JOHN M. DRAKE

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APPOINTMENTS:

Associate Professor, University of Georgia (2010-present)

Affiliations:

- Odum School of Ecology (2006-present)
- Biomedical and Health Sciences Institute (2008-present)
- Faculty of Infectious Diseases (2008-present)

Assistant Professor, University of Georgia (2006-2010)

Postdoctoral Fellow (2004-2006), National Center for Ecological Analysis and Synthesis (Santa Barbara, California)

Adjunct Professor (2003), Bethel College (Mishawaka, Indiana)

EDUCATION:

- Ph.D. Biological Sciences (2004), University of Notre Dame, David Lodge advisor
- M.A. History and Philosophy of Science (2007), University of Notre Dame
- B.A. Biology (1999), *magna cum laude,* Covenant College

RESEARCH ARTICLES:

Note: "" denotes undergraduate student as a co-author.*

1. *Bowden, S., K. Magori, & **J.M. Drake**. 2011. Regional differences in the association between land cover and West Nile virus incidence in humans. *American Journal of Tropical Medicine and Hygiene* (In press).
2. Pulliam, H.R., **J.M. Drake**, & J.R.C. Pulliam. 2011. On estimating demographic and dispersal parameters for niche and source-sink models. Chapter in *Sources, Sinks, and Sustainability Across Landscapes*. J. Liu, V. Hull, and A. Morzillo, eds. (In press).
3. Vercken, E., A. Kramer, P. Tobin, & **J.M. Drake.** 2011. Critical patch size generated by Allee effect in Gypsy moth (*Lymantria dispar* L.) *Ecology Letters* (In press). Available online: doi: 10.1111/j.1461-0248.2010.01569.x
4. Keller, R.K., **J.M. Drake**, M. Drew, & D.M. Lodge. 2011. Linking environmental conditions and ship movements to estimate invasive species transport across the global shipping network. *Diversity & Distributions* 17:93-102. Available online: doi:10.1111/j.1472-4642.2010.00696.x
5. **Drake, J.M.**, & B.D. Griffen. 2010. Early warning signals of extinction in deteriorating environments. *Nature* 467:456-459. Available online: doi:10.1038/nature09389

6. Lyons, M. M., J. E. Ward, H. Gaff, R. Hicks, **J.M. Drake**, F.C. Dobbs. 2010. Theory of island biogeography on a microscopic scale: are organic aggregates islands for aquatic pathogens? *Aquatic Microbial Ecology* 60:1-13.
7. Breban, R., **J.M. Drake**, & P. Rohani. 2010. A general multi-strain model with environmental transmission: Invasion conditions for the disease-free and endemic states. *Journal of Theoretical Biology* 264:729-736.
8. Kramer, A.M., & **J.M. Drake**. 2010. Experimental demonstration of population extinction due to a predator-driven Allee effect. *Journal of Animal Ecology* 79:633-639. Also see "In Focus" *Journal of Animal Ecology* 79:511-514.
9. Griffen, B.D., & **J.M. Drake**. 2009. Environment, but not migration rate, influences extinction risk in experimental metapopulations. *Proceedings of the Royal Society, Series* B 276:4363-4371.
10. Rohani, P., R. Breban, D. Stallknecht, **J.M. Drake**. 2009. Environmental transmission of low pathogenicity avian influenza viruses and its implications for pathogen invasion. *Proceedings of the National Academy of Sciences USA* 106:10365-10369.
11. **Drake, J.M.** 2009. Evolutionary relationships among human-isolated and wildlife-isolated West Nile viruses. *Infection, Genetics and Evolution.* 9:1392-1393. Available online: doi:10.1016/j.meegid.2009.07.008
12. **Drake, J.M.**, & B.D. Griffen. 2009. The speed of expansion and extinction in experimental populations. *Ecology Letters* 12:772-778.
13. **Drake, J.M.**, & J.M. Bossenbroek. 2009. Profiling ecosystem vulnerability to invasion by Zebra mussels with support vector machines. *Theoretical Ecology* 2:189-198. Available online: doi: 10.1007/s12080-009-0050-8.
14. Breban, R., **J.M. Drake**, D. Stallknecht, & P. Rohani. 2009. The role of environmental transmission in recurrent avian influenza epidemics. *PLoS Computational Biology* 5:e1000346.
15. Kramer, D., B. Dennis, S. Liebhold, & **J.M. Drake**. 2009. The evidence for Allee effects. *Population Ecology* 51:341-354.
16. Griffen, B.D., & **J.M. Drake**. 2009. Scaling rules for the final decline to extinction. *Proceedings of the Royal Society, Series* B 276:1361-1367.
17. E. Pardini, **J.M. Drake**, J.M. Chase, T. Knight. 2009. Complex population dynamics and control of the invasive biennial *Alliaria petiolata* (garlic mustard). *Ecological Applications* 19:387-397.
18. R.P. Keller, & **J.M. Drake**. 2009. Trait-based risk assessment for invasive species. Pp. 44-62 in R.P. Keller, D.M. Lodge, M.A. Lewis, and J.F. Shogren (eds) *Bioeconomics of Invasive Species.* Oxford University Press.
19. Herborg, M., **J.M. Drake**, J. Rothlisberger, J.M. Bossenbroek. 2009. Identifying suitable habitat for invasive species using ecological niche models and the policy implications of range forecasts. Pp. 63-82 in R.P. Keller, D.M. Lodge, M.A. Lewis, and J.F. Shogren (eds) *Bioeconomics of Invasive Species.* Oxford University Press.
20. **Drake, J.M.**, & C.L. Jerde. 2009. Stochastic models of propagule pressure and establishment. Pp. 83-102 in R.P. Keller, D.M. Lodge, M.A. Lewis, and J.F. Shogren (eds) *Bioeconomics of Invasive Species.* Oxford University Press.
21. Griffen, B., & **J.M. Drake**. 2008. Effects of habitat size and quality on extinction in experimental populations. *Proceedings of the Royal Society, Series* B 275:2251-2256.

22. Griffen, B., & **J.M. Drake.** 2008. A review of extinction in experimental populations. *Journal of Animal Ecology* 77:1274-1287. doi: 10.1111/j.1365-2656.2008.01426.x. Also see "Editor's note" *Journal of Animal Ecology* 77:1273.
23. Adler, P., **& J.M. Drake**. 2008. Environmental variability, stochastic extinction, and competitive coexistence. *American Naturalist* 172:E186-E195.
24. Hendrix, P.F., M.A. Callaham, **J.M. Drake**, C.-Y. Huang, S.W. James, B.A. Snyder, W. . Zhang. 2008. Pandora's box contained bait: the global problem of introduced earthworms. *Annual Review of Ecology, Evolution, and Systematics* 29:593-613.
25. **Drake, J.M.**, E.E. Cleland, C. Bowles, K. Carney, M.C. Horner-Devine, S. Emery, J. Gramling, M.D. Smith, D.B. Vandermast, E. Fleishman, & J.B. Grace. 2008. Do non-native plant species affect the shape of productivity-diversity relationships? *American Midland Naturalist* 159:55-66.
26. **Drake, J.M.,** & D.M. Lodge. 2007. Hull fouling is a risk factor for intercontinental species exchange in aquatic ecosystems. *Aquatic Invasions* 2:121-131.
27. **Drake, J.M.** 2007. Parental investment and fecundity, but not brain size, are associated with establishment success in introduced fishes. *Functional Ecology* 21:963-968.
28. Drury, K.L.S., **J.M. Drake**, D.M. Lodge, & G. Dwyer. 2007. Immigration events dispersed in space and time: factors affecting immigration success. *Ecological Modelling* 206:63-78.
29. C. Costello, **J.M. Drake**, & D.M. Lodge. 2007. Evaluating the effectiveness of environmental management: ballast water exchange in the North American Great Lakes. *Ecological Applications* 17:655-662.
30. **Drake, J.M.,** & D.M. Lodge. 2007. Rates of species introduction in the Great Lakes via ships' ballast water and sediments. *Canadian Journal of Fisheries and Aquatic Sciences* 64:530-538.
31. Keller, R.P., **J.M. Drake**, & D.M. Lodge. 2007. Fecundity as a basis for risk assessment of nonindigenous freshwater mollusks. *Conservation Biology* 21:191-200.
32. **Drake, J.M.**, S.K. Chew, & S. Ma. 2006. Societal learning in emerging epidemics: effectiveness of interventions in the 2003 SARS outbreak in Singapore. *PLoS One* 1(1):e20.
33. **Drake, J.M.** 2006. Extinction times in experimental populations. *Ecology* 87:2215-2220.
34. **Drake, J.M.** 2006. Heterosis, the catapult effect, and establishment success of a colonizing bird. *Biology Letters* 2:304-307.
35. **Drake, J.M.** 2006. Limits to forecasting precision for outbreaks of directly transmitted diseases. *PLoS Medicine* 3:57-62.
36. **Drake, J.M.,** & D.M. Lodge. 2006. Allee effects, propagule pressure and the probability of establishment: Risk analysis for biological invasions. *Biological Invasions* 8:365-375.
37. **Drake, J.M.**, & D.M. Lodge. 2006. Forecasting potential distributions of non-indigenous species with a genetic algorithm. *Fisheries* 31:9-16.
38. Boyce, M.S., C.V. Haridas, C. Lee, C.L. Boggs, E.M. Bruna, T. Coulson, , D. Doak, **J.M. Drake**, J.-M. Gaillard, C.C. Horvitz, S. Kalisz, B.E. Kendall, T. Knight, M. Mastrandrea, E.S. Menges, W.F. Morris, C. A. Pfister, S.D. Tuljapurkar. 2006. Demography in an increasingly variable world. *Trends in Ecology and Evolution* 21:141-148.
39. **Drake, J.M.**, A. Guisan, and C. Randin. 2006. Modelling ecological niches with support vector machines. *Journal of Applied Ecology* 43:424-432. doi:10.1111/j.1365-2664.2006.01141.x

40. Vellend, M., T.M. Knight, & **J.M. Drake**. 2006. Antagonistic effects of seed dispersal and herbivory on plant migration. *Ecology Letters* 9:319-326.
41. **Drake, J.M.**, K.L.S. Drury, D.M. Lodge, A. Blukacz, N. Yan, & G. Dwyer. 2006. Demographic stochasticity, environmental variability, and windows of invasion risk for Bythotrephes longimanus in North America. *Biological Invasions* 8:843–861. doi: 10.1007/s10530-005-4205-2
42. ***Drake, J.M.**, P. Baggenstos, & D.M. Lodge. 2005. Propagule pressure and persistence in experimental populations. *Biology Letters* 1:480-483.
43. **Drake, J.M.** 2005. Population effects of increased climate variation. *Proceedings of the Royal Society, Series* B. 272:1823-1827.
44. **Drake, J.M.** 2005. Density dependent demographic variation determines extinction rate of experimental populations. *PLoS Biology* 3:1300-1304.
45. **Drake, J.M.** 2005. Risk analysis for species introductions: Forecasting population growth of Eurasian ruffe (*Gymnocephalus cernuus*). *Canadian Journal of Fisheries and Aquatic Sciences* 62:1053-1059.
46. **Drake, J.M.**, D.M. Lodge, & M. Lewis. 2005. Theory and preliminary analysis of species invasions from ballast water: controlling discharge volume and location. *American Midland Naturalist* 154:459-470.
47. **Drake, J.M.** 2005. Risk analysis for invasive species and emerging infectious diseases: concepts and applications. *American Midland Naturalist* 153:4-19.
48. Cleland, E.E., M. D. Smith, S.J. Andelman, C. Bowles, K.M. Carney, M.C. Horner-Devine, **J.M. Drake**, S. M. Emery, J. Gramling, D.B. Vandermast. 2004. Invasion in space and time: non-native species richness and relative abundance respond to interannual variation in productivity and diversity. *Ecology Letters* 7:947-957.
49. **Drake, J.M.** & J.M. Bossenbroek. 2004. The potential distribution of zebra mussels in the United States. *BioScience* 54:931-941.
50. **Drake, J.M.** 2004. Allee effects and the risk of biological invasion. *Risk Analysis* 24:795-802.
51. **Drake, J.M.** & D.M. Lodge. 2004. Global hot spots of biological invasions: evaluating options for ballast-water management. *Proceedings of the Royal Society, Series B* 271:575-580.
52. Leung, B., **J.M. Drake**, & D.M. Lodge. 2004. Predicting invasions: propagule pressure and the gravity of Allee effects. *Ecology* 85:1651-1660.
53. **Drake, J.M.** & D.M. Lodge. 2004. Effects of environmental variation on extinction and establishment. *Ecology Letters* 7:26-30.
54. **Drake, J.M.** 2003. The paradox of the parasites: implications for biological invasion. *Proceedings of the Royal Society, Series B, Supplement (Biology Letters)* 270:S133-S135.
55. **Drake, J.M.** 2003. Why does grassland productivity increase with species richness? Disentangling species richness and composition with tests for overyielding and superyielding in biodiversity experiments. *Proceedings of the Royal Society, Series* B 270:1713-1719.

ARTICLES SUBMITTED:

1. Magori, K., W. Bajwa, S. Bowden, & **J.M. Drake**. Decelerating spread of West Nile virus due to percolation in a heterogeneous, urban landscape. (In revision for *PLoS Computational Biology*).

2. Roche, B., **J.M. Drake**, & R. Rohani. An agent-based model to study the epidemiological and evolutionary dynamics of influenza viruses. (In revision for *BMC Bioinformatics*).

3. **Drake, J.M.**, G. Akudibillah, S. Bowden, R.J. Hall, A. Kramer, K. Magori, J.P. Schmidt, A. Silletti, E. Vercken, & M. Zokan. Computational training in ecology and evolutionary biology. (Submitted to *Trends in Ecology and Evolution*).

4. **Drake, J.M.,** & B.D. Griffen. Experimental demonstration of accelerated extinction time in source-sink metapopulations. (In revision for *Ecology*).

5. ***Drake, J.M.**, J. Shapiro, & B.D. Griffen. Experimental demonstration of a two-phase population extinction hazard. (In revision for *Proceedings of the Royal Society Interface*).

6. Schmidt, J.P., & **J.M. Drake.** Why are some plant genera more invasive than others? (In revision for *PLoS One*).

7. B. Roche, **J.M. Drake**, & P. Rohani. The curse of the pharaoh revisited: Implications for polymorphism increase and the emergence of highly virulent avian influenza. (Submitted to *Ecology Letters*).

8. Schmidt, J.P., & **J.M. Drake**. Time since introduction, seed mass, and genome size predict successful invaders among the cultivated vascular plants of Hawaii. (In revision for *PLoS One*).

9. Rohani, P., & **J.M. Drake**. Resurgence of pertussis in the US. (*Submitted to Clinical Infectious Diseases*).

10. **Drake, J.M.** & A. Kramer. Allee effects. (Submitted to *Nature Knowledge Project*).

11. **Drake, J.M.** & R.P. Keller. Ecology of invasive species. (Submitted to *Nature Knowledge Project*).

12. J.P. Schmidt, M. Springborn, & **J.M. Drake**. Cost-sensitive risk assessment for invasive plants in the United States and Canada. (Submitted to *Proceedings of the National Academy of Sciences USA*).

13. **Drake, J.M.** & A.M. Kramer. Mechanistic analogy: How microcosms tell us about nature. (Submitted to *Philosophy of Science*).

UNPUBLISHED MANUSCRIPTS:

1. **Drake, J.M.**, R. Keller, &. J. Murray. Risk factors for invasion by Rainbow Smelt (*Osmerus mordax*) and niche overlap with walleye (*Sander vitreus*) in Flambeau watershed, Wisconsin, USA.

2. McKaughan, D.J., & **J.M. Drake**. Representing vague opinion.

3. J.M. Bossenbroek, & **J.M. Drake**. Habitat overlap between non-native mollusks (*Corbicula fluminea* and *Dreissena polymorpha*) and freshwater mussels (Unionidae) in Tennessee.

BOOKS, EDITED VOLUME & DISSERTATION:

1. **Drake, J.M.,** W. Langford, and the Ecological Applications of Machine Learning Working Group. *Ecological Applications of Machine Learning*. (Book project in preparation, to be submitted to Princeton University Press).

2. **Drake, J.M.**, and D.M. Lodge. *Biological Invasions of the North American Great Lakes: Science and Policy*. (Book project under contract with Springer)

3. **Drake, J.M.,** editor. 2005. Proceedings of the 24th Annual Midwest Ecology and Evolution Conference. *American Midland Naturalist* 153:1-79.
4. **Drake, J.M.** 2004. *Risk Analysis for Biological Invasions of the Laurentian Great Lakes and Inland Aquatic Ecosystems*. Ph.D. Dissertation. University of Notre Dame.

OTHER PUBLICATIONS:

1. **Drake, J.M.** 2010. Allee effects in ecology and conservation by F. Couchamp, L Berec, and J. Gascoigne (book review). *Quarterly Review of Biology* 85:216.
2. **Drake, J.M.** 2009. Should Christians be realists? Context and conversation with Bradley John Monton—a review essay. *Christian Scholar's Review* XXXVIII(2):283-292.
3. **Drake**, **J.M.** D.M. Lodge, and C. Costello. 2008. Reply to Ricciardi & MacIsaac. *Ecological Applications* 18(5):1323-1324.
4. **Drake, J.M.** & D.M. Lodge. 2008. Reply to Reid & Hudson. *Canadian Journal of Fisheries and Aquatic Sciences* 65:554-555.
5. **Drake, J.M.** 2008. Niche modeling: predictions from statistical distributions by David Stockwell (book review). *Biometrics* 64:311-312.
6. **Drake, J.M.** 2008. Population ecology: population viability analysis. Pp. 2901-2907 in *Encyclopedia of Ecology*. Elsevier: Oxford. (Peer reviewed).
7. **Drake, J.M.** 2007. When nature attacks. Review of Invasion Ecology (1st edn) by J.L. Lockwood, M.F. Hoopes, and M.P. Marchetti. *Times Higher Education Supplement* (May 2007).
8. **Drake, J.M.**, & D.M. Lodge. 2006. On the distribution and extension of rainbow smelt – reply. *Fisheries* 31:304-305.
9. **Drake, J.M.** 2006. Caring for Creation edited by S. Tillett (book review). *Science and Christian Belief* 18:204-205.
10. **Drake, J.M.** 2005. Ethical considerations. *Invasive Species and the Public Good*. *YFF Review* 8(1):19-21.
11. **Drake, J.M.** 2005. Ecological Orbits by L. Ginzburg and M. Colyvan (book review). *American Midland Naturalist* 153:454-455.
12. **Drake, J.M.** 2005. Fundamental limits to the precision of early warning systems for epidemics of infectious diseases. *PLoS Medicine* 2: 461462. Published online 30 March 2005. (http://medicine.plosjournals.org/perlserv/?request=readresponse&doi=10.1371/journal.pmed.0020006#r803)
13. **Drake, J.M.** 2005. A Primer of Ecological Statistics by N.J. Gotelli and A.M. Ellison (book review). *Ecology* 86:810-811.
14. **Drake, J.M.**, C. Costello, & D.M. Lodge. 2005. When did the discovery rate for invasive species in the North American Great Lakes accelerate? *BioScience* 55(1):4.
15. **Drake, J.M.** 2005. Proceedings of the 24th Annual Midwest Ecology and Evolution Conference: Introduction. *American Midland Naturalist* 153:13.
16. **Drake, J.M.** 2005. Whence Explanation? The Diversity of Practices in Ecology: A Review of Scientific Method for Ecological Research by E. David Ford (book review) *Biology and Philosophy* 19:801-807.
17. **Drake, J.M.** & R. Keller. 2004. Environmental justice alert: Do developing nations bear the

burden of risk for invasive species? *BioScience* 54:718-719.

18. **Drake, J.M.** 2004. Population viability analysis: theoretical advances and research needs. *Endangered Species UPDATE* 21(3):93-96.
19. **Drake, J.M.** 2004. Population Viability Analysis, S.R. Beissinger and D.R. McCullough, eds., and Quantitative Conservation Biology by W.F. Morris, and D.F. Doak (book review). *Oryx* 38(3):351-352.
20. **Drake, J.M.** 2004. Complex Population Dynamics: A Theoretical/Empirical Synthesis by Peter Turchin (book review) *Quarterly Review of Biology* 79(3):298.
21. **Drake, J.M.** 2004. Stochastic Population Dynamics in Ecology and Conservation by R. Lande, S. Engen, and B.E. Sæther (book review). *Acta Biotheoretica* 52:219-220.
22. **Drake, J.M.** 2004. Foot and Mouth Disease: Facing the new dilemmas, G.R. Thomson, ed. (book review) *Risk Analysis* 24(5):1412-1413.
23. **Drake, J.M.** & R.B. Bademan. 2003. Disseminating Darwinism, Numbers and Stenhouse, eds. (book review). *Science and Christian Belief* 15.
24. **Drake, J.M.** 2003. FEMLAB 2.3 (review of computer software for solving nonlinear partial differential equations). *Bulletin of the Ecological Society of America* 84:193-195.
25. **Drake, J.M.** 2003. The constructive use of metaphor in ecology. *Science* dEbate responses, published online 5 September 2003. <http://www.sciencemag.org/cgi/eletters/301/5629/52?ck=nck>
26. **Drake, J.M.** 2003. Chaos in Ecology: Experimental nonlinear dynamics by J.M. Cushing, *et al.* (book review) *CHANCE* 16(4):48-49.
27. **Drake, J.M.** 2003. What has ecology to do with psychology? A review of Ecological Psychology in Context by Harry Heft. *Theory and Psychology* 13:573-576.
28. **Drake, J.M.** 2003. Children and Nature: Psychological, Sociocultural and Evolutionary Investigations, P.H. Kahn and S.R. Kellert, eds. (book review). *Research News & Opportunities in Science and Theology* 3(12):32.
29. **Drake, J.M.** 2003. Narrative, Religion and Science by Stephen Prickett (book review). *Reviews in Religion & Theology* 10:270-273.
30. **Drake, J.M.** 2003. Science and Religion in the English Speaking World by Richard Brooks and David Himrod (book review). *Perspectives on Science and Christian Faith* 55(1):56.
31. **Drake, J.M.** 2003. The Darwin Wars by Andrew Brown (book review). *Science and Christian Belief* 15:65-66.
32. Bademan, R.B., & **J.M. Drake**. 2003. Reconciling Science and Religion: The debate in early-twentieth-century by Peter Bowler (book review). *Reviews in Religion & Theology* 10:39-42.
33. **Drake, J.M.** 2002. Elements of Mathematical Ecology by M. Kot (book review). *Acta Biotheoretica* 50:205-207.
34. **Drake, J.M.** 2001. The Care of Creation, R.J. Berry, editor (book review). *Science and Christian Belief.* 13
35. **Drake, J.M.** 2001. Doomsday: The Science of Catastrophic Events by Antony Milne (book review). *Perspectives on Science and Christian Faith* 53:61-62.
36. **Drake, J.M.** 2000. Two cultures and the two cultures: a book review of Dependent Rational Animals by Alasdair MacIntyre. *History and Philosophy of the Life Sciences* 22:299-304.

37. **Drake, J.M.** 2000. Bright Shadow of Reality: Spiritual longing in C.S. Lewis by Corbin Scott Carnell (book review). *Perspectives on Science and Christian Faith* 52(2):142.

38. **Drake, J.M.** 2000. Thomas Henry Huxley: The evolution of a scientist by Sherrie L. Lyons (book review). *Perspectives on Science and Christian Faith* 52(3):205-206. Reprinted in *Research News & Opportunities in Science and Theology* 1(8):17.

39. **Drake, J.M.** 2000. Einstein and Religion: Physics and theology by Max Jammar (book review). *Perspectives on Science and Christian Faith* 52(3):205.

MAJOR GRANTS (>$100,000; total awarded: $2,683,789):

1. National Atmospheric and Oceanic Administration to D.M. Lodge, **J.M. Drake**, *et al*. (Drake component: $345,057), 2010-2013. Title: *Forecasting spread and bioeconomic impacts of aquatic invasive species from multiple pathways to improve management and policy.*

2. National Science Foundation to F. Dobbs, J. Ward, J. Niejako, R. Hicks, T. Holst and **J.M. Drake** (Drake component $451,706), 2009-2013. Title: *Collaborative Research - Microscopic islands: modeling the theory of island biogeography for aquatic pathogens colonizing marine aggregates.* EF-0914347

3. National Science Foundation to P. Rohani, D. Stallknecht, & **J.M. Drake** ($489,202), 2009-2012. Title: *Population ecology of avian influenza viruses*. DEB-0917853

4. James S. McDonnell Foundation to **J.M. Drake** & P. Rohani. ($449,527), 2008-2013. Title: *Evolutionary epidemiology of multi-transmission pathogens in multi-host networks.*

5. US Department of Agriculture to **J.M. Drake** ($174,337), 2008-2010. Title: *Cost-sensitive machine learning algorithms for invasive species decision support, risk analysis, and policy.* Cooperative Agreement No. 58-7000-8-0111.

6. National Science Foundation to **J.M. Drake** ($578,619), 2007-2010. Title: *Emerging urban vector-borne disease: West Nile Virus in New York City (1999-2006).* EF-0723601

7. Great Lakes Protection Fund to D.M. Lodge, J. Feder, H.-C. Chang, M. Ozkan, **J.M. Drake**, and J.A. Andersen ($1,090,000, Drake component $195,341), 2006-2009. Title: *Risk Assessment and Management of Great Lakes Invasive Species.*

MINOR GRANTS (<100,000, total: $357,588):

1. National Science Foundation to **J.M. Drake** ($14,250), Spring 2010. Title: *Emerging urban vector-borne disease: West Nile Virus in New York City (1999-2006).* (Supplement to provide research opportunities for undergraduates)

2. University of Georgia, President's Venture Fund to **J.M. Drake** ($2,295) Title: *Support for a visiting scientist, Elodie Vercken.*

3. National Science Foundation to **J.M. Drake** ($10,650), Spring 2009. Title: *Emerging urban vector-borne disease: West Nile Virus in New York City (1999-2006).* (Supplement to provide research opportunities for undergraduates)

4. National Center for Ecological Analysis and Synthesis to **J.M. Drake** & W. Langford ($16,900), June 2008. Title: *Machine Learning for the Environment (Supplement)*

5. University of Georgia, President's Venture Fund to **J.M. Drake** ($1,500) Title: *Support to provide research experience for teachers.*

6. National Science Foundation to **J.M. Drake** ($72,147), Summer 2008. Title: *Emerging urban vector-borne disease: West Nile Virus in New York City (1999-2006)*. (Supplement to perform a study of mosquito feeding preferences) EF-0824507
7. National Science Foundation to **J.M. Drake** ($7,000), Spring 2008. Title: *Emerging urban vector-borne disease: West Nile Virus in New York City (1999-2006).* (Supplement to provide research opportunities for undergraduates)
8. University of Georgia Research Foundation, Inc. to **J.M. Drake** ($7,010), 2008-2009. Title: *Extinction in deteriorating environments*.
9. University of Georgia Research Foundation, Inc. to **J.M. Drake** ($7,000), 2007. Title: *Daphnia longevity in fluctuating environments*.
10. National Center for Ecological Analysis and Synthesis to **J.M. Drake** & W. Langford ($97,850), 2006-2008. Title: *Machine Learning for the Environment.*
11. US Department of Agriculture to T. Knight, J. Chase, K. McCue, & **J.M. Drake** ($190,069, Drake component $0), 2005-2006. Title: *Population dynamics of density dependent garlic mustard populations*.
12. NSF Doctoral Dissertation Improvement Grant to **J.M. Drake** ($11,986), Summer 2003 (DEB-0308934). Title: *Invasion Risk in the Great Lakes: Estimating Propagule Pressure with Molecular Tools*.
13. JumpStart Grant (University of Notre Dame) to **J.M. Drake** and Jennifer L. Tank ($1000), Spring 2001 for integrating technology and classroom instruction: General Ecology.
14. Illinois-Indiana Sea Grant College Program Graduate Fellowship to **J.M. Drake** ($6000), 2001-2002. Title: *How many animals does it take to cause an invasion? Predicting future invaders and deriving standards for ballast water from theoretical models of Allee effects*.
15. EPA Graduate STAR Research Fellowship top **J.M. Drake** ($102,000), 2001-2004. Title: *Predicting the identity and probability of establishment for potential aquatic invaders of the North American Great Lakes: a risk assessment*.
16. Miscellaneous travel grants (International Society for the History, Philosophy and Social Studies of Biology, Summer 2003; Society for Conservation Biology, Summer 2001; International Association for Great Lakes Research, Summer 2001)

THESES DIRECTED:

Sarah Bowden (PhD, expected 2015)

Marcus Zokan (PhD, expected 2013)

THESIS COMMITTEES:

Sarah Budischak (UGA, Thesis advisor: V. Ezenwa)

John Robinson (UGA, Thesis advisor: J. Wares)

Krishna Pacifici (UGA, Thesis advisor: M. Conroy)

Shan Huang (UGA, Thesis advisor: J. Gittleman)

Thomas Barnum (UGA, Thesis advisor: C. Pringle)

Ken Leonard (UGA, Thesis advisor: M. Bradford, graduated 2010)

Catherine Bradley, PhD (UGA, Thesis advisor: S. Altizer; graduated 2009)

PUBLISHED ABSTRACTS:

Note: "" denotes undergraduate student as a co-author*

Pacifici, K., J.M. Drake, W. Bajwa. 2010. A hierarchical Bayesian spatial model to evaluate the influence of covariates on the spatio-temporal dynamics of West Nile virus in New York City. International Statistical Ecology Conference 2010. University of Kent, Canterbury, Kent, UK. July 6-9, 2010. (Presentation).

Roche, B., J.M. Drake, P. Rohani. 2010. Phylodynamics of influenza viruses: what is the role of environmental transmission. Ecology and evolution of infections diseases 8th annual workshop and conference. Ithaca, New York. June 2-5, 2010. (Poster).

Drake, J.M., K. Magori, W. Bajwa. 2010. Percolation-like spread of West Nile virus in New York City. International Association of Landscape Ecology, annual conference 2010, Athens, Georgia. (Invited presentation).

*Magori, K., K. Knoblich, W.I. Bajwa, J.M. Drake. 2010. Spatial variation in WNV vector distribution in NYC. International Association of Landscape Ecology, annual conference 2010, Athens, Georgia. (Invited presentation).

*Wong, A., W. Bajwa, J.M. Drake. 2010. Habitats of West Nile Virus Competent Mosquitoes: The Effects of Urbanization in New York City. University of Georgia Center for Undergraduate Research Opportunities Annual Conference, Athens Georgia. March 29, 2010. (Poster)

Kramer, A., E. Vercken, P.C. Tobin, J.M. Drake. 2010. Allee effects induce critical area for establishment in gypsy moth invasion. Ecological Society of America, annual conference 2010, Pittsburgh, Pennsylvania. (Presentation).

Magori, K., C. Michael and J.M. Drake. 2010. Multi-modal epidemics in multi-host pathogens. Ecological Society of America, annual conference 2010, Pittsburgh, Pennsylvania. (Presentation).

Bowden, S., K. Magori, and J.M. Drake. 2010. Regional differences in the association between land cover and West Nile virus incidence in humans in the United States. Ecological Society of America, annual conference 2010, Pittsburgh, Pennsylvania. (Poster).

Drake, J.M. and B.D. Griffen. 2010. Early warning signals of extinction in deteriorating environments. Ecological Society of America, annual conference 2010, Pittsburgh, Pennsylvania. (Presentation).

Schmidt, J.P., and J.M. Drake. 2010. Cost-sensitive risk assessment for invasive plant species in the United States. Ecological Society of America, annual conference 2010, Pittsburgh, Pennsylvania. (Presentation).

Drake, J.M. 2010. How do microcosms tell us about nature? Notes toward a mechanistic understanding of population extinction. *Sustainable conservation: bridging the gap between discipline*, special conference. Trondheim, Norway, March 15-18, 2010. (Invited presentation.)

Dobbs, F., J.M. Drake, J.E Ward, R.E. Hicks. 2010. Microscopic islands: Modeling the theory of island biogeography for aquatic pathogens colonizing marine aggregates. NSF Ecology of Infectious Diseases Network Meeting, Atlantic City, New Jersey. March 22-25, 2010 (Poster).

Magori, K., C. Michael, J.M. Drake. Multi-modal Epidemics in Multi-host Pathogens. NSF Ecology of Infectious Diseases Network Meeting, Atlantic City, New Jersey. March 22-25, 2010 (Poster).

Drake, J.M. 2010. Patterns in the case fatality rate of West Nile virus in North America: Evidence for directional changes in virulence? NSF Ecology of Infectious Diseases Network Meeting, Atlantic City, New Jersey. March 22-25, 2010 (Invited presentation).

Lyons, M.M., J.E. Ward, H. Gaff, R. Hicks, J.M. Drake, F.C. Dobbs. 2010. Theory of island biogeography on a microscopic scale: Are organic aggregates islands for aquatic pathogens? Ocean Sciences, Portland, Oregon. March 24, 2010. (Poster).

Drake, J.M., K. Magori, W. Bajwa. 2009. Percolation-like spread of West Nile virus in New York City. Ecological Society of America, annual conference 2009, Albuquerque, New Mexico. (Presentation).

Magori, K., W. Bajwa, S. Bowden, J. Drake. 2009. Decelerating spread of West Nile virus due to percolation in a heterogeneous, urban landscape. Ecology and evolution of infections diseases 7th annual workshop and conference. Athens, Georgia. May 21-22, 2009. (Poster).

*Bowden, S., and J.M. Drake. West Nile Virus in New York City: Using Birds as an Indicator of Spatio-temporal Distribution. University of Georgia Center for Undergraduate Research Opportunities Symposium, Athens, Georgia. April 6, 2009. (Poster).

Drake, J.M., and W. Bajwa. 2009. Percolation-like spread of West Nile virus in New York City. NSF Ecology of Infectious Diseases Network Meeting, Park City, Utah. March 30-April 2, 2009 (Invited presentation).

Drake, J.M. 2009. Shrinking degrees of separation among the world's ports. AAAS, annual conference 2009, Chicago, Illinois. (Invited presentation).

Drake, J.M., K. Magori, W. Bajwa. 2008. Population dynamics of West Nile Virus in New York City (1999-2007). EPIDEMICS - the inaugural conference on infectious disease dynamics. Asilomar Conference Grounds, Monterey, CA December 1, 2008. (Presentation).

*Magori, K., J. Drake, S. Bowden, C. Michael, W. Bajwa. Bites in the Big Apple: Ecology of West Nile Virus in New York City. UGA-CDC Collaborative Research Forum, CDC Headquarters, September 4, 2008. (Poster).

*Magori, K., J. Drake, S. Bowden, C. Michael, W. Bajwa. Bites in the Big Apple: Ecology of West Nile Virus in New York City. EPIDEMICS - the inaugural conference on infectious disease dynamics. Asilomar Conference Grounds, Monterey, CA December 1, 2008 (Poster).

Drake, J.M., and B.D. Griffen. 2008. Extinction in experimental populations: effects of habitat quality, size, and metapopulation configuration. Ecological Society of America, annual conference 2008, Milwaukee, Wisconsin (Presentation).

Drake, J.M., K. Magori, W. Bajwa. 2008. Emerging urban vector-borne disease: West Nile Virus in New York City (1999-2006). Ecology and Evolution of Infectious Diseases Conference 2008, Fort Collins, Colorado. June 5-8, 2008. (Poster).

Drake, J.M., W. Bajwa, and K. Magori. 2008. Emerging urban vector-borne disease: West Nile Virus in New York City (1999-2006). University of Georgia, Global Health Symposium 2008, Athens, Georgia. April 21-22, 2008. (Poster).

*Shapiro, J. and J.M. 2008. Effects of initial population size and food quality on stochastic population persistence. University of Georgia Center for Undergraduate Research Opportunities Symposium, Athens, Georgia. March 31, 2008. (Poster).

Drake, J.M. 2007. West Nile virus in New York City. Ecology of Infectious Disease, PI meeting, Albuquerque, New Mexico. (Poster).

Drake, J.M. 2007. Accuracy and uncertainty in environmental niche modeling. Ecological Society of America, annual conference 2007, San Jose, California. (Invited presentation).

Drake, J.M., S. Chew, & S. Ma. 2006. Social learning in emerging epidemics: intervention effectiveness in the 2003 SARS outbreak in Singapore. Ecological Society of America, annual conference 2006, Memphis, Tennessee. (Presentation).

Drake, J.M., T. Knight, & J. Chase. 2005. When management might backfire: density-dependent

population dynamics of the invasive biennial *Alliaria petiolata* (Garlic Mustard). Ecological Society of America, annual conference 2005, Montréal, Canada. (Presentation).

Drake, J.M., D.M. Lodge, K.L.S. Drury, A. Blukacz, and N. Yan. 2004. Modeling windows of invasion risk for spiny water flea (*Bythotrephes longimanus*) in North America with a nonhomogeneous birth death process. Ecological Society of America, annual conference 2004, Portland, Oregon. (Presentation).

Drake, J.M., D.M. Lodge. 2004. *Global Hotspots of Biological Invasion: Evaluating Options for Ballast Water Management*. Presented at American Institute of Biological Sciences, annual conference, Washington D.C. March 2004. (Poster).

Drake, J.M. 2004. Risk analysis for invasive species and emerging infectious diseases: concepts and applications. 24th annual Midwest Ecology and Evolution Conference, Notre Dame, Indiana. 57 March 2004. (Presentation).

Drake, J.M. 2003. The measurement of biological diversity, 1943-1982. International Society for the History, Philosophy, and Social Studies of Biology biannual conference, Vienna, Austria, July 1620, 2003. (Presentation).

Drake, J.M., M.A. Lewis, and D.M. Lodge. 2003. Policy Recommendations for Ballast Water Standards. 12th Annual Aquatic Nuisance Species Conference, 2003, Windsor, Ontario. (Presentation).

Drake, J.M., D.M. Lodge and N. Yan. 2002. Allee effects and the success of colonizing species: *Bythotrephes longimanus* in North America. Ecological Society of America, annual conference 2002, Tucson, Arizona. (Presentation).

Drake, J.M., D.M. Lodge, K.L.S. Drury and G Dwyer. 2002. Predicting invasion success: Deriving standards for ballast water from theoretical models. 11th Annual Aquatic Nuisance Species Conference, 2002, Washington D.C. (Presentation).

Drake, J.M., D.M. Lodge, N. Yan. 2001. *Why it takes more than one Bythotrephes to cause an invasion.* "Risk Assessment for Invasive Species: Perspectives from Theoretical Ecology" a joint workshop of the Ecological Society of America and the Society for Risk Analysis, New Mexico State University, Las Cruces, New Mexico, 21-23 October 2001. (Poster).

Drake, J.M., D.M. Lodge, K.L.S. Drury and G. Dwyer. 2001. Predicting invasion success: Applying probabilistic models of population growth to invading species. International Association of Great Lakes Research annual conference 2001, Green Bay, Wisconsin. (Presentation).

Drake, J.M., D.M. Lodge, K.L.S. Drury and G. Dwyer. 2001. Predicting the success of invading species: applying stochastic models of population growth and the role of Allee effects. Society for Conservation Biology annual conference 2001, Hilo, Hawaii. (Presentation).

UNPUBLISHED/WORKING PAPERS:

Note: Available by request.

Rohani, P. & **J.M. Drake.** 2008. Exploring potential refinements to the Measles Strategic Planning Tool. Final report to the World Health Organisation. (unpublished report, December 15, 2008).

Rohani, P. & **J.M. Drake.** 2008. Exploring potential refinements to the Measles Strategic Planning Tool. Interim report to the World Health Organisation. (unpublished report, October 15, 2008).

Drake, J.M. One-dimensional approximation to a two species competition model: extinction time.

Drake, J.M. How does environmental variation affect population dynamics?

Griffen, B.D., & **J.M. Drake**. 2008. The primary use of microcosms is basic research.

Drake, J.M. The background of biodiversity: Quantitative measures of species diversity, 1943-1982.

Drake, J.M., G.A. Lamberti. *et al.* 2000. Second Evaluation of Cooks Run, Michigan (Ottawa National Forest), Concurrent with Habitat Restoration. Report to Ottawa National Forest USDA Forest Service. (unpublished report)

TEACHING:

ECOL 4950 Senior Seminar (Fall 2006)

ECOL 8310 Population and Evolutionary Ecology (Fall 2007, Fall 2008, Fall 2009)

ECOL 8990 Introduction to Applied Statistics (graduate seminar; Fall 2007)

ECOL 4000/6000 Population and Community Ecology (Fall 2008, Fall 2009, Fall 2010)

ECOL 8990 Data Visualization (graduate seminar; Fall 2008)

ECOL 8910 Meta-analysis (graduate seminar; Spring 2010)

ECOL 8910 Time Series Analysis (graduate seminar; Fall 2010)

ECOL 8911 Nonlinear Time Series Analysis (graduate seminar; Spring 2011)

WORKSHOPS & SPECIAL COURSES:

Ecology and Evolution of Infectious Disease 8th Annual Workshop and Conference, Cornell University, Ithaca, New York, June 6-9, 2010 (Instructor for ecology workshop)

2nd Summer Institute in Statistics and Modeling of Infectious Diseases, University of Washington, Seattle, Washington June 13-15, 2010 (Instructor for module "Mathematical models of infectious diseases")

Ecology and Evolution of Infectious Disease 7th Annual Workshop and Conference, University of Georgia, Athens Georgia, May 17-22, 2009 (Instructor for ecology workshop)

1st Summer Institute in Statistics and Modeling of Infectious Diseases, University of Washington, Seattle, Washington June 15-17, 2009 (Instructor for module "Mathematical models of infectious diseases")

Environmental Risk Assessment Conference, Cleveland State University, Center for Environmental Science, Technology and Policy, April 26, 2002 (Instructor for workshop "Using environmental risk analysis to assess and control non-indigenous species invasions")

AWARDS, SCHOLARSHIPS, AND FELLOWSHIPS:

- National Center for Ecological Analysis and Synthesis, Postdoctoral Fellowship (Summer 2004-Summer 2006)
- University of Notre Dame, Department of Biological Sciences 2004 Research Achievement Award (2004)
- Silicon Graphics Inc. (SGI), University of Notre Dame, College of Science Award for Computational Science and Visualization (2004)
- NSF Graduate Research Fellowship Honorable Mention (2000)
- Schmitt Research Fellow (University of Notre Dame, tuition+stipend; 1999-2003)
- Phi Theta Kappa (International honor society of two year colleges; 1996)

- Undergraduate scholarships: E. Gordon Riley Scholarship (1996); Buffalo Foundation Scholarship (1997); Covenant College Instrumental Music Scholarship (1996-1998); Maryland Saltwater Sportfisherman's Association Scholarship (1996-1998); AuSable Institute Fellow (1998); Covenant College Presidential Scholarship (1996-1999); Covenant College McDonald Scholarship (1997-1999)
- Dean's List (Anne Arundel Community College, 1994-1996; Covenant College, 1996-1999)
- Eagle Scout Award (1993)

PROFESSIONAL ACTIVITIES & COMMUNITY SERVICE:

UGA Faculty Learning Community on the Scholarship of Teaching and Learning (Fall 2010-present)

Faculty sponsor of University of Georgia chapter of the National Students of AMF, a network dedicated to supporting college students grieving the illness or death of a loved one. (April 2008-present)

Co-organizer of symposium , Pathogens in Heterogeneous Landscapes: Consequences of Environmental Variation for Infectious Disease Dynamics and Control, International Association for Landscape Ecology 2010 Annual Conference, Athens, Georgia, April 8, 2010

NSF Population and Community Ecology Panel member (April 13-17, 2010)

UGA Honors Faculty Mentoring Network (2009-present)

Scientific Advisory Board, Highlands Biological Station (2008-present)

Member of Advisory Board for the University of Georgia River Basin Center (2007-present)

Member of Steering Committee of the Institute of Ecology's Conservation Ecology and Sustainable Development (CESD) Masters Program (2007-present)

Co-organizer of session about population dynamics of invasive plants, ESA 2005 annual conference, Montréal, Canada

Co-chair, 24th annual Midwest Ecology and Evolution Conference, U. Notre Dame, March 57, 2004

Volunteer, Hope Rescue Mission, South Bend, IN

Boy Scout Environmental Science merit badge counselor (2000-2004)

Advisory board for Notre Dame Kaneb Center for Teaching and Learning (2001-2002)

Society for Conservation Biology, Committee on Education (2000-2002)

Volunteer educator, Sunshine Cove Youth Camp (2000-2002)

Volunteer science fair judge (March 2000)

CERTIFICATION:

- Physical Science Responsible Conduct of Research (CITI Course; last updated February 26, 2010)
- Protecting Human Subjects in Research (NIH web-based course; last updated March 3, 2009)
- The Protection of Human Research Subjects (CITI Course; last updated May 23, 2007)

PROFESSIONAL MEMBERSHIPS:

Note: not all active

American Association for the Advancement of Science

Ecological Society of America

International Association of Great Lakes Research

International Society for History, Philosophy, and Social Studies of Biology

Society of Conservation Biologists

American Society of Naturalists

International Association for Landscape Ecology

CONSULTING:

- University of Miami, *Environmental Changes and Mosquito-borne Disease in Arid Environments* (2010-2015)
- Lytmos Group, Inc. 400 SW Longview Blvd., Suite 290, Lee's Summit, MO 64081 (2009)
- Eastern Research Group, Inc. 110 Hartwell Avenue, Lexington, MA 02421-3131 (2008)
- World Health Organization (2008)

EDITORIAL BOARD:

Ecosphere (Associate Editor: 2010-present)

REVIEWER FOR JOURNALS, PUBLISHERS, AND FUNDING ORGANIZATIONS:

American Midland Naturalist; American Naturalist;Biological Dynamics; *Biological Invasions; Biology Letters*; *BMC Evolutionary Biology*; *Bulletin of Mathematical Biology*, Canadian Aquatic Invasive Species Network*; Canadian Journal of Fisheries and Aquatic Sciences; Canadian Journal of Forest Research; Conservation Biology; Diversity*; *Diversity & Distributions*; *Ecohealth*; *Ecosphere*; *Ecography; Ecological Applications; Ecological Economics*; *Ecological Informatics*; *Ecological Modelling; Ecological Monographs; Ecology*; *Ecology & Society; Ecology Letters; Ecosystems; Environmental and Ecological Statistics; Evolution*; French National Research Agency; *Frontiers in Ecology & Environment; Global Ecology and Biogeography; International Journal of Infectious Disease*; *Journal of Animal Ecology; Journal of Applied Ecology; Journal of the Royal Society Interface; Marine Ecology Progress Series;* Missouri Life Sciences Research Board; National Aeronautic and Space Administration, Global Climate Change Education Research Program; National Aeronautic and Space Administration, K12 Cooperative Agreements Program; National Environment Research Council (UK); National Oceanic and Atmospheric Administration Great Lakes Environmental Research Laboratory*;* National Science Foundation (USA)*; Oecologia; Oikos;* Oxford University Press; *PLoS Medicine; PloS One; Population Ecology*; *Proceedings of the National Academy of Sciences; Proceedings of the Royal Society Interface*; *Proceedings of the Royal Society Series B; Restoration Ecology*; Royal Society of New Zealand*;* Springer Academic Publishing*;Theoretical Ecology*; *Theoretical Population Biology*; *Transactions of the American Fisheries Society*; *Trends in Ecology & Evolution; Weed Research*

INVITED SEMINARS, PUBLIC LECTURES, ETC.:

1. "Mechanistic analogy: How microcosms tell us about nature." University of South Carolina. 10

December 2010.

2. "Population dynamics of West Nile virus." National Center for Emerging and Zoonotic Infectious Diseases, Centers for Disease Control, Atlanta, Georgia. 13 October 2010.
3. "Early warning signals of extinction in deteriorating environments." Emory University. 17 September 2010.
4. "Reaction-diffusion model of biological invasion for species with an Allee effect: Application to ballast water discharge" 1st meeting of *NRC Committee on Assessing Numeric Limits for Living Organisms in Ballast Water*. 2 June 2010.
5. "Population dynamics of West Nile virus in New York City" University of Michigan, Center for the Study of Complex Systems. 19 April 2010.
6. "Cost-sensitive machine learning algorithms for invasive species decision support, risk analysis, and policy: genus level patterns." US Department of Agriculture, Economic Research Service Program on Economic Impacts of Invasive Species. 22 October 2009.
7. "Decelerating traveling waves of West Nile virus in a heterogeneous, urban environment." University of Georgia. 29 September 2009.
8. "Anomalous patterns of West Nile virus mortality in the US (1999-2007)." University of Georgia (EDGE). 18 September 2009.
9. "Decelerating traveling waves of West Nile virus in a heterogeneous, urban environment." University of South Carolina. 12 September 2009.
10. "Demographic stochasticity and the *Daphnia* model." Georgia Tech. 1 October 2008.
11. "Population dynamics of West Nile virus in New York City (1999-2007)." National Institutes of Health, Fogarty International Center. 11 August 2008.
12. "Global change and disease distributions: mapping uncertainty." University of Georgia, 2007 BHSI Spring Symposium: Climate, Ecology and Infectious Disease. 16 April 2007.
13. "Infectious disease mediated by environmental change: An issue for environmental justice?" University of Georgia, River Basin Center. 9 February 2007.
14. "Do we need an ecological ethics?" Harvard Forest. 24 July 2006.
15. "Biological invasions in aquatic ecosystems: Local and global dynamics." University of North Carolina, Chapel Hill. 13 February 2006.
16. "Forecasting population fluctuations in ecology and epidemiology: Stochastic phenomena & computational analysis." Virginia Polytechnic Institute and State University. 9 February 2006.
17. "Understanding the drivers of population fluctuation and expansion: extinction, invasion, and disease outbreak on landscapes." Georgia Tech. 27 January 2006.
18. "Mechanistic and computational approaches to forecasting population fluctuations in ecology and epidemiology." University of Georgia, Institute of Ecology. 23 January 2006.
19. "Computational approaches to modeling disease-environment interactions: forecasting malaria dynamics in Africa with support vector machines." Penn State, Center for Infectious Disease Dynamics. 12 November 2005.
20. "Local and global dynamics of biological invasions in aquatic ecosystems." Washington University. 3 November 2005.
21. "Computational approaches to ecological forecasting: Disease outbreaks and species re-distribution." Washington University. 4 November 2005.

22. "Modeling the potential distribution of zebra mussels in the United States: pattern recognition and one-class classification." University of Tennessee, Knoxville, TN. February 4, 2005.

23. "Ethical considerations: why does it matter?" Lecture Series: *Invasive Species and the Public Good*, opening forum. Yale School of Forestry and Environmental Studies, New Haven, CT. January 24, 2005.

24. "Allee effects in invasive species: the discrepancy between models and data." USDA Interagency Research Forum on Gypsy Moth and other Invasive Species, Annapolis, MD. January 18-21, 2005.

25. "Extinctions in experimental populations." National Center for Ecological Analysis and Synthesis, Santa Barbara, CA. October 28, 2004.

26. "*Bythotrephes*, ballast water and biological invasions: Population biology and risk analysis." McGill University. February 11, 2004.

27. "How many animals does it take to start an invasion? Population biology for risk analysis of non-indigenous species." Covenant College. March 28, 2003.

28. "The measurement of biological diversity, 1943-1982." Southwest Colloquium in the History and Philosophy of the Life Sciences. Arizona State University. February 21-22, 2003.

29. "Viable Populations and the Risk of Biological Invasion: Tools for Managing Decisions." Environmental Risk Assessment Conference, Cleveland State University Center for Environmental Science, Technology & Policy. April 26, 2002.

NEWS COVERAGE, PUBLISHED CORRESPONDENCE, ETC.:

1. Gregory, S.D., & F. Courchamp. 2010. Safety in numbers: extinction arising from predator-driven Allee effects. *Journal of Animal Ecology* 79:511-514.

2. Anonymous. 2009. Survival tips. *Nature* 461:573.

3. Madrigal, A. 2009. Global shipping industry makes world flat—biologically. *Wired.com* Science blogs (http://blog.wired.com/wiredscience/2009/02/homogecene.html) (February 19, 2009).

4. Waters, R. 2008. Stop, think, then vote. *Sail Magazine* (June 2008). (An editorial based on our studies of invasive species in ballast water.)

5. Anonymous. 2008. Study points out danger to Great Lakes. United Press International (January 21, 2008).

6. Lynch, J. 2008. Ballast rules may not halt Lakes invaders. *The Detroit News* (January 21, 2008).

7. Alexander, J. 2008. Are invaders riding on ships' hulls? *mLive.com* (http://www.mlive.com/news/grpress/index.ssf?/base/news-40/120058127811940.xml&coll=6) (January 17, 2008)

8. Alexander, J. 2008. Foreign species hitching rides on hulls. *The Muskegon Chronicle*, 12 January 2008.

9. Reid, & P. Hudson. 2008. Comment on "Rate of species introductions in the Great Lakes via ships' ballast water and sediments" by John M. Drake and David M. Lodge. *Canadian Journal of Fisheries and Aquatic Sciences* 65:549-553.

10. Chronicle News Service. 2007. Ships transport more invasive species. mLive.com. 26 December 2007.

11. Sharp, E. 2007. Saltwater ships pose hazard to Great Lakes. *Lansing State Journal*, 21 December 2007.

12. Ricciardi, A. & H.J. MacIsaac. 2008. Is current ballast water policy sufficient to protect the Great Lakes from ship-vectored invasions? *Ecological Applications* 18:1321-1323.

13. American Museum of Natural History. 2007. Online *Science Bulletin* feature on invasive species; http://www.amnh.org/sciencebulletins/?sid=b.f.invasive_species.20071101&src=b. (The animation of global spread through ballast water represents research by Drake and Lodge conducted during 2005-2007).

14. Barton, B.A., & W.G. Franzin. 2006. On the distribution and extension of rainbow smelt. *Fisheries* 31:304.

15. Anonymous. 2006. The difficulties of predicting the outbreak sizes of epidemics. *PLoS Medicine* 3(1):e23.

16. Monastersky, R. 2005. The number that's devouring science. *Chronicle of Higher Education* (14 October 2005). Volume 52, Issue 8, page A12.

17. Anon. 2005. Invasive species and the public good. *ForestWise* 1:1. (News article in the Yale University Global Institute of Sustainable Forestry Newsletter about Fletcher distinguished lecture series. Includes picture from January 2005 forum.)

18. Agoramoorthy, G., and M.J. Hsu. 2005. Religious freeing of wildlife promotes alien species invasions. *BioScience* 55(1):5-6.

19. Anonymous. 2005. Are we understanding species extinction risk? *PLoS Biology* 3.

20. Monczunski, J. 2004. The hotspots of invasion. *Notre Dame Magazine*. Autumn 2004 (October), p. 17.

21. Sæther, B.-E. and S. Engen. 2004. Stochastic population theory faces reality in the laboratory. *Trends in Ecology and Evolution* 19:351-353.

22. Thagard, A. 2004. ND researchers study effects of ballast water. *The Observer* (U. Notre Dame, student daily newspaper) 23 February 2004.

PUBLIC ACTIVITIES/OUTREACH:

1. APHIS-2006-0011 *Importation of Plant for Planting; Establishing a Category of Plant for Planting Not Authorized for Importation Pending Pest Risk Analysis*, Public Comment (with R. Keller, D. Finnoff, & D. Lodge), October 2009

2. Letter of support to Paul Stolen and Minnesota Department of Natural Resources regarding *Risk and Consequence Analysis Focused on Biota Transfers Potentially Associated with Surface Water Diversions Between the Missouri River and Red River Basins* by Greg Linder *et al*., 21 March 2006

3. APHIS-2005-0020 *Proposed rules 7 CFR Part 319 – Nursery Stock Regulations*, Public Comment (with R. Keller, J. Bossenbroek, and D. Lodge), April 2004

4. *Increase Your Leadership on Global Warming*, open letter to California Governor Schwarzenegger and California legislators from California scientists, signatory, March 2005

5. USDA040371 *Noxious Weeds; Notice of Availability of Petitions To Regulate Caulerpa*, Public Comment (with J. Bossenbroek and R. Keller), December 2004

6. Scientists' Statement: *Restoring Scientific Integrity in Policy Making*, signatory, September 2004

7. USCG200110486 *Standards for Living Organisms in Ship's Ballast Water Discharged in U.S. Waters*, Public Comment (with D. Lodge), December 2003
8. *Scientists' Call to Action on Invasive Species: Gifts To The Nation*, signatory, November 2003
9. *Not in Our Name* Statement of Conscience, signatory, November 2002