

Curriculum Vitae
Daniel J. Hocking

University of New Hampshire
Department of Natural Resources and the Environment
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EDUCATION

- 2012 Ph.D. Natural Resources and Environmental Science, University of New Hampshire, Durham, NH
- Dissertation Title: *The Role of Red-backed Salamanders in Ecosystems*
 - Committee: Kim Babbitt, Mark Ducey, Adrienne Kovach, Tom Lee & John Maerz
 - Minor: Cognate in College Teaching
- 2007 M.A. Biological Sciences, University of Missouri, Columbia, MO
- Thesis Title: *Gray Treefrog Breeding Site Selection and Offspring Performance in Response to Forest Management*
 - Committee: Ray Semlitsch, Jim Carroll & Josh Millspaugh
- 2003 B.S. Environmental Conservation, University of New Hampshire, Durham, NH,
- Minor: Chemical Engineering
 - *Magna Cum Laude*

RESEARCH & PROFESSIONAL EXPERIENCE

Research Interests

- Faunal response to land-use (forestry, urbanization, disturbance) and climate change (range shifts, community structure) at varying spatial scales
- Habitat restoration, creation, and mitigation techniques for successful wildlife population maintenance, enhancement, and reintroduction
- Statistical advances for modeling species activity, abundance, and detection (mixed models, estimating equations, hierarchical mixture models using Bayesian inference, and integrated population models)
- Role of vertebrates in terrestrial ecosystem functions and services

Current Appointment

2012 - Present Postdoctoral Research Associate, University of New Hampshire, Durham, NH

Previous Experience

2007-2012 Doctoral Research, University of New Hampshire, Durham, NH
2004-2007 Master's Research, University of Missouri, Columbia, MO
2004 Research Technician, University of Missouri, Columbia, MO
2002-2003 Field & Laboratory Technician, University of New Hampshire, Durham, NH

PUBLICATIONS (undergraduate mentored)

Anderson, T. L., **D. J. Hocking**, C. A. Conner, J. E. Earl, E. B. Harper, M. S. Osbourn, W. E. Peterman, T. A. G. Rittenhouse, and R. D. Semlitsch. *In review*. The influence of priority effects on metamorph traits and recruitment of two pond-breeding salamanders. *Oecologia*.

- Hocking, D. J.** and K. J. Babbitt. *In review*. The role of red-backed salamanders on ecosystem functions. *PLOS One*.
- Hocking, D. J.** 2013. Comparing the influence of ecology journals using citation metrics: making sense of a multitude of metrics. *Ideas in Ecology & Evolution*. 6(1), 55–65. doi:10.4033/iee.v6i1.4949
- Hocking, D. J.,** S. A. Callaghan, K. J. Babbitt, and M. Yamasaki. 2013. Comparison of silvicultural and natural disturbance effects on terrestrial salamanders in northern hardwood forests. *Biological Conservation*. 167: 194-202. DOI: 10.1016/j.biocon.2013.08.006
- Hocking, D. J.,** G. M. Connette, C. A. Conner, B. R. Scheffers, S. E. Pittman, W. E. Peterman, R. D. Semlitsch. 2013. Effects of experimental forest management on a terrestrial, woodland salamander in Missouri. *Forest Ecology and Management*. 287: 32-39
- Osbourn, M. S., **D. J. Hocking**, C. A. Conner, W. E. Peterman, and R. D. Semlitsch. 2011. Use of fluorescent visible implant Alphanumeric tags to individually mark juvenile ambystomatid salamanders. *Herpetological Review* 42(1): 43-46.
- Hocking, D. J.** 2010. *Hyla squirella* (squirrel treefrog) reproduction. *Herpetological Review* 41(1):64.
- Semlitsch, R. D., S. M Blomquist, A. J. K. Calhoun, J.W. Gibbons, J. P. Gibbs, G. J. Graeter, E. B. Harper, **D. J. Hocking**, M. L. Hunter, D. A. Patrick, T. A. G. Rittenhouse, B. B. Rothermel, and B. D. Todd. 2009. Effects of timber management on amphibian populations: understanding mechanisms from forest experiments. *Bioscience* 59(10):853-862. (Cover Photograph)
- Scheffers, B., E. D. McDonald, **D. J. Hocking**, C. A. Conner, and R. D. Semlitsch. 2009. A comparison of two artificial cover objects for sampling amphibians and reptiles. *Herpetological Review* 40(4): 419-421.
- Babbitt K. J., M. J. Baber, D. L. Childers, and **D. J. Hocking**. 2009. The influence of agricultural upland habitat type on larval anuran assemblages in seasonally-inundated wetlands. *Wetlands* 29(1): 294-301.
- Hocking, D. J.** and R. D. Semlitsch. 2008. Effects of clearcut logging on gray treefrog (*Hyla versicolor*) tadpole performance. *Journal of Herpetology* 42: 689-698.
- Hocking, D. J.,** T. A. G. Rittenhouse, B. B. Rothermel, J. R. Johnson, C. A. Conner, E. B. Harper, and R. D. Semlitsch. 2008. Breeding and recruitment phenology of amphibians in Missouri oak-hickory forests. *American Midland Naturalist* 160: 41-60.
- Semlitsch, R. D., C. A. Conner, **D. J. Hocking**, T. A. G. Rittenhouse, and E. B. Harper. 2008. Effects of timber harvesting on pond-breeding amphibian persistence: testing the evacuation hypothesis. *Ecological Applications* 18(2): 283-289
- Hocking, D. J.** and R. D. Semlitsch. 2007. Effects of timber harvest on breeding site selection by gray treefrogs (*Hyla versicolor*). *Biological Conservation* 138: 506-513.

SELECTED PRESENTATIONS

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- Hocking, D. J.,** K. J. Babbitt, M. Yamasaki. Improved Estimation of Forestry Edge Effects Accounting for Detection Probability. 2013. ESA Annual Meeting. Minneapolis, MN.
- Sargent, P. J., **D. J. Hocking**, K. J. Babbitt. Relating Hematological Patterns in Red-backed Salamanders to Stress in Different Habitats and Densities. 2013. Undergraduate Research Conference, UNH, Durham, NH.
- Hocking, D. J.** and K. J. Babbitt. Comparisons of models for analyzing seasonal activity using longitudinal count data. 2012 World Congress of Herpetology Meeting. Vancouver, BC, Canada.
- Hocking, D. J.** and K. J. Babbitt. Comparisons of models for analyzing seasonal activity using longitudinal count data. Ecological Society of America Annual Meeting, Portland, OR.
- Marquis, A. J., **D. J. Hocking**, K. J. Babbitt. Landscape and local-scale effects on stream salamanders in southeastern New Hampshire. 2012. Undergraduate Research Conference, UNH, Durham, NH.
- Willey, E., **D. J. Hocking**, K. J. Babbitt. The effects of forest fragmentation on the abundance and body condition of the red backed salamander (*Plethodon cinereus*). 2010 Undergraduate Research Conference, UNH, Durham, NH.

- Hocking, D. J.** A great leap backwards: amphibians in crisis. 2009 Department of Natural Resources and the Environment Seminar Series, UNH, Durham, NH.
- Hocking, D. J.,** S. A. Callaghan, K. J. Babbitt, M. Yamasaki. The Effects of Natural and Anthropogenic Disturbance on Red-backed Salamanders in Northern Hardwood Forests. 2008 Northeast Partners for Amphibian and Reptile Meeting, Powdermill, PA.
- Hocking, D. J.,** C. A., Conner, E. D. McDonald, B. Scheffers, and R. D. Semlitsch. Initial Effects of Experimental Forest Management on a Terrestrial, Woodland Salamander in Missouri. 2008 Joint Meetings of Ichthyologists and Herpetologists, Montreal, Canada.
- Hocking, D. J.** and R. D. Semlitsch. Breeding Site Selection and Tadpole Performance of the Gray Treefrog (*Hyla versicolor*) in Response to a Forest Gradient. 2007 Ecological Society of America Annual Meeting, San Jose, CA.

GRANTS, HONORS, AWARDS

2011	National Geographic Society. Waitt Grant. <i>Climate change effects on elevational distributions of salamanders in Great Smoky Mountains National Park</i> . J. A. Crawford (PI), D. J. Hocking (Co-PI), J. Milanovich (Co-PI), and W. E. Peterman (Co-PI).	\$14,932
2011	University of New Hampshire. <i>Dissertation Year Fellowship. The contributions of woodland salamanders to ecosystem functions</i> .	\$16,500
2011	NH Agricultural Experiment Station. McIntire-Stennis. <i>The role of red-backed salamanders (Plethodon cinereus) in forest-floor ecosystem functions</i> . K. J. Babbitt (PI), D. J. Hocking (Co-PI).	\$42,000
2010	University of New Hampshire. Department of Natural Resources & the Environment. Farrington Fund student travel support.	\$1000
2010	College of Life Sciences & Agriculture, University of New Hampshire. Graduate Scholarship.	\$500
2010	University of New Hampshire. NRESS Student Research Support.	\$960
2009	University of New Hampshire. Summer T.A. Fellowship.	\$3,125
2008	University of New Hampshire. College of Life Sciences & Agriculture Summer Fellowship.	\$5,000
2008	University of New Hampshire. Summer T.A. Fellowship.	\$3,000
2008	University of New Hampshire. Natural Resources Travel Funds.	\$500
2006	University of Missouri. TWA Scholarship.	\$7,000
2005	University of Missouri. Biology Graduate Student Association Travel Funds.	\$260
2004	Life Science Fellowship, University of Missouri (2004-2006).	\$63,000

TEACHING EXPERIENCE

Instructor

2009	<i>Vertebrate Biology</i> (NR 655), University of New Hampshire
2007	<i>Introduction to Conservation Biology</i> (BIO 105), Moberly Area Community College, Columbia, MO

Teaching Assistant

2007, 2009	<i>Wildlife Techniques</i> (NR 646), University of New Hampshire
2008	<i>Conservation Biology</i> (NR 650), University of New Hampshire

Tutor

2008-2010	<i>Sociology Statistics</i> (Soc 502), University of New Hampshire
2010	<i>Introductory Biology</i> (Bio 412), University of New Hampshire

2010 *Freshwater Resources* (NR 504), University of New Hampshire
2009 *Contemporary Conservation Issues* (NR 435), University of New Hampshire

Environmental Education

2003-2004 *Senior Environmental Intern*, Audubon MD-DC, Bozman, MD
2001-2002 *Naturalist/Interpreter*, Seacoast Science Center, Rye, NH

Student Mentoring

I have mentored 10 undergraduate students on independent research projects

OUTREACH

Guest Speaker. Great Smoky Mountain Institute at Tremont, GSMNP, NC. July 2012. Talked to science camp group about salamander biodiversity in Great Smoky Mountains National Park.
Guest Speaker. Traip Academy, Kittery, ME. May 2011. Discussed college programs in math and science and career paths in ecology and conservation with high school seniors.
Guest Speaker. Dover High School, Dover, NH. February 2008. Discussed the writing process with sophomore English classes.
Guest Speaker. Hickman Highschool Biology Club. October 2006. Amphibians, reptiles, and college planning for aspiring biologists.
BioBlitz Organizer and Team Leader. Columbia, MO. 2005 & 2006, <http://BioBlitz.missouri.edu>.

TRAINING & PROFESSIONAL DEVELOPMENT

Webinar Series: The Evolution of Regression from Classical Linear Regression to Modern Ensembles. Organized by Salford Systems. Spring 2013.
National Science Foundation Grant Writing Workshop. NH EPSCoR State Conference. Waterville Valley, NH. November 2012.
Webinar: An Introduction to Hierarchical Modeling and Inference in Ecology using unmarked. Organizer by USGS Patuxent Wildlife Research Center. January 2012.
Stable Isotope Short Course. Biology 7475: Stable Isotopes in Ecology. University of Utah, Salt Lake City. Summer 2008.

ACADEMIC SERVICE

Invited and Hosted Seminar Speaker, Richard Chandler. University of New Hampshire. 2012.
Environmental Sciences Seminar Series.
Organizer. NRESS Seminar. University of New Hampshire. 2008. Helped organize the spring seminar series for the Natural Resource and Earth System Science program.
Vice President. Biology Graduate Student Association. University of Missouri. 2005-2006.
Webmaster. Land-use Effects on Amphibian Populations (LEAP) Collaboration (www.leap.missouri.edu). 2004-2005.
Webmaster. Missouri Chapter of the Society for Conservation Biology. 2005-2006.
Co-Chair. Outreach Committee for the Missouri Chapter of the Society for Conservation Biology. 2005-2006.
Journal Referee: American Midland Naturalist, Conservation Biology, Copeia, Ecosphere, Forest Ecology and Management, Herpetological Conservation and Biology, Herpetological Review, Journal of Herpetology, Journal of Wildlife Management, Northeastern Naturalist, Oikos, Urban Ecosystems, Wetlands

PROFESSIONAL AFFILIATIONS

American Society of Ichthyologists and Herpetologists
Chelonian Conservation Fund
Ecological Society of America
Partners for Amphibian and Reptile Conservation
Society for Conservation Biology
Society for Ecological Restoration
Society for the Study of Amphibians and Reptiles

ADDITIONAL SKILLS

Proficient Computer Skills: R statistical programming language, RStudio, JAGS/BUGS, Microsoft Office Suite including Access, Filemaker Pro

Basic Computer Skills: SAS, C/C++, Python, ArcGIS, Git/GitHub, Bash (Unix Shell), SQL, MySQL, SQLite, PostgreSQL, HTML, XML, KML

REFERENCES

Dr. Kimberly J. Babbitt (Ph.D. Advisor)
Professor of Wildlife Ecology, Department of Natural Resources and the Environment
University of New Hampshire
114 James Hall
Durham, NH
E-mail: kbabbitt@unh.edu

Dr. John A. Crawford (Collaborator)
Assistant Professor of Biology, Department of Biology
Lindenwood University
Young Hall 201B
Saint Charles, MO
E-mail: jcrawford@lindenwood.edu

Dr. Raymond Semlitsch (Master's Advisor)
Curator's Professor, Division of Biological Sciences
University of Missouri
212 Tucker Hall
Columbia, MO
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