JASON S. GREAR

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EDUCATION

Ph.D. 2003. Yale University. School of Forestry and Environmental Studies (Ecology)
M.S. 1992. University of Florida – Gainesville (Ecology)
B.A. 1986. Connecticut College (Zoology)

PROFESSIONAL POSITIONS

Research Ecologist, Jun 2005-Present. EPA Atlantic Ecology Division, Narragansett, RI
Postdoc, Aug 2003- Jun 2005, EPA Atlantic Ecology Division, Narragansett, RI
Adjunct Assistant Professor, Dec 2010-present. Dept. Natural Resources Science, U. of RI
Lecturer, 2011-present, Dept. History, Philosophy and Social Sci., RI School of Design
Visiting Faculty, 2004. Yale School of Forestry and Environmental Studies
Doctoral Fellow, 1998-2003. Yale School of Forestry and Environmental Studies
Field Instructor, 2001-2003. Yale School of Forestry and Environmental Studies
Biologist/Senior Biologist, 1992-1998. Long Island Sound Programs, CT Dept of Envir. Protection
M.S. Candidate, 1989-1992. U. of Florida, Gainesville
Research Assistant, 1988 - 1989. Manomet Center for Conservation Sciences, Manomet, MA

PROFESSIONAL APPOINTMENTS

Interagency Working Group on Ocean Acidification, EPA Representative, 2012-present (chartered by the Subcommittee on Ocean Science and Technology)
National Ocean Council, Resiliency and Adaptation to Climate Change and Ocean Acidification Subcommittee, EPA representative, 2013-present.
US Global Change Research Program, National Climate Assessment, Ocean and Coastal Indicators Technical Team, 2012-present
Long Island Sound Model Evaluation Group, Invited by LIS National Estuary Program, 2013-present
Integrated Sentinel Monitoring for Climate Change in Northeast Coastal Ecosystems, 2013-present
PhD Thesis Committee member for Elizabeth Harvey, Graduate School of Oceanography, U. of RI
MS Thesis Committee member for Hyewon Kim, Graduate School of Oceanography, U. of RI
PhD Thesis Committee member of Gordon Ober, Dept. Natural Resources Science, U. of RI (current)
Executive Board member, Mount Tom Land Trust, Exeter, RI, 2006-2012
Vice President, Mount Tom Land Trust, Exeter, RI, 2012-present
Review Panel ad hoc member, Integrated Pest Management for Infectious Diseases, US EPA
Review Panel ad hoc member, EPA Science to Achieve Results (STAR)
Tolland Conservation Commission, Tolland, CT, 2001-2003
Connecticut Natural Area Preserve Advisory Board, 1996-1998
Connecticut Audubon Coastal Center Scientific Advisory Board, 1995-1997
Connecticut Sea Grant Proposal Review Panel, 1996
Periodic reviewer for Acta Biotheretica, Animal Behaviour, Biotropica, Biological Invasions, Ecology, Ecology and Society, Ecoscience, Ecotoxicology, Integrated Environmental Assessment and Management, Journal of Mammology, Marine Environmental Research, National Science Foundation, Oecologia, Oikos, Research Letters in Ecology, Wetlands Ecology and Management

SOCIETIES

Association for the Sciences of Limnology and Oceanography, active
New England Estuarine Research Society, active
American Fisheries Society, intermittent

Wildlife Society, intermittent
Ecological Society of America, intermittent
Society for Conservation Biology, past member
American Ornithologists' Union, past member

HONORS

Governor's Service Award (Connecticut, 1995)
Hutchinson Prize, Yale University, Institute for Biospheric Studies (1999)
EPA Science and Technology Achievement Award (Level II – 2008)
EPA Science and Technology Achievement Award (Honorable Mention – 2010)
EPA Science and Technology Achievement Award (Honorable Mention – 2012)
EPA Honor Award for Assistance to the EPA Regions (2014)

INVITED LECTURES AND SEMINARS

Spatial distribution in a forest floor insect depends on seasonal grouping behavior and scattering effects of predators. Invited Seminar. Connecticut College, New London, CT. Mar 2004.
Population modeling to support ecological risk assessment: An example using mysid toxicity test data. Presentation to OPPTS. Sep 16, 2004.
Population modeling to support ecological risk assessment: An example using mysid toxicity test data. Presentation to Water Quality Criteria Guidelines Committee. Sep 16, 2004.
Mechanisms driving spatial aggregation in a forest insect. Invited seminar, U. of Chicago. Jan 2004.
Constructing and parameterizing demographic population models for the common loon. Oral presentation. Northeast Loon Study Work Group, Annual Meeting. Moultonborough, NH. Apr 2006.
Effects of seawater acidification on the life cycle and fitness of opossum shrimp populations. Invited seminar co-sponsored by the School of Marine Sciences and the School of Biology and Ecology, U. of Maine, Orono. Dec 2009.
Evaluating effects of localized habitat manipulations on landscape-level dynamics of white-footed mouse populations. Invited presentation, US EPA Regional Science Workshop: Landscape/Biodiversity Change and Lyme Disease- Science and Application. EPA-New England Regional Laboratory, Chelmsford, MA. Sep 22-23, 2009.
Potential ocean acidification effects on harvested resource species. Invited remote presentation to Alaska's Tribal Air Network arranged by EPA Region 10. May 8, 2012
Panel discussion of climate change. Invited panelist. Depts of Geosciences, Engineering and Communication, U. of RI. Mar 31, 2011.
Predicting responses of marine zooplankton populations to environmental change. Invited lecture for Biological Oceanography. Graduate School of Oceanography, U. of RI. Nov 1, 2011.
Effects of atmospheric CO_2 on the life cycle and fitness of the mysid shrimp *Americamysis bahia*. Invited Seminar, UMASS – Boston. Nov 30, 2011
Fitting water quality models to water quality observations: Is it possible? Invited oral presentation to the Woods Hole Water Quality Modeling Workshop sponsored by the Woods Hole Science Center, US Geological Survey. Woods Hole, MA. Sep 2013.
Coastal acidification and nutrient enrichment. Invited presentation at the "Mud Summit" sponsored by the Casco Bay Estuary Partnership. Portland, ME. Jan 2013
Coastal acidificaiton and nutrient enrichment. Invited presentation at the Ocean Acidification Information Exchange hosted by EPA Office of Water. Washington, D.C. Feb 2013

BIBLIOGRAPHY

1. Harrington, B.A., F.J. Leeuwenberg, S. Lara Resende, R. McNeil, J.S. Grear, B.T. Thomas, and E. Martinez. 1991. Migration and mass change of White-rumped Sandpipers in North and South America. Wilson Bulletin 103: 621-636.
2. Brokaw, N.V.L., and J.S. Grear. 1991. Forest structure before and after Hurricane Hugo at three elevations in the Luquillo Mountains, Puerto Rico. Biotropica 23: 386-392.
3. Collazo, J.A., B.A. Harrington, J.S. Grear, and J.A. Colon. 1994. Abundance and distribution of shorebirds at the Cabo Rojo Salt Flats, Puerto Rico. Journal of Field Ornithology 66: 424-438.
4. Brokaw, N., J.S. Grear, K.J. Tripplet, A. Whitman, and E.P. Mallory. 1997. The Quebrada de Oro forest of Belize: Exceptional structure and high species richness. Tropical Ecology 38: 247-258.
5. Grear, J.S. and J.A. Collazo. 1999. Habitat use by migrant shorebirds in a tropical salt flat system. Journal of Neotropical Wildlife (Vida Silvestre Neotropical) 7: 15-22.
6. Nacci, D., M. Pelletier, J. Lake, R. Bennett, J. Nichols, R. Haebler, J. Grear, A. Kuhn, J. Copeland, M. Nicholson, S. Walters, and W. Munns Jr. 2005. An approach to predict risks to wildlife populations from mercury and other stressors. Ecotoxicology 14:283–293.
7. Grear, J.S., and O.J. Schmitz. 2005. Effects of grouping behavior and predators on spatial distribution of a forest floor arthropod. Ecology 86: 960-971.
8. Grear, J. S., and C. E. Burns. 2007. Evaluating effects of low quality habitats on regional population growth in *Peromyscus leucopus*: Insights from field-parameterized spatial matrix models. Landscape Ecology 22:45-60.
9. Burns, C.E. and J.S. Grear. 2008. Effects of habitat loss on populations of white-footed mice: Testing matrix model predictions with landscape-scale experiments. Landscape Ecology 23: 817-831.
10. Grear, J. S., and B.D. Elderd. 2008. Bias in population growth rate estimation: Sparse data, partial life cycle analysis and Jensen's inequality. Oikos 117: 1587-1593.
11. Grear, J.S., M.W. Meyer, J.H. Cooley, Jr., A. Kuhn, W.H. Piper, M.G. Mitro, H.S. Vogel, K.M Taylor, K.P. Kenow, S.M. Craig, and D.E. Nacci. 2009. Population growth and demography of common loons in the northern United States. Journal of Wildlife Management 73: 1108-1115.
12. Markert, J.A., D.M. Champlin, R. Gutjahr-Gobell, J.S. Grear, A. Kuhn, T.J. McGreevy, Jr., A. Roth, M.J. Bagley and D.E. Nacci. 2010. Population genetic diversity and fitness in multiple environments. BMC Evolutionary Biology 2010, 10:205
13. Grear, J.S., D. Borsay Horowitz and R. Gutjahr-Gobell. 2011. Mysid population responses to resource limitation differ from those predicted by cohort studies. Marine Ecology Progress Series 432: 115-123.
14. Piper, W.H., J.S. Grear and M. Meyer. 2012. Juvenile survival in common loons: Effects of natal lake size and pH. Journal of Avian Biology 43: 280-288.
15. Grear,J.S., R. Koethe, B. Hoskins, R. Hillger, L. Dapsis, and M. Pongsiri. 2014. The effectiveness of permethrin-treated deer stations for control of the Lyme disease vector *Ixodes scapularis* on Cape Cod and the Islands: A five year experiment. Parasites and Vectors 7: 292.
16. Wallace, R.B., H. Baumann,, J.S. Grear, R.C. Aller, and C.J. Gobler. 2014. Coastal ocean acidification: The other eutrophication problem. Estuarine, Coastal and Shelf Science 148: 1-13.

BOOK CHAPTERS, CONFERENCES, PROCEEDINGS, MONOGRAPHS

1. Harrington, B.A., J.P. Myers, and J.S. Grear. 1989. Coastal refueling sites for global bird migrants. Coastal Zone 89. Proceedings of the 6th Symposium, Coastal and Ocean Management, American Society of Civil Engineers: 4293-4307.
2. Brokaw, N., S. Fraver, J.S. Grear, J. Thompson, J.K. Zimmerman, E.M. Everham III, R. Waide, S.P. Hubbell and R. B. Foster. 2004. Disturbance and canopy structure in two tropical forests. In E. Losos and E. Leigh (eds.). Forest Diversity and Dynamism. University of Chicago Press.
3. Grear, J.S. and W. Robinson. 2011. Moderated ocean acidification session. Society for Environmental Toxicology and Chemistry, 32nd Annual Meeting. Boston, MA. Nov 2011.

OTHER REPORTS

1. Wilson, J.H, J.S. Grear, S.C. Anisfeld. 2002. The effects of docks and mechanical disturbance on submerged aquatic vegetation in tidal-fresh Hamburg Cove (Lyme, Connecticut). Report to Connecticut Department of Environmental Protection (Yale Thesis Research by J. Wilson. Principal Investigator: J. Grear).
2. Thursby, G., T. Gleason and J.S. Grear. 2005. Classifying life histories for screening-level assessments. Report to US EPA Office Pesticides (APM 367).
3. Kuhn, A., J. Copeland, J. Grear, S. Walters, M. Nicholson and D. Nacci. 2005. Report on habitat suitability indices to support population models for projecting relative risk of multiple stressors including toxic chemicals and habitat alteration to common loons. Report to US EPA Office of Water (APM 558).
4. Nacci, D, J. Grear and A. Kuhn. 2005. Overview of U.S. Environmental Protection Agency National Health and Environmental Effects Research Laboratory research products to support Annual Performance Goal 30. Report to US EPA Office of Water.
5. Grear, J., D. Nacci, A. Kuhn, S. Walters and J. Copeland. 2005. Methods for developing water quality criteria based on population-level risks of multiple stressors to aquatic life and aquatic-dependent wildlife: Population modeling and analysis. Report to US EPA Office of Water (APM 567)
6. Grear, J., J. Awkerman and R. Gobell-Gutjahr. 2009. A proposed approach for screening level assessment of risk to songbird populations from pesticide application in cotton fields. Report to US EPA Office of Pesticide Programs in the Office of Prevention, Pesticides and Toxic Substances (APM 209).
7. Nacci D., A. Kuhn, J. Grear and G. Thursby. 2009. Demonstrating proof-of-concept methods to assess multiple risks for wildlife populations: Combined risks of mercury contamination and habitat alteration to common loons (Wildlife Demonstration Research Project). Water Quality Multi-Year Plan (APM 188).
8. Grear, J.S. 2011. Development of stochastic population modeling approaches for risk assessment of aquatic populations. Report to U.S. EPA Office of Pesticides (SP2 APM 206).
9. Liebman, M. and J. Grear. OSV Bold Survey Report: Coastal acidification in southern New England, August 15 to 17, 2012. Submitted to US EPA Office of Water, Oceans and Coastal Protection Unit. Apr 4, 2013.
10. Interagency Working Group on Ocean Acidification. 2014. Strategic Plan for Federal Research and Monitoring of Ocean Acidification. Subcommittee on Ocean Science and Technology. Committee on Environment, Natural Resources, and Sustainability National Science and Technology Council. http://www.whitehouse.gov/sites/default/files/microsites/ostp/NSTC/iwg-oa_strategic_plan_march_2014.pdf
11. Kenney, M.A, A.C. Janetos et. al., National Climate Indicators System Report, National Climate Assessment and Development Advisory Committee, 2014. http://downloads.globalchange.gov/nca/pilot-indicator-system-report-final.pdf

ABSTRACTS

1. Grear, J., D. Nacci, S. Walters, D. Champlin and A. Kuhn. Population models for assessing risks of multiple stressors to the common loon. Poster presentation. Annual SETAC meeting, Portland, OR. Nov 2004.
2. Grear, J.S. Spatial aggregation of a forest floor insect depends on seasonal congregation and scattering effects of predators. Oral presentation. 89th Annual Meeting of the Ecological Society of America, Portland, OR, Aug 2004.
3. Grear, J.S. Comparing simple and complex population models through a cooperative agreement by the US EPA and the University of Chicago. Poster presentation at the EPA Science Forum, Washington DC. May 2005.
4. Grear, J.S. and C.E. Burns. Construction and perturbation analysis of a multi-habitat periodic matrix population model for *Peromyscus leucopus.* Oral presentation. 90th Annual Meeting of the Ecological Society of America. Montreal, Aug 2005.

5. Burns, C.E. and J.S. Grear. Effects of habitat loss on population viability: Testing model predictions with landscape-scale perturbation experiments. Oral presentation. 90th Annual Meeting of the Ecological Society of America (presented by C.E. Burns). Montreal. Aug 2005.
6. Grear, J., G. Thursby, T. Gleason. Classifying life histories for screening-level assessments. Oral presentation of material from APM 367 (Thursby et al) to the US EPA Office of Pesticide Programs. Nov 3, 2005.
7. Grear, J. and D. Nacci. Wildlife population models in ecological risk assessment. Oral presentation. EPA Regional Science Liaisons, Narragansett, RI. Oct 2006.
8. Grear,J.S, A. Kuhn, D. Nacci and J. Copeland. Update on Common Loon population modeling and integrating stressor information into projections. Oral Presentation. Northeast Loon Study Work Group annual meeting. Moultonborough, NH. Apr 2006.
9. Grear, J.S. and C.E. Burns. Evaluating effects of low quality habitats on regional population growth in *Peromyscus leucopus*: Insights from field-parameterized spatial matrix models. SETAC North Atlantic Chapter 12th Annual Meeting. Portland, ME. Jun 2006.
10. Panelist, Connecticut College Arboretum, 75th anniversary. Jun 2006.
11. Grear, J., M. Etterson, G. Thursby, S. Raimondo, D. Nacci, R. Bennett, A. Kuhn, D. Champlin. Incorporating simple population models into the risk assessment process and extending their complexity to include greater realism. Poster presentation to the Board of Scientific Councilors. Feb 2007.
12. Grear, J.S. Polynomials in your food. Presentation to Curtis Corner Middle School 8th grade Honors Algebra Class. South Kingstown, RI. Dec 2008.
13. Grear, J., M. Meyer, J. Cooley, Jr., A. Kuhn, W. Piper, M. Mitro, H. Vogel, K. Taylor, K. Kenow and D. Nacci. Population growth and demography of common loons in lakes of the northern United States. Annual Meeting of The Wildlife Society. Miami, FL. Nov 2008.
14. McGreevy, TJ Jr.,, J.A. Markert, J.S. Grear and D. Nacci. Bridging the gap between large-scale data sets and analyses: Semi-automated methods to facilitate amplified fragment length polymorphism scoring and data analyses. American Genetic Association Annual Symposium. The Genetics and Genomics of Environmental Change. Brown University. Providence, RI. Jun 8-11, 2009.
15. Grear, J.S., D. Borsay Horowitz and R. Gutjahr-Gobell. Complex population responses to food resources in the marine crustacean *Americamysis bahia*. Oral presentation. 34th Annual Meeting of the New England Association of Environmental Biologists. Newport, RI. Mar 17-19, 2010.
16. Grear, J.S, D. Borsay Horowitz and R. Gutjahr-Gobell. Population-level experiments for population-level risk assessment: An example using the opossum shrimp *Americamysis bahia*. Oral presentation. SETAC North Atlantic Chapter 16th Annual Meeting. Narragansett, RI. Jun 2-4, 2010.
17. Grear, J.S., D. Borsay Horowitz and R. Gutjahr-Gobell. Inverse demographic analysis of compensatory responses to resource limitation in the mysid crustacean *Americamysis bahia*. Oral presentation. 95th Annual Meeting of the Ecological Society of America. Pittsburgh, PA. Aug 1-6, 2010.
18. Grear, J.S., R. Gutjahr-Gobell and D. Borsay Horowitz. Effects of seawater acidification on the life cycle and fitness of opossum shrimp populations. Oral presentation. New England Estuarine Research Society Fall Meeting. Provincetown, MA. Oct 28-30, 2010.
19. Borsay Horowitz, Doranne, Jason S. Grear, and Ruth Gutjahr-Gobell. Estimating stage-specific vital rate responses to stress within mixed age populations of the opossum shrimp *Americamysis bahia* using digital imaging. Poster presentation (by DBH). Society for Environmental Toxicology and Chemistry, 31st Annual Meeting, Portland OR. Nov 2010.
20. Grear, Jason.S., Doranne Borsay Horowitz, Ruth Gutjahr-Gobell and Matthew Bernardo. Effects of atmospheric CO_2 on the life cycle and fitness of the mysid shrimp *Americamysis bahia*. Poster presentation. Society for Environmental Toxicology and Chemistry, 32nd Annual Meeting. Boston, MA. Nov 2011.
21. Grear,J and D. Borsay Horowitz. Effects of coastal acidification on the life cycle and fitness of the mysid shrimp *Americamysis bahia*. Oral presentation. Aquatic Sciences meeting of the Association for the Sciences of Limnology and Oceanography. New Orleans, LA. Feb 2012.
22. Grear, J.S. Effects of atmospheric CO_2 on the life cycle and fitness of the mysid shrimp *Americamysis bahia*. Invited Seminar, UMASS – Boston. Nov 30, 2011.

23. Grear,J, D. Borsay Horowitz, R. Gobell-Gutjahr and M. Bernardo. Effects of atmospheric CO_2 on the life cycle and fitness of the mysid shrimp *Americamysis bahia*. Presentation at NAC SETAC 18th Annual Meeting, W. Greenwich, RI. Jun 6-8, 2012.
24. Grear, J. Estimating birth and death rates from stage-structured animal count data in R and Python. Presentation/discussion. U. of RI Methods Seminar, Narragansett, RI. Aug 27, 2012.
25. Grear, J. Water quality in Narragansett Bay. Invited presentation to Science: Outside the classroom door. South Kingstown High School. South Kingstown, RI. Mar 8, 2013.

COURSES TAUGHT

1. Lab instructor for quantitative population ecology (Yale U., graduate level). 2002,2003.
2. Wildlife Conservation Ecology (Yale U., graduate level). 2004.
3. Natural Resource Conservation (U. of Rhode Island). 2011.
4. Global Environmental Change (Rhode Island School of Design). 2012, 2013, 2015.
5. The Science and Social Science of Climate Change (co-taught, Rhode Island School of Design). 2014.