

CURRICULUM VITAE

Todd Robert Lookingbill

Appalachian Laboratory
University of Maryland Center for Environmental Science
301 Braddock Road
Frostburg, Maryland 21532

I. EDUCATION

- 1995 B.A., Princeton University, Princeton, New Jersey (Ecology and Evolutionary Biology)
2003 Ph.D., Duke University, Nicholas School of the Environment and Earth Science, Durham, North Carolina (Ecology)

II. PROFESSIONAL BACKGROUND

- 2005-present Research Assistant Professor, University of Maryland, Center for Environmental Science, Appalachian Laboratory, Frostburg, Maryland
2004-2005 Postdoctoral Researcher, Inventory and Monitoring Program, National Park Service, Appalachian Laboratory, Frostburg, Maryland
2003-2004 Lecturer, Department of Geography, University of North Carolina, Chapel Hill, North Carolina
1998-2004 Research and Teaching Assistant, Landscape Ecology Laboratory, Duke University, Durham, North Carolina
1995-1998 Research Associate, Industrial Economics Environmental Consulting, Cambridge, Massachusetts
1995 Teacher, EIKEN School for English, Tokyo, Japan

III. RESEARCH

A. Areas of Professional Expertise

Landscape ecology and spatial analysis of urban ecosystems; forest community ecology, including the effects of climate change and forest management; ecohydrological modeling of the effects of land use change.

B. Publications

1. Papers in Refereed Journals

- Lookingbill, T. & M. Zavala. 2000. Spatial pattern of *Quercus ilex* and *Quercus pubescens* recruitment in *Pinus halepensis* dominated woodlands. *Journal of Vegetation Science* 11:607-612.

- Urban, D., S. Goslee, K. Pierce, & T. Lookingbill. 2002. Extending community ecology to landscapes. *Ecoscience* 9:200-212.
- Lookingbill, T. & D. Urban. 2003. Spatial estimation of air temperature differences for landscape-scale studies in montane environments. *Agricultural and Forest Meteorology* 114:141-151.
- Lookingbill, T. & D. Urban. 2004. An empirical approach towards improved spatial estimates of soil moisture for vegetation analysis. *Landscape Ecology* 19:417-433.
- Lookingbill, T., N. Goldenberg, & B. Williams. 2004. Understory plants as soil moisture indicators in Oregon's Western Cascades old-growth forests. *Northwest Science* 78:214-224.
- Pierce, K., T. Lookingbill, & D. Urban. 2005. Beyond slope and aspect: a simple method for obtaining estimates of radiation for vegetation analysis. *Landscape Ecology* 20:137-147.
- Lookingbill, T. & D. Urban. 2005. Gradient analysis, the next generation: Towards more plant-relevant explanatory variables. *Canadian Journal of Forest Research* 35: 1744-1753.
- Lookingbill, T., R. Gardner, P. Townsend, & S. Carter. In Press. Conceptual models as hypotheses in monitoring of urban landscapes. *Environmental Management*.
- Dennison, W., T. Lookingbill, T. Carruthers, J. Hawkey & S. Carter. In Press. An eye opening approach to integrated environmental assessments. *Frontiers in Ecology and the Environment*.
- Ferrari, J., T. Lookingbill & M. Neel. In Press. Two measures of landscape-graph connectivity: assessment across gradients in area and configuration. *Landscape Ecology*.

2. Book Chapters

- Lookingbill, T.R., R.H. Gardner, L.A. Wainger & C.L. Tague. In Press. Landscape Modelling. *Encyclopedia of Ecology*, S. E. Jorgensen, ed. Elsevier.

3. Published Abstracts

- Lookingbill, T.R. & D.L. Urban. 2000. Analysis of input parameters for a landscape model of the Pacific Northwest: growth rates, establishment, and

- temperature. 15th Annual Meeting of the U.S. Chapter of the International Association for Landscape Ecology, Ft. Lauderdale, FL.
- Lookingbill, T.R., K.B. Pierce & D.L Urban. 2001. Temperature in montane systems: testing DEM-derived proxies with field data. 16th Annual Meeting of the U.S. Chapter of the International Association of Landscape Ecology, Tempe, AZ.
- Pierce, K.B., T.R. Lookingbill, & D.L Urban. 2001. An assessment of proximate climate variables and their relative impact on vegetation patterns in montane systems. 16th Annual Meeting of the U.S. Chapter of the International Association of Landscape Ecology, Tempe, AZ.
- Lookingbill, T.R., K.B. Pierce & D.L Urban. 2001. A cross-site comparative study of physical correlates with community transition. 86th Annual Meeting of the Ecological Society of America, Madison, WI.
- Pierce, K.B., T.R. Lookingbill, & D.L Urban. 2001. Multi-scale correlates of woody regeneration in the Sierra Nevada of California. 86th Annual Meeting of the Ecological Society of America, Madison, WI.
- Lookingbill, T.R. & D.L Urban. 2002. Soil moisture as a multi-scale predictor of forest community pattern. 17th Annual Meeting of the U.S. Chapter of the International Association of Landscape Ecology, Lincoln, NE.
- Lookingbill, T.R. & D.L Urban. 2003. A focused approach to studying forest community spatial transitions. 18th Annual Meeting of the U.S. Chapter of the International Association of Landscape Ecology, Banff, Alberta, Canada.
- Lookingbill, T.R., R. H. Gardner, P.A. Townsend, & S.L. Carter. 2005. Conceptual models as a tool for monitoring urban landscapes. 20th Annual Meeting of the U.S. Chapter of the International Association of Landscape Ecology, Syracuse, NY.
- Lookingbill, T.R. & D.L. Urban. 2005. Gradient analysis, the next generation: Towards more plant-relevant explanatory variables. Annual Meeting of the Association of American Geographers, Denver, CO.
- Lookingbill, T.R., R.H. Gardner, P.A. Townsend, & C. Kingdon. 2006. Infusing connectivity theory into conservation practice. 21th Annual Meeting of the U.S. Chapter of the International Association of Landscape Ecology, San Diego, CA.
- Harsch, M.A., P.A. Townsend, T.R. Lookingbill, and W. Yoder. 2006. Effects of windfall on decomposition and invertebrate community structure across

two physiographic provinces. 21th Annual Meeting of the U.S. Chapter of the International Association of Landscape Ecology, San Diego, CA.

Lookingbill, T.R., S.L. Carter, J.P. Schmit & J. Ferrari. 2006. A multi-staged approach to defining monitoring targets in a fragmented urban landscape. 91st Annual Meeting of the Ecological Society of America, Memphis, TN.

4. Papers Submitted for Publication

Lookingbill, T., J. Schmit & S. Carter. A multi-staged approach to monitoring forest habitat in urban landscapes. *Environmental Management*.

Lookingbill, T., L. Band, C. Tague, & J. Choate. Soil moisture model comparison. *Hydrological Processes*.

Lookingbill, T., A. Senft, B. Wheeler, M. Suarez-Rubio, & A. Moody. Where all the wild things are: Multi-scale analysis of threatened species congruence in the U.S. *Diversity and Distributions*.

Lookingbill, T., K. Pierce, P. Schwarz, & D. Urban. Comparing forest community pattern among four montane landscapes in North America. *Ecological Monographs*.

Gardner, R., T. Lookingbill, P. Townsend, J. Ferrari. A general approach for rescaling land cover data. *Landscape Ecology*.

Vogt, P., J.R. Ferrari, T.R. Lookingbill, R.H. Gardner, K.H. Riitters, K. Ostapowicz. Mapping functional connectivity. *Ecography*.

5. Technical Reports

Gardner et al. 2004. Land Use and Habitat Alteration: Report from a NEON Science Workshop. Report for American Institute of Biological Sciences.

Lookingbill, T. 2005. Conceptual Ecological Models. Chapter 2 in Monitoring Plan: National Capital Region Network of the National Park Service. National Park Service.

Dennison, W., T. Lookingbill, T. Carruthers, J. Hawkey, S. Carter, & G. Mora-Bourgeois. 2005. Creating a Framework for Reporting Ecological Conditions: National Capital Region Network of the National Park Service. Newsletter for National Park Service.

Townsend, P.A., R.H. Gardner, T.R. Lookingbill, & C.C. Kingdon. 2006. Remote Sensing and Landscape Pattern Protocols for Long-term Monitoring of Parks in the National Capital Region. Report for National Park Service.

Carter, S., T. Lookingbill, J. Hawkey, T. Carruthers, & W.C. Dennison. 2006. A Conceptual Basis for Natural Resource Monitoring. Inventory & Monitoring Program, Center for Urban Ecology, National Park Service, Washington, DC, 34 p.

Lookingbill, T., K. Engelhardt, L. Florkowski, J. Churchill, and L. Ashley. 2007. Evaluation of the Nottingham Park Serpentine Barrens for its Merit in Meeting National Significance Criteria as a National Natural Landmark.

D. Grants/Contracts

1. Active

Development of an information navigation system for the National Capital Region Inventory and Monitoring Program. National Park Service. 2005-2007. \$74,143. (Principal Investigator, 25%).

Evaluating Nottingham Park Serpentine Barrens as a National Natural Landmark (NNL). National Park Service. 2006-2007. \$12,970. (Principal Investigator, 8%)

Evaluating the consequences of landscape change on dispersal success of forest-dwelling species. U.S. Forest Service. 2006-2007. \$80,001. (Co-Principal Investigator, 15%).

Exacerbation of flooding responses due to land cover/land use change: A comparative study. NASA Energy and Water Cycle Sponsored Research. 2005-2008. \$439,458 (Co-Principal Investigator, 20%)

National Parks Ecological Research Fellowship: Predicting invasions of bird-dispersed exotic plants. Ecological Society of America, Mellon Foundation. 2006-2008. \$128,000. (Co-Principal Investigator, 5%).

Enhanced wetland inventory for Harpers Ferry National Historical Park. National Park Service. 2007. \$14,975. (Principal Investigator, 8%).

2. Submitted

Vegetation and hydrologic response to alternative fuel treatments in the Lake Tahoe Basin. U.S. Forest Service. 2007-2009. \$122,844. (Principal Investigator, 25%).

Integrated scorecards for reporting status and trends in National Parks. National Park Service. 2007-2008. \$39,450. (Principal Investigator, 12.5%).

The importance of streams, roads, and degree of defoliation in predicting the spread of Hemlock Woolly Adelgid infestation. U.S. Forest Service. 2007-2008. \$72,159. (Principal Investigator, 16%).

Managing risk of invasive species spread in agricultural landscapes: Spatial patterns and economic consequences at local and regional scales. USDA National Research Initiative. 2007-2009. \$499,998. (Co-Principal Investigator, 25%)

E. Invited Seminars and Presentations

H.J. Andrews LTER & Cascade Center for Ecosystem Management Seminar Series, Oregon State University. Deconstructing and reconstructing forest pattern at the *Abies amabilis*-*Tsuga heterophylla* ecotone. 2000.

Princeton University, Department of Ecology and Evolutionary Biology. Extending community ecology to landscapes. 2003.

Duke University, University Program in Ecology Seminar Series. Communities in transition: a multi-phased study of a forest community ecotone. 2003.

Lehman College, Department of Environmental, Geological and Geographic Sciences. Physical geography and global change. 2004.

University of North Carolina-Chapel Hill, Department of Geography. Vegetation change in the North Carolina Piedmont. 2004.

Center for Urban Ecology, National Park Service, Washington, DC. Integrative monitoring of urban landscapes. 2004.

University of Maryland Center for Environmental Science, Appalachian Laboratory Seminar Series. Ecohydrology at landscape scales. 2005.

University of Delaware, Department of Geography. Not all soil moisture models are created equal. 2005.

University of Maryland Center for Environmental Science, Appalachian Laboratory. Integrating landscape ecology into natural resource monitoring of urban parks. 2005.

National Park Service, Intermountain Region Inventory and Monitoring Network Workshop: Integrating Monitoring into Park Management, Tucson, AZ. Communicating monitoring results to multiple audiences. 2005.

Frostburg State University, Biology Department and Society for Conservation Biology Seminar Series. Infusing landscape connectivity theory into conservation practice. 2006.

Rock Creek Park, NPS National Capital Region Meeting of Natural Resource Managers, Washington, D.C. Remote sensing and landscape pattern protocols for long-term monitoring of parks in the National Capital Region. 2006.

National Conservation Training Center, NPS National Capital Region Showcase for Science, Shepherdstown, WV. The IAN-NCRN web project. 2006.

North American Network for Remote Sensing Park Ecological Condition, Santa Fe, New Mexico. Evaluating landscape connectivity in an Eastern US Network of Parks. 2007.

F. Symposia Organized/Chaired for Professional Meetings

2006 U.S. Chapter International Association of Landscape Ecology Annual Meeting, Special session on *Exploring Spatial Patterns in Ecological Connectivity*, March 28-31, San Diego, CA (co-organizer and co-chair).

G. Active Memberships in Professional Societies

Association of American Geographers
 Ecological Society of America
 International Association of Landscape Ecology
 Sigma Xi Scientific Research Society

IV. TEACHING AND TRAINING

2005-present Member, Graduate Faculty, Frostburg State University, Frostburg, MD

2005-present Member, Graduate Faculty, University System of Maryland, College Park, MD

A. University System of Maryland Courses Taught

Course No.	Title	Campus	Co-Instructor	Semester (Enrollment)	Credit Hrs	No. Lectures
BIOL 699	Introduction to GIS	Frostburg State	none	Summer 06 (1)	2	0 [†]
MEES 699	Introduction to GIS for Cons Mgmt	USM - MEES	none	Fall 06 (1)	3	0 [†]

BIOL 694	Introduction to GIS	Frostburg State	none	Spring 07 (3)	1	0 [†]
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[†] Independent study lab courses.

B. Courses Taught Outside the University System of Maryland

Course No.	Title	University	Co- Instructor	Semester (Enrollment)	Credit Hrs	No. Lectures
ENV 298.12	Fire Ecology and Management	Duke	Richter	Spring 01 (15)	1	1*
ENV 214	Landscape Ecology	Duke	Christensen	Fall 01 (32)	3	15
GEOG 010	Introduction to Environmental Geog	UNC Chapel Hill	none	Fall 03 (36)	3	26
GEOG 110	Modeling Env Systems	UNC Chapel Hill	none	Fall 03 (23)	3	30
GEOG 010	Introduction to Environmental Geog	UNC Chapel Hill	none	Spring 04 (14)	3	26
GEOG 119	Field Methods in Physical Geography	UNC Chapel Hill	none	Spring 04 (6)	3	13

* Organized seminar and responsible for grades

C. Graduate Students Supervised as Major Advisor

1. Degrees Conferred

2006 Harsch, Melanie	M.S.	FSU	Invertebrate community structure & decomp rates in exposed rootmats in western MD
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2. Students Currently Supervised

Suarez, Marcela	Ph.D.	MEES	Exurban land use pressures on bird dispersal in Front Royal, Virginia
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D. Graduate Student Committee Memberships

2006 Adams, Sherry	M.S.	FSU	The impact of <i>Microstegium vimineum</i> , an invasive exotic grass, on native species
Hopfensperger, Kristy	Ph.D.	MEES	Annual species patch dynamics: effects on tidal freshwater marsh ecosystem functioning and stability

Florkowski, Lisa	M.S.	MEES	Integrated assessment of Rock Creek Park
Lott, Keith	M.S.	FSU	Daily and seasonal patterns of bat activity along Central Appalachian Ridges
McChesney, Lauren	M.S.	MEES	Effects of sediment size on submersed aquatic vegetation community dynamics within Otter Point Creek
Tessel, Samantha	M.S.	FSU	Beta-diversity across a fragmented Landscape
Utz, Ryan	Ph.D.	MEES	Alternate states, thresholds, & ecosystem resilience in Maryland streams

V. SERVICE

A. Professional Service

Peer Reviewer: Ecography, Ecological Modelling, Forest Ecology and Management, Journal of Hydrology, Journal of Vegetation Science, Landscape Ecology, Northwest Science, Urban Habitats

Student Award Program Judge: International Association of Landscape Ecology Annual Meeting – U.S. Chapter (2006-2007)

Mentor for high school science teachers: Lois Ashley (2006), Elizabeth Williams (2007)

B. UMCES and Appalachian Laboratory

2005-present Geospatial field equipment and landscape ecology lab steward
2005 Presentation at AL GIS Day
2006 Richard A. Johnson Scholarship Award Committee (member)
2006 Biweekly discussion group on landscape modeling (organizer)
2006 AL Student Handbook Committee (member)
2006-present AL GIS Data Archiving Committee (chair)
2006-present AL Graduate Education Committee (member)
2006-present MEES Ecology AOS Graduate Admissions Committee (reviewer)
2007 AL Fall Seminar Series (coordinator)