Childhood Science**

EPA- Great Lakes Restoration Initiative - \$2,200,000 (\$302,000 to UT). Sept. 2010 – Aug. 2015 – Sub-contractor with Lead PI – David Lodge of Notre Dame and 7 other co-PIs and subcontractors. **Forecasting spread and bioeconomic impacts of aquatic invasive species from multiple pathways to improve management and policy in the Great Lakes.**

Ohio Sea Grant - \$10,000 April 2014 – January 2015. PI. A Tool for Predicting the Spread of Invasive Species by Ballast Water. (Drafted by PhD Candidate Jenn Sieracki)

USDA CSRESS - \$468,000 Aug. 2010 – July 2013 Co-PI C. Stepien (P.I.), Doug Leaman (Co-PI) and James Willey (Co-P.I.) **Genetic Detection and Geographic Analysis of Great Lakes Fish Infection by Viral Hemorrhagic Septicemia-Part 3**

NSF DGE - Grad Teaching Fellows in K-12. \$2,400,000 for May 1, 2008 – April 30, 2013. Senior Personnel with C. Stepien (PI), T. Bridgeman, T. Fisher, C. Gruden, D. Moorhead (Co-P.I.s), and several other Senior Personnel. **Graduate Teaching Fellows in STEM High School Education: An Environmental Science Learning Community at the Land-Lake Ecosystem Interface.**

Ohio Lake Erie Commission - \$15,000 March 5, 2012 – Dec. 31, 2012 PI with C. Mayer (Co-PI). **Linking Land-Use and Yellow Perch Recruitment**

Council for International Exchange of Scholars – Fulbright. \$41,000. Aug. 2013 – May 2014. PI. Evaluating the bioeconomics of marine aquatic invasive species in the Caribbean

Great Lakes Fish and Wildlife Restoration Act - \$350,000 (\$30,000 to UT). Sept. 2010 – Aug. 2012. Co-PI with David Zanatta as lead PI and 7 other co-PIs. **Conservation of native freshwater mussel refuges in Great Lakes coastal zones.**

USDA CSRESS - \$195,624. Aug. 2009- August 2012 Co-PI with C. Stepien (P.I.) and James Willey (Co-P.I.) **Genetic detection and geographic analysis of Great Lakes fish infection by viral hemorrhagic septicemia –Part 2**

Great Lakes Fishery Commission \$146,000 for 1/1/2007 – 2009. Co-P.I. with C. Mayer – U. Toledo (P.I.), T. Bridgeman – U. Toledo (Co-P.I.), and Stuart Ludsin – NOAA-GLERL (Co-P.I.) **Experimental and spatial modeling of environmental factors affecting foraging success of age-0 yellow perch.**

USDA \$728,000 for Aug. 1 2006 – Sept. 1 2009. Co-P.I. with Daryl Dwyer (P.I.) and Kevin Czajkowski (Co-P.I.). **Phytoremediation plant research - Remediation of sites containing mixed contaminants.**

Colorado Division of Wildlife - \$5000 for 1 July 2009 – 31 December 2009. Principal Investigator. Statewide Risk Analysis and Modeling of Dreissenid Mussels. Submitted July 2009.

Colorado State Parks - \$5000 for 1 July 2009 – 31 December 2009. Principal Investigator. Statewide Risk Analysis and Modeling of Dreissenid Mussels. Submitted July 2009.

USDA NRC/PREISM - \$250,000 for 1 January 2007 – 31 Dec. 2009. Principal Investigator with D. Finnoff – U. Wyoming, L. Iverson – USDA (Co-PIs), and P. Lawrence – UT, A. Prasad – USDA, D. Sydnor – Ohio State Univ. (Collaborators). **Evaluating the economic costs and benefits of slowing the spread of the emerald ash borer in the Michigan and Ohio.**

Univ. of Toledo: USR&CAP - \$3,000 for 1 June 2008 – 31 Aug. 2008. Undergraduate advisor of Phillip Mathias (Undergraduate in the DES). **Distribution of Unionid Mussels in the Ottawa River from University of Toledo Main Campus to the Stranahan Arboretum.**

State of Colorado - \$19,116. 1 May 2008 - Principal Investigator. **Statewide Risk Analysis and Lake Pueblo Population Modeling of Zebra Mussels.**

NSF Improvements in Facilities, Communications, and Equipment at Biological Field Stations and Marine Laboratories (FSML). \$25,000. Senior Personnel with C. Stepien (PI), K. Czajkowski, K. Egan, C. Gruden, C. Mayer (Co-P.I.s), and D Dwyer, D. Moorhead, T. Bridgeman, C. Gruden, H. Gottgens, A. Krause (senior personnel). **Planning Proposal for the Lake Erie Research Center.**

Univ. of Toledo: USR&CAP - \$3,000 for 1 June 2007 – 31 Aug. 2007. Undergraduate advisor of Jill Reighard (Undergraduate in the DES). **The effects of coastal wetland habitats on the distribution of the zebra mussel.**

Univ. of Toledo: URAFP - \$12,000 for 1 June 2006 – 31 Dec. 2006. Principal Investigator. **Determining the effects of wetlands on the dispersal of zebra mussels in coupled lake-stream systems.**

USDA - \$16,000 for 7 July 2005 – 9 Sept. 2006. Principal Investigator. **Using gravity models to predict the long-distance dispersal potential of the emerald ash borer in the Upper Great Lakes Region.**

- NOAA Sea Grant - \$448,664 for June 1 2005 – May 31 2007. Collaborator, with P.I. David Lodge and CoPIs Jason Shogren, David Finnoff and Jennifer Nalbone. **Economic impact of ballast-mediated invasive species in the Great Lakes.**
- NOAA National Sea Grant. \$340,000 for 1 June 2003-31 May 2005. Awarded to David M. Lodge (P.I.), with the following Co-PIs or senior collaborators: Brian Leung (U Notre Dame), Jason Shogren (U. Wyoming), and David Finnoff (U. Central Florida). **Evaluating the ecological and economic value of the 100th Meridian Initiative.** *
- US Fish & Wildlife Service. \$40,000 for 2003-2005. Award to David M. Lodge (P.I.) **Evaluating the ecological and economic value of the 100th Meridian Initiative.** *
- * - Portions written by J.M. Bossenbroek and were the means of post-doc funding.

SERVICE

University of Toledo

- University Committee on Sabbaticals – Member (2014 -)
- NSM College Committee on Academic Personnel (2015 -), Chair (2016-2017)
- Dept. of Environmental Sciences Faculty Search Committee – Co-Chair (2014/15)
- Dept. of Environmental Sciences Undergraduate Society Mentor – (2014 -)
- Faculty Council of the College of Natural Sciences and Mathematics (2011 – 2013, 2014- 2015)
- Dept. of Environmental Sciences Honors Advisor (2014 -)
- Dept. of Environmental Sciences Assessment Committee - Member (2007 -)
- Dept. of Environmental Sciences Undergraduate Affairs Committee (2008-)
- Lake Erie Center Science Advisory Board (2005 -)
- Lake Erie Center Facilities Committee (2005 -)
- Sigma Xi - University of Toledo Chapter: Treasurer (2006-)
- Presidential Commission for Faculty Input on Institutional Transformation (2010 - 2011)

Societies/Organizations

- Great Lakes Environmental Center – Interagency Early Detection and Rapid Response Planning Meeting. Invited Speaker and Participant. – Detroit, MI 6/23-24/2015.
- Fulbright Pre-Departure Orientation for Grantees to the Western Hemisphere (Alumni Representative), Washington D.C. June 27-29, 2014.
- Mitigating the Threats of Invasive Alien Species in the Insular Caribbean Conference – Organizing Committee (Member) and Working Group - Managing Invasive Fresh Water and Marine Species (Chair), Port of Spain, Trinidad 3/31 – 4/4/2014.
- US-IALE Policy Committee – Member (2013 – present)
- The Rackham Center for Research on Learning and Teaching (Rackham-CRLT) Seminar on Preparing Future Faculty – Mentor. 5/28/2013, 5/28/2014
- IAGLR 2013 – Session Co-Chair
- Healing Our Waters Technical Advisory Committee workshop. Ann Arbor, MI 10/28/2009.
- IAGLR 2009 - Organizing Committee (Member) and Poster Committee (Chair)
- IALE - Panelist: for “Job hunting experiences of recent graduates” workshop. Tucson, Arizona on 9 April 2007
- National Wildlife Federation – Participant: Symposium on Aquatic Invasive Species and Food Web Disruption: A Meeting of Scientists and Policymakers – 05/02/2005
- The Nature Conservancy – Participant: workshop on defining TNC’s role in aquatic invasive species – 11/12/2003
- Manuscript Reviewing
American Midland Naturalist, Aquatic Conservation, Aquatic Ecology, Aquatic Invasions, BioInvasions Records, Cartographica, Biological Invasions, Conservation Biology, Diversity and Distributions, Ecography, Ecological Applications, Ecological Modeling, Ecological Monographs, Environmental Management, Ecology, Frontiers in Ecology and the Environment, Global Ecology

and Biogeography, Hydrobiologia, Journal of Theoretical Biology, Landscape Ecology, Management of Biological Invasions, Molecular Ecology, PLOS One, PNAS, Restoration Ecology
Proposal Reviewing

Fulbright U.S. Scholar Program - Council for International Exchange of Scholars (CIES), National Science Foundation, Canadian Aquatic Invasive Species Network (CAISN), USDA PREISM, Ohio Invasive Plants Council Student Grant Program

MEDIA COVERAGE OF RESEARCH and Miscellaneous Publications

Interviewed by WNWO About the Status of Asian Carp, April 4, 2012.

Interviewed by WTOL Channel 11 about the Status of the Emerald Ash Borer in Our Area, July 25, 2007.

Quoted in “Michigan, Ohio get grant to study invasive species “ by Kevin Walker. Farm World. Nov. 1, 2006.

Keller, R.P., J.M. Drake, D.M. Lodge, and J.M. Bossenbroek. 2005. Submission to Department of Agriculture on proposed rules 7 CFR Part 319 – Nursery Stock Regulations. Docket ID APHIS-2005-0020, Agency Docket # 03-069-2

Quoted in “Researchers Studying Zebra Mussel Threat to Columbia Basin”, Columbia Basin Bulletin Jan. 14, 2005 (<http://www.cbulletin.com/Free/33929.aspx>)

McNulty, J.M., D.M. Lodge, Bossenbroek, J. & Keller, R.P. 2004. [Letter] Say no to zebra mussels. Tropical Fish Hobbyist. May 2004 pp.8-9.

SOCIETIES

Ecological Society of America

International Association of Landscape Ecology

American Institute of Biological Sciences

International Association of Great Lakes Research

The Nature Conservancy

Sigma Xi – University of Toledo