

**Austin Milt**  
Curriculum Vitae  
Updated 8 September, 2017

Center for Limnology  
680 North Park Street  
Madison, WI 53706  
(865) 484-6458  
austin.w.milt@gmail.com  
austinmilt.com

## **Education**

Ph.D., University of Tennessee in Knoxville, Ecology and Evolutionary Biology, minor in Interdisciplinary Graduate Minor in Computational Science. 2015.

B.S. Highest Honors with Distinction, University of North Carolina in Chapel Hill, Environmental Sciences, minor in Mathematics. 2009.

## **Professional Appointments**

2015-present    Post-doctoral Researcher, Center for Limnology, University of Wisconsin – Madison

## **Awards & Honors**

2017 – University of Tennessee – Knoxville Graduate Student Senate Research Award (1 of 22) for graduate students who have “received national and/or international recognition in their fields and show professional promise in their areas of research and creative achievement.”

2017 – *Conservation Biology*’s “Rising Star Award” (1 of 3) for his paper “The Costs of Avoiding Environmental Impacts from Shale-Gas Surface Infrastructure.”

2016 – Jim Tanner Outstanding Dissertation (1 of 1), an annual departmental award given to one graduate student in the EEB department at the University of Tennessee – Knoxville.

## **Publications**

## *Forthcoming*

**Milt, A.W.**, Doran, P.J., Ferris, M.C., Moody, A.T., Neeson, T.M., McIntyre, P.B. Benefits for local restoration of considering options at broader scales. *In Preparation*.

Dumoulin, C.E., **Milt, A.W.**, Armsworth, P.R. Modeling spatial information transfer across trophic levels. *In Preparation*.

**Milt, A.W.**, Koessler, D., Dumoulin, C.E., Lineback, N., Armsworth, P.R. Ecoinformatics for Conservation Planning. *In Preparation*.

## 2017

Moody, A.T., Neeson, T.M., McIntyre, P.B., Moody, A.T., Neeson, T.M., Wangen, S., Dischler, J., Diebel, M.W., **Milt, A.W.**, Herbert, M., Khoury, M., Yacobson, E., Doran, P.J., Ferris, M.C., O'Hanley, J.R., McIntyre, P.B. Pet Project or Best Project? Online Decision Support Tools for Prioritizing Barrier Removals in the Great Lakes and Beyond. *Fisheries*, 42:1, 57-65, DOI: 10.1080/03632415.2016.1263195 [\[link\]](#)

**Milt, A.W.**, Doran, P.J., Ferris, M.C., Moody, A.T., Neeson, T.M., McIntyre, P.B. Local-scale Benefits of River Connectivity Restoration Planning Beyond Jurisdictional Boundaries. *River Research and Applications*, Volume 33, Issue 5, Pages 788–795, DOI: 10.1002/rra.3135 [\[link\]](#) [\[pdf\]](#)

## 2016

**Milt, A.W.**, Armsworth, P.R. Performance of cap and trade of environmental impacts of shale gas surface infrastructure. *Ecological Economics*, Volume 131, Pages 399-406 [\[link\]](#) [\[pdf\]](#)

**Milt, A.W.**, Gagnolet, T., Armsworth, P.R. The costs of avoiding environmental impacts from shale-gas surface infrastructure. *Conservation Biology*. [\[link\]](#) [\[pdf\]](#)

## 2015

**Milt, A.W.**, Gagnolet, T., Armsworth, P.R. Synergies and Tradeoffs Among Environmental Impacts Under Conservation Planning of Shale Gas Surface Infrastructure. *Environmental Management*, Volume 57, Issue 1, Pages 21-30. [\[link\]](#) [\[pdf\]](#)

## 2014

**Milt, A.W.**, Palmer, S.R., Armsworth, P.R. Updating conservation priorities over 111 years of species observations. *Journal of Applied Ecology*, Volume 51, Issue 6, 1515-1524. [\[link\]](#) [\[pdf\]](#)

## 2013

Kendall, K.D., Niemiller, M.L, Dittrich-Reed, D., ..., **Milt, A.W.**, ..., Schussler, E.E. Departments Can Develop Teaching Identities of Graduate Students. *CBE - Life Sciences Education*, Volume 12, No. 3, Pages 316-317. <http://www.lifescied.org/content/12/3/316.full>

2011

**Milt, A.W.**, Dumoulin, C.E., Reyles, J., Rickett, S. (equal authorship). Machines Watch You Surf the Web. *Live Science*. <http://www.livescience.com/13848-machine-learning-advertising-internet-diagnoses.html>

2009

**Milt, A.W.**, Milano, A., Garivait, S., Kamens, R. Effects of 10% biofuel substitution on ground level ozone formation in Bangkok, Thailand. *Atmospheric Environment*. Volume 43, Issue 37, Pages 5962-5970

## Posters and Presentations

2016

**Milt, A.W.**, Diebel, M.W., Doran, P.J., Ferris, M.C., Moody, A.T., Neeson, T.M., O'Hanley, J.R., McIntyre, P.B. Enhancing local planning for aquatic connectivity restoration by considering downstream options. North American Congress for Conservation Biology, Madison, WI. Contributed Oral Speed Presentation.

**Milt, A.W.**, Diebel, M.W., Doran, P.J., Ferris, M.C., Moody, A.T., Neeson, T.M., O'Hanley, J.R., McIntyre, P.B. Optimizing barrier removals in the Great Lakes basin. International Association of Great Lakes Research Annual Meeting, Guelph, Ontario. Invited Oral Presentation.

2014

**Milt, A.W.**, Palmer, S.R., Armsworth, P.R. November 2014. Conservation-oriented planning of shale gas surface infrastructure. Invited Webinar Presentation for the Conservation Biology Institute.

**Milt, A.W.**, Palmer, S.R., Armsworth, P.R. October 2014. Updating conservation priorities over 111 years of species observations. Invited Webinar Presentation for NatureServe.

**Milt, A.W.**, Armsworth, P.R. August 2014. Reducing environmental impacts from shale gas development through better planning. The Ecological Society of America's Annual Conference, Sacramento, CA. Contributed Oral Presentation.

2013

**Milt, A.W.**, Armsworth, P.R. December 2013. Environmental impacts of Marcellus gas development: Tradeoffs among impacts and siting practices. The Nature Conservancy's All Science Meeting, Santa Clara, CA. Poster.

Gagnolet, T., **Milt, A.W.**, Johnson, N., Sham, C.H., Minney, T. December 2013. GIS tool for improving the environmental impacts of natural gas infrastructure siting. The Nature Conservancy's All Science Meeting, Santa Clara, CA. Poster.

**Milt, A.W.**, Armsworth, P.R. July 2013. How additional rare species surveys change our conservation priorities. 26th International Congress for Conservation Biology, Baltimore, MD. Oral presentation.

2012

**Milt, A.W.**, Wisby, J.P., Armsworth, P.R. August 2012. When more surveying for rare species does not lead to more value for conservation planning. The Ecological Society of America's Annual Conference, Portland, OR. Poster.

Dumoulin, Christine, **Milt, A.W.**, Armsworth, Paul R. July 2012. Modeling Spatial Information Transfer Across Trophic Levels. Society for Mathematical Biology Annual Meeting, Knoxville, TN. 2012. Poster.

Dumoulin, Christine, **Milt, A.W.**, Armsworth, Paul R. July 2012. Modeling Spatial Information Transfer Across Trophic Levels. The Ecological Society of America's Annual Conference, Portland, OR. 2012. Poster.

2011

**Milt, A.W.**, Johnson, N., Gagnolet, T., Bearer, S., Armsworth, P.R. Balancing Forest Conservation and Marcellus Gas Development. Poster presented at the Student Conference on Conservation Science New York. 2011. Poster.

**Milt, A.W.**, Johnson, N., Gagnolet, T., Bearer, S., Armsworth, P.R. Balancing Forest Conservation and Marcellus Gas Development. Poster presented at The Nature Conservancy's All Science Meeting in Olive Branch, MS. 2011. Poster.

Dumoulin, C.E., Koessler, D.R., **Milt, A.W.**, Lineback, N.A., Armsworth, P.R. (equal authorship). Ecoinformatics for Conservation Planning. 10<sup>th</sup> Annual UT-ORNL-KBRIN Bioinformatics Summit. 2011. Poster

Breckheimer, I. and **Milt, A.W.** Connect: new GIS tools to support modeling and management of landscape connectivity for wildlife. The Ecological Society of America's Annual Conference. 2011. Poster.

2010

Breckheimer, I. and **Milt, A.W.** Connect: new GIS tools to support modeling and management of landscape connectivity for wildlife. Partners in Environmental Technology Technical Symposium & Workshop. 2010. Poster.

## Other Papers

**Milt, A.W.** Spatial optimization of reserve design using genetic algorithm, UNC Chapel Hill, 2008. *Available upon request*

## Grants

2014-2015. Richard King Mellon Foundation, in partnership with The Nature Conservancy: Pennsylvania Chapter cont'd (\$22 k). *Appalachian Energy Impacts Project, Phase III: Promoting Siting Tools and Standards for Shale Gas Development.*

2013-2014. Richard King Mellon Foundation, in partnership with The Nature Conservancy: Pennsylvania Chapter (\$11 k). *Appalachian Energy Impacts Project, Phase III: Promoting Siting Tools and Standards for Shale Gas Development.*

2013. Colcom Foundation, in partnership with The Nature Conservancy: Pennsylvania Chapter (\$37 k). *Tools for Maximizing Conservation Outcomes in Shale Gas Development Areas.*

2012-2013. SCALE-IT Innovative Research and Education Grant (\$35 k). *Ecological Dynamics and Disparate Scales.*

## Scholarships and Fellowships

2014-2015. NIMBioS competitive Graduate Assistanship for research

2013-2014. NIMBioS competitive Graduate Assistantship for research

2011. NSF Graduate Research Fellowship Program. *Honorable Mention*

2010-2012. SCALE-IT, an NSF IGERT Fellowship

## Administrative Committees

2015-2016. Center for Limnology Seminar & Kaeser Scholar Committee (UW-Madison)

2012-2013. Ecology and Evolutionary Biology Graduate Affairs Committee (UTK)

2011-2012. Ecology and Evolutionary Biology Undergraduate Affairs Committee (UTK)

## Reviewer

Faculty of 1000, Journal of Applied Ecology, Conservation Letters, Conservation Biology, Journal of Renewable and Sustainable Energy

## Other Experience

2011-2016. LEEP & Bungee, an ArcMap Toolbox & Python module for planning shale gas well pads, access roads, and gathering pipelines to reduce potential cumulative environmental impacts with a limited budget. Responsibilities include designing the software interface, determining environmental impact and monetary cost metrics, programming complex spatial optimization algorithms in Python and Cython, collaborating with TNC and Cadmus on all aspects, providing technical advice on design, implementation, and use of software, and presenting to potential donors and users. *Access to software, documentation, presentations, and other materials available upon request.*

2008-2010. Paleoclimate Modeling: Responsibilities included running paleoclimate models (ECBILT/CLIO, genie, UVic-ESCM), writing scripts in MATLAB, Perl, and Python to extract and visualize results, and database management.

2009-2010. Habitat Modeller: Responsibilities include programming ArcGIS scripts using Python, researching literature on the uses of LiDAR in ecology and the application of circuit theory and graph theory to connectivity, working with maps in ArcMap. Created a GIS tool called Connect: <http://www.unc.edu/depts/geog/lbe/Connect/index.html>

2009. Lincoln Sparrow Research Field Technician: Responsibilities included handling sparrows and measuring their morphological traits, finding nests, measuring egg characteristics, recording bird songs.

## Computer Skills

MATLAB (Proficient), Python (Proficient), ArcGIS (Proficient), Excel (Proficient), Word (Proficient), Microsoft Windows (Proficient), R (Moderate experience), GAMS (Moderate experience), LINUX (Moderate experience), Cython (Moderate experience), Adobe Illustrator and Photoshop (Moderate experience), C++ (Some experience), Mac OS X (Some experience), Java (Some experience), Javascript (Some experience)