Daniel J. Hocking

Assistant Professor, Frostburg State University
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Professional Experience

Assistant Professor, Dept. of Biology, Frostburg State University. 08/25/16 - present. $65,000/year.

Duties: Teach 15-21 in-class contact hours per semester including Quantitative Population Analysis (BIOL 414/514), General Ecology (BIOL 340), Herpetology (BIOL 422/522), Zoology Laboratory (BIOL 160), Special Topics in Biology (BIOL 499), Graduate Research Methods (BIOL 600), and Graduate Research Statistics (MATH 680 planned 2020). Advise 30 undergraduate fish and wildlife students. Mentor graduate students and coordinate a research program focused on statistical ecology of fish and wildlife populations. Identify sources of funding and write grants to support student research. Supervise graduate and undergraduate research projects and the development of reproducible code with quality assurance for data processing analyses. Present findings at scientific meetings and in peer-reviewed publications. Projects include assessing the function of spatial and temporal replication to detect changes in fish populations, coordinating regional data integration and modeling of stream salamander distributions, and developing a Bayesian Spatial Capture-Recapture model of aquatic turtles in the C&O Canal National Historical Park. Other duties include service to the department, university, profession, and community.

USGS Mendenhall Postdoctoral Fellow, Research Ecologist, Conte Anadromous Fish Research Laboratory, Leetown Science Center. GS-12. 06/29/14 - 08/15/16. $82,000/year.

Duties: Conducted multiple complex research projects to support natural resource management decisions for freshwater fish and stream ecosystems. Helped cooridnate a regional stream temperature network including more than 20 state and federal agencies, researchers, and NGOs to establish standardized protocols, a central SQL database, and a system of quality control and quality assurance. Developed Bayesian statistical models for daily stream temperature and fish occupancy across the northeastern US and contributed to the implementation of an interactive visualization of the data and model results (http://ice.ecosheds.org/). Formulated a novel geostatistical model of stream fish densities using Template Model Builder (TMB) implemented through the R programming language. Ensured reproducibility and automation using bash scripts and documented in a public GitHub repository.

Postdoctoral Fellow, DOI Northeast Climate Science Center. University of Massachusetts. 01/15/13 - 06/28/14. $56,000/year.

Duties: Gathered regional stream data from state and federal partners from Virginia to Maine. Programmatically parsed data from diverse sources to ensure reliability and reproducibility in creation of an SQL database. Developed statistical models to assess climate change effects on stream temperature and stream vertebrate (fish and salamander) populations. Participated in a Structured Decision Making process to facilitate stream management actions across jurisdictional boundaries. Worked with stakeholders to clarify objectives related to management goals and determine data and analysis needs to evaluate alternative actions. Coordinated and helped design expert elicitation to develop and test statistical models based on the best available knowledge.

Postdoctoral Research Associate, University of New Hampshire. 05/25/12 - 01/01/13. $45,000/year.

Assessed populations in response to land-use and environmental change using both marked and unmarked methods. Designed and conducted experiment to assess spatial variation in the role of vertebrate density on ecosystem functions. Supervised diverse teams of undergraduates and technicians on field and laboratory projects. Wrote grants to fund research projects. Wrote and administered Animal Use Protocol approved by the IACUC and secured state and federal permits to ensure appropriate and ethical use of animals in research. Designed and conducted field research to assess distributions of salamanders over an elevational gradient in Great Smoky Mountains National Park. Analyzed results, presented at national and international conferences, and published in scientific, peer-reviewed journals.

Education

2012 PhD Natural Resources & Environmental Science, University of New Hampshire

2007 MA Biological Sciences, University of Missouri

2003 BS Environmental Science, University of New Hampshire

Publications

Google Scholar (citations = 838, *h*-index = 14, *i*10-index = 17)
**undergraduate, *graduate student, +postdoc

Brooks, J.L.*, A.B. Brand, E.H. Campbell Grant, and **D.J. Hocking**. *In Preparation*. Stream-breeding salamander occupancy across the Mid-Atlantic region of the United States.

N.T. Haydt*, S.C. Sterrett, and **D.J. Hocking**. *In Revision*. Aquatic turtle densities and home ranges estimated using spatial capture-recapture.

Hocking, D.J., K. O'Neil, and B.H. Letcher. *In Revision*. A hierarchical model of daily stream temperature for regional predictions. [Code, Data, Preprint, Interactive Visualization]

Gade, M.R.*, G.M. Connette, J.A. Crawford, **D.J. Hocking**, J.C. Maerz, J.M. Milanovich, and W.E. Peterman. *In Review*. Predicted alteration of terrestrial salamander surface activity as a consequence of climate change.

Anderson, L.T., J.E. Earl, **D.J. Hocking**, M.S. Osbourn, and T.A.G. Rittenhouse. *In Review*. Demographic impacts of phenological variation in natural populations of two pond-breeding salamanders.

Pregler, K.C.*, R.D. Hanks+, E. Childress, N.P. Hitt, **D.J. Hocking**, B.H. Letcher, T. Wagner, and Y. Kanno. 2019. State-space analysis of power to detect regional brook trout population trends over time. Canadian Journal of Fisheries and Aquatic Sciences. 76(11): 2145-2155.

Sterrett, S.C., R.A. Katz, A.B. Brand, W.R. Fields, A.E. Dietrich, **D.J. Hocking**, T.M. Foreman, A.N.M. Wiewel, E.H. Campbell Grant. 2019. Proactive management of amphibians: Challenges and opportunities. Biological Conservation. 236: 404-410.

Hocking, D.J., J. Thorson, K. O'Neil, and B.H. Letcher. 2018. A geostatistical state-space model of animal abundance for stream networks. Ecological Applications. 28: 1782-1796. https://doi.org/10.1002/eap.1767. [Code, Data]]

Earl, J.E., E.B. Harper, **D.J. Hocking**, M.S. Osbourn, T.A.G. Rittenhouse, M. Glennie, and R.D. Semlitsch. 2017. Relative importance of timber harvest and habitat for reptiles in experimental forestry plots. Forest Ecology and Management. 402: 21-28. https://doi.org/10.1016/j.foreco.2017.07.014

Stephens, R.B.*, **D.J. Hocking**, M. Yamasaki, and R.J. Rowe. 2017. Synchrony in small mammal community dynamics across a forested landscape. Ecography. 40: 1198–1209. http://dx.doi.org/10.1111/ecog.02233. [Data]

Buckman, K., V. Taylor, H. Broadley, **D.J. Hocking**, P. Balcom, R. Mason, K. Nislow, and C. Chen. 2017. Landscape influences on methylmercury bioaccumulation in an urban estuary: Delaware River, USA. Estuaries and Coasts. 40(5):1358–1370. https://link.springer.com/article/10.1007

Earl, J.E., E. Harper, **D.J. Hocking**, M.S. Osbourn, T.A.G. Rittenhouse, and R.D. Semlitsch. 2016. Effects of timber harvest on small mammal captures in experimental forestry plots. Animal Biology. 66:347 – 362. http://dx.doi.org/10.1163/15707563-00002511

Letcher, B.H., **D.J. Hocking**, K. O'Neil, A.R. Whiteley, K.H. Nislow, and M.J. O'Donnell. 2016. A hierarchical model of daily stream temperature using air-water temperature synchronization, autocorrelation, and time lags. PeerJ. 4:e1727 https://doi.org/10.7717/peerj.1727

Peterman, W.E., J.A. Crawford, and **D.J. Hocking**. 2016. Effects of elevation on plethodontid salamander body size. Copeia. 104(1):202-208. http://dx.doi.org/10.1643/OT-14-188

Milanovich, J.R., **D.J. Hocking**, W.E. Peterman, and J.A. Crawford. 2016. Effective use of trails for assessing terrestrial salamander abundance and detection: A case study at Great Smoky Mountains National Park. Natural Areas Journal. 35(4):590-598. http://dx.doi.org/10.3375/043.035.0412

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. 2015. Abundance and phenology patterns of two pond-breeding salamanders determine species interactions in natural populations. Oecologia. 177(3):761-73. http://dx.doi.org/10.1007/s00442-014-3151-z

Drake, D.L, B.H. Ousterhout, C.D. Shulse, **D.J. Hocking**, W.E. Peterman, T.A. Anderson, K.L. Lohraff, C.A. Conner, E.H. Harper, J.R. Johnson, T.A.G. Rittenhouse, B.B. Rothermel, L.S. Eggert, and R.D. Semlitsch. 2015. Pond-breeding amphibian community composition in Missouri. American Midland Naturalist. 174:180-187.

Hocking, D.J. and K.J. Babbitt. 2014. Amphibian Contributions to Ecosystem Services. Herpetological Conservation and Biology. 9(1):1-17. **[OA]**

Hocking, D.J. and K.J. Babbitt. 2014. The role of red-backed salamanders on ecosystem functions. PLoS ONE 9(1):e86854. http://dx.doi.org/10.1371/journal.pone.0086854 **[OA]**

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. http://dx.doi.org/10.4033/iee.v6i1.4949 **[OA]**

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. http://dx.doi.org/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.

Non-Peer Reviewed

Hocking, D.J. 2019. Book Review: The Maryland Amphibian and Reptile Atlas. Eds. H.R. Cunningham and N.H. Nazdrowicz. Herpetological Review. 50(4): 828-829.

Katz, R., E.H.C. Grant, M.C. Runge, B. Connery, M. Crockett, L. Herland, S. Johnson, D. Kirk, J. Wofford, R. Bennett, K. Nislow, M. Norris, **D.J. Hocking**, B.H. Letcher, A. Roy. 2014. Making decisions in complex landscapes: Headwater stream management across multiple federal agencies. US Geological Survey Whitepaper. Report to the DOI Northeast Climate Science Center. https://pubs.er.usgs.gov/publication/70193846

Grants

In Review

National Park Service. Natural Resource Stewardship and Science FY19 Servicewide Comprehensive Call. Effects of wildfire on salamander populations in Great Smoky Mountains National Park. W.E. Peterman, D.J. Hocking, J.A. Crawford, and J.R. Milanovich. 2019 Pending Congressional Authorization. $76,464.

MD Department of Natural Resources - Heritage Program. Construction and establishment of hellbender nestboxes in Maryland. D.J. Hocking. $24,987.

Awarded (Total: $352,135)

Appalachian Highlands Science Learning Center Research Grants. Effects of wildfire on salamander populations in Great Smoky Mountains National Park. J.A. Crawford, D.J. Hocking, W.E. Peterman, and J.R. Milanovich. 2019. $2,000.

Frostburg Foundation Opportunity Grant. Effects of acid mine drainage and stream restoration on Plethodontid salamanders. D.J. Hocking and J. Brooks*. 2018. $1,329.

Frostburg State University. Faculty Development Graduate Research Grant. Spatial patterns, home ranges, and associated parasites in the Chesapeake and Ohio Canal National Historic Park. D.J. Hocking and N. Haydt*. 2018. $1,500.

Appalachian Highlands Science Learning Center Research Grants. Short-term effects of wildfire on salamander populations in Great Smoky Mountains National Park. J.A. Crawford, D.J. Hocking, W.E. Peterman, and J.R. Milanovich. 2018. $2,000

Great Smoky Mountains Conservation Association. Carlos C. Campbell and James T. Tanner Memorial Fund. Short-term Effects of Wildlife on Salamander Populations in Great Moky Mountains National Park. D.J. Hocking, J.A. Crawford, W.E. Peterman, J.R. Milanovich. 2017. $5,000

Appalachian Highlands Science Learning Center Research Grants. Short-term effects of wildfire on salamander populations in Great Smoky Mountains National Park. J.A. Crawford, D.J. Hocking, W.E. Peterman, J.R. Milanovich. 2017. $1,124

Frostburg State University. Faculty Development Undergraduate Research Grant. D.J. Hocking. 2017. $3,750.

Frostburg State University CLAS Strategic Plan Fund. Salamander population and adaptation research collaborative network. D.J. Hocking. 2017. $500

USGS Mendenhall Research Fellowship. Hierarchical modeling of climate change effects: Land-use impacts on brook trout population persistence. D.J. Hocking. 2014-2016. $250,000

National Geographic Society. Waitt Grant. Climate change effects on elevational distributions of salamanders in Great Smoky Mountains National Park. J.A. Crawford, D.J. Hocking, J. Milanovich, W.E. Peterman. 2012. $14,932

NH Agricultural Experiment Station. McIntire-Stennis. The role of red-backed salamanders (*Plethodon cinereus*) in forest-floor ecosystem functions. D.J. Hocking, K.J. Babbitt. 2011. $42,000

University of New Hampshire. Dissertation Year Fellowship. The contributions of woodland salamanders to ecosystem functions. D.J. Hocking. 2011. $16,000

University of Missouri. Trans-World Airlines Scholarship. The effects of predators on gray treefrog (*Hyla versicolor*) growth, survival, and development. D.J. Hocking. 2006. $7,000

Teaching

In my current position, I typically teach 15-20 weekly contact-hours per semester including all laboratory sections of each class.

Courses

General Ecology (BIOL 340), Frostburg State University. 2016 - present. Spring, Fall.

Herpetology (BIOL 422/522), Frostburg State University. 2017 - present. Spring.

Quantitative Analysis of Vertebrate Populations (BIOL 414/514). 2017 - present. Fall.

General Zoology Laboratory (BIOL 160), Frostburg State University. 2016 - present. Variable.

Graduate Research Methods (BIOL 600), Frostburg State University. 2019 - present. Variable.

Special Problems in Biology (BIOL 499), Frostburg State University. 2018 - present. Variable.

Vertebrate Biology (NR 655), University of New Hampshire. 2009.

Introduction to Conservation Biology (BIO 105), Moberly Area Community College, Columbia, MO. 2007.

Teaching Assistant

2007, 2009 Wildlife Techniques (NR 646), University of New Hampshire

2008 Conservation Biology (NR 650), University of New Hampshire

Tutor

2010 Introductory Biology (Bio 412), University of New Hampshire

2010 Freshwater Resources (NR 504), University of New Hampshire

2008-2010 Sociology Statistics (Soc 502), University of New Hampshire

2009 Contemporary Conservation Issues (NR 435), University of New Hampshire

Environmental Education

2003-2004 Senior Environmental Intern. Audubon Maryland-DC.

2001-2003 Seasonal Naturalist. NH Seacoast Science Center.

Certifications

Cognate in College Teaching, Center for Excellence in Teaching & Learning, University of New Hampshire

Software Carpentry Instructor, Teaching Lab Skills for Scientific Computing http://software-carpentry.org/

Research Mentoring

Graduate Students

Emily Phillips. Terrestrial salamander densities and population dynamics. 2019 - present

Natalie Haydt. Spatial capture-recapture and disease of turtles along a depth gradient in the C&O Canal. 2017 - 2019

Jacey Brooks. The effects of acid mine drainage and remediation on stream salamander populations. 2017 - 2019

Bethany Liberto. Abundance and distribution of rare dragonflies in high elevation bogs. *Co-advised with Dr. Jered Studinski*. 2017 - 2019

Graduate Student Committees

Ryan Stephens (PhD, University of New Hampshire, 2018); Elizabeth Green (MS, Frostburg State University, 2019); Sabrina Edwards (MS, Frostburg State University); Emily Harlan (MS, Frostburg State University); Erica Duda (MS, Frostburg State University, 2019)

Undergraduate Researchers

I have mentored 14 undergraduate students (6 women, 8 men) on independent research projects, including multiple first generation college students, one U.S. Marine Veteran, and one U.S. Army Veteran.

Professional and Community Service

University Service

Faculty Senate Ad-Hoc Committee on Evaluations II. 2018-present.

President's Advisory Council on Sustainability (PACS). 2018-present.

Faculty Appeals Committee. 2019-present

College Service

CLAS Faculty Awards Committee. 2019-present.

Department Service

Wildlife and Fisheries and Interpretive Biology and Natural History Curriculum Committee. 2017-present.

The Wildlife Society, Frostburg State University Chapter. Faculty Advisor. 2017-present.

Campus Tree Committee, Frostburg State University. 2016-2019.

R Programming and Statistical Users Group, Faculty Advisor, Frostburg State University. 2017-2019.

Hiring committee. Full-Time, Non-Tenure Track Faculty to teach Introductory Biology, Zoology, and Anatomy and Physiology. 2018.

Department Evaluation Committee, Biology Department, Frostburg State University. 2016-2017.

General

Outreach. Led a field trip for high school students to learn about salamander ecology. Purchase Knob, Great Smoky Mountains National Park. 26 June 2019.

Interviewed for articles in *Discover* magazine and *Mongabay.com*. 2018.

Organizing Committee. Northeastern Stream Temperature Monitoring and Analysis Meeting. US Fish and Wildlife Service. Region 5 Regional Office. Hadley, MA. 21-22 February 2017.

Cofounded the New Hampshire R Users Group, including organizing weekly meetings and securing corporate sponsorship. 2013 – 2014.

Organizer. NRESS Seminar. University of New Hampshire. Helped organize the spring seminar series for the Natural Resource and Earth System Science program. 2008.

Vice President. Biology Graduate Student Association. University of Missouri. 2005-2006.

Webmaster. Land-use Effects on Amphibian Populations (LEAP) Collaboration. 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.

Outreach

Taxonomic Expert. Gulf of Maine Research Institute, Vital Signs citizen science program. 2014 – present.

Guest Speaker. Great Smoky Mountain Institute at Tremont, GSMNP, NC. July 2012. Talked to a 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.

Manuscript Reviewing

AMBIO, Bioscience, Conservation Biology, Copeia, Ecological Applications, Ecology and Evolution, Ecosphere, Forest Ecology and Management, Freshwater Biology, Global Change Biology, Herpetological Conservation and Biology, Herpetological Review, Journal of Herpetology, Journal of Wildlife Management, Northeastern Naturalist, Oikos, PeerJ, PLoS ONE, Urban Ecosystems, Wetlands

Presentations

**undergraduate, *graduate student, +postdoc

Oral Presentations

Hocking, D.J. *Invited Seminar*: Models and Visualization of Regional Stream Temperature and Trout Populations. University of Maryland Center for Environmental Science. Appalachian Laboratory. 11 May 2017.

Hocking, D.J. Climate effects on brook trout populations. NECSC Colloquium Webinar. DOI Northeast Climate Science Center, University of Massachusetts-Amherst. https://necsc.umass.edu/webinars/early-career-showcase. 23 March 2016.

Hocking, D. J., B. Letcher, K. Nislow, Y. Kanno, M. Ratnaswamy, and J. Wofford. Using single-pass surveys to assess spatial and temporal patterns in Brook Trout abundance: Correcting for imperfect detection. American Fisheries Society Annual Meeting, Quebec City, Canada. 17-21 August 2014.

Hocking, D. J. *Invited Seminar*: The effects of land-use and climate change on amphibian populations. Environmental Science Seminar Series. University of New Hampshire, Durham, NH. 11 October 2013.

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.4-10 August 2012.

Hocking, D. J. *Invited Seminar*: A great leap backwards: amphibians in crisis. 2009 Department of Natural Resources and the Environment Seminar Series, UNH, Durham, NH.

Hocking, D. J. The role of salamanders in ecosystems. 2008 NRESS Student Seminar Series, University of New Hampshire.

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.

Hocking, D. J. Gray treefrog breeding site selection and offspring performance in response to forest management. 2007 Division of Biological Sciences Ecology Seminar Series, University of Missouri.

Hocking, D. J. The effects of forest management on larval treefrogs: implications for populations. 2006 Division of Biological Sciences Ecology Seminar Series, University of Missouri.

Hocking, D. J. and R. D. Semlitsch. The use of experimental pools for oviposition by gray treefrogs (*Hyla versicolor*) in four managed forest habitats. 2005 Midwest Fish and Wildlife Conference.

Poster Presentations

Hocking, D.J. and L.G. Smith. Hierarchical Bayesian models for climate reconstruction and uncertainty using tree rings. 2019. American Association of Geographers Annual Meeting. Washington, DC. https://doi.org/10.6084/m9.figshare.8210513.v1

Hocking, D.J., J. Thorson, K. O'Neil, and B.H. Letcher. A geostatistical state-space model of animal abundance for stream networks. 2018. American Association of Geographers Annual Meeting. New Orleans, LA.

Brooks, J.L.*, and D.J. Hocking. The Effects of Acid Mine Drainage and Stream Restoration on Stream-breeding Salamanders. Frostburg State University. Graduate Research Symposium. 08 May 2018.

Haydt, N.T.*, and D.J. Hocking. Spatial Patterning of Turtle Populations Along the Chesapeake and Ohio Canal. Frostburg State University. Graduate Research Symposium. 08 May 2018.

Braun, I.**, E. Gaylord**, N. Morris**, F. Sherrard**, and D.J. Hocking. Amphibian Presence and Abundance of Blue Lick Run. Frostburg State University. CLAS Undergraduate Research Symposium. 04 May 2018.

Devine, H.**, R. Phillip**, S. Cain**, M. Rogers**, and D.J. Hocking. Amphibian and Reptile Survey of Dan's Mountain WMA. Frostburg State University. CLAS Undergraduate Research Symposium. 04 May 2018.

Stum, M.**, A. Waugh**, D. Moss**, M. McKenzie**, J.L. Brooks*, and D.J. Hocking. Amphibian and Reptile Survey of Warrior Mountain State Wildlife Management Area. Frostburg State University. CLAS Undergraduate Research Symposium. 04 May 2018.

Buckwalter, S.**, K. Cagnasso**, B. Moon**, E. Schmidt**, and D.J. Hocking. A Survey of Amphibian and Reptile Fauna at Mount Aetna. Frostburg State University. CLAS Undergraduate Research Symposium. 04 May 2018.

Hansen, J.** and D.J. Hocking. Maryland's Herpetofauna: Expanding the FSU Amphibian and Reptile Teaching Collection. Frostburg State University. CLAS Undergraduate Research Symposium. 04 May 2018.

Hocking, D. J., K. J. Babbitt, M. Yamasaki. Improved Estimation of Forestry Edge Effects Accounting for Detection Probability. 2013. ESA Annual Meeting. Minneapolis, MN. http://dx.doi.org/10.6084/m9.figshare.776927

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. World Congress of Herpetology Meeting. Vancouver, BC, Canada. 8-13 August 2012.

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.

Hocking, D. J., and K. J. Babbitt. The contribution of woodland salamanders in ecosystem functions. 2010 Joint Meetings of Ichthyologists and Herpetologists, Providence, RI.

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. Contributions of Salamanders to Ecosystem Functions and Services. 2009 Graduate Research Conference, 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 Joint Meetings of Ichthyologists and Herpetologists, Montreal, Canada.

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., T. A. G. Rittenhouse, B. B. Rothermel, J. R. Johnson, C. A. Conner, E. B. Harper, and R. D. Semlitsch. Breeding and recruitment phenology of amphibians in Missouri oak-hickory forests. 2007 Joint Meeting of Ichthyologists and Herpetologists, St. Louis, MO.

Hocking, D. J. and R. D. Semlitsch. Effects of forest management on larval gray treefrogs (*Hyla versicolor*). 2007 Life Sciences Week, University of Missouri.

Hocking, D. J. and R. D. Semlitsch. Effects of forest management on larval gray treefrogs. 2006 Midwest and Northeast meetings of Partners for Amphibian and Reptile Conservation.

Hocking, D. J. and R. D. Semlitsch. Oviposition site selection by gray treefrogs (*Hyla versicolor*) in four experimental forest habitats. 2006 University of Missouri Life Sciences Week.

Barlows, A.**, D. J. Hocking, and R. D. Semlitsch. Effects of shade and predation on survival and growth of larval gray treefrogs (*Hyla versicolor*) in Missouri. 2006 University of Missouri-Columbia Undergraduate Research and Creative Achievements Forum.

Mahan, R. D.**, B. B. Rothermel, D. J. Hocking, J. W. Gibbons, and R. D. Semlitsch. Effects of forest management practices on treefrog oviposition site choice. 2005 Summer Undergraduate Research and Creative Achievements Forum, University of Missouri, Columbia, MO.

Mahan, R. D.**, B. B. Rothermel, D. J. Hocking, J. W. Gibbons, and R. D. Semlitsch. Effects of forest management practices on treefrog oviposition site choice. 2005 Research Experiences for Undergraduates Program, University of Georgia's Savannah River Ecology Laboratory.

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