



*Department of Natural  
Resources & the  
Environment*

**University of New Hampshire**

**Year in Review  
Scholarly Activities Report  
2008-2009**

# The Department of Natural Resources and the Environment Scholarly Activities Report AY 2008-2009

## I. Introduction

The Department of Natural Resources and the Environment (NREN) has completed its first year following our merger of the Department of Natural Resources and the Department of Resource Economics and Development. Our new department is comprised of 42 tenure track, research, and extension faculty, 18 affiliate faculty, and four support staff. This document presents one part of the department's "product" for the academic year 2008-2009 -- research publications, professional service activities and presentations, and awards garnered by NREN faculty. Its companion piece outlines accomplishments related to the teaching mission of the department.

NREN faculty continue to support a large portion of their research through external funding. During AY 2008-2009 departmental faculty obtained over \$3 million in funds from outside sources. This funding came from a wide variety of sources including state agencies such as New Hampshire Fish and Game and the New Hampshire National Guard, national sources such as the US Forest Service, the US Department of Agriculture, the National Science Foundation, US Fish and Wildlife, NASA, the US Department of Defense, the US Geological Survey, NOAA, and the Environmental Protection Agency, and foundations and private sources such as the Oak Foundation, Pease Development Authority, and the New Hampshire Charitable Foundation. A considerable amount of funding was also provided by the New Hampshire Agricultural Experiment Station. Currently, over \$10 million in grant proposals are under consideration.

NREN faculty authored or co-authored 98 refereed publications and journal articles, five authored or edited books, and 25 book chapters in 2008-2009. In addition, departmental faculty produced a large number of miscellaneous publications and were quite active in presenting research results at both professional and public service venues, both nationally and internationally. More information on the Department of Natural Resources and the Environment as well as pdf files of this report can be found at <http://www.nre.unh.edu/>

## II. NREN Degree Programs

### II.a. Undergraduate

B.S. in Community and Environmental Planning

B.S. in Environmental Conservation Studies

B.S. in Environmental and Resource Economics

B.S. in Environmental Science

B.S.F. in Forestry

B.S. in Tourism Planning and Development

B.S. in Wildlife Ecology

### II.b. Graduate

Natural Resources (M.S.)

Resource Administration and Management (M.S.)

Resource Economics (M.S.)

Natural Resources and Earth System Sciences (PhD) (participating faculty)

## III. Books & Monographs

**Aber, J.D.**, T. Kelly and B. Mallory (eds.). In Press. *The Sustainable Learning Community: One University's Journey to the Future*. University Press of New England

Björk M., **F. Short**, E. Mcleod, and S. Beer. 2008. *Managing Seagrasses for Resilience to Climate Change*. IUCN, Gland, Switzerland. 56pp.

Brokaw, N., T.A. Cowl, A.E. Lugo, **W.H. McDowell**, R.B. Waide and M.R. Willig (eds.). *Disturbance, response, and tropical forest dynamics: Long-term perspectives and implications*. Oxford University Press, New York (in press).

**Carroll, J.E.** *Pastures of Plenty: The Future of Food, Agriculture and Environmental Conservation in New England*. NHAES Publication #2340. Durham, NH: New Hampshire Agricultural Experiment Station, July, 2008 (142 pages).

**Congalton, R.** and K. Green. 2009. *Assessing the Accuracy of Remotely Sensed Data: Principles and Practices*. 2<sup>nd</sup> Edition. CRC/Taylor & Francis, Boca Raton, FL 183p.

#### **IV. Book Chapters**

**Aber, J.D.** Organizing a Curriculum on the Environment - Inclusiveness or Security? pp. 75-76. In **Aber, J.D.**, T. Kelly and B. Mallory (eds.). In Press. *The Sustainable Learning Community: One University's Journey to the Future*. University Press of New England

**Aber, J.D.** and C. Wake. Creating the Intellectual Basis for Sustainability: Research and Scholarship - Introduction. pp. 153-156 In **Aber, J.D.**, T. Kelly and B. Mallory (eds.). In Press. *The Sustainable Learning Community: One University's Journey to the Future*. University Press of New England

Asner, G.P. and **S.V. Ollinger**. 2009. Remote Sensing for Terrestrial Biogeochemical Modeling. In Warner, T., Nellis, M.D. and Foody, G. (eds): *The Handbook of Remote Sensing*. SAGE Publications, UK.

Bishop, J., **R. Congalton**, and **M. Becker**. 2008. Monitoring Biodiversity of Select Restoration Sites in New Zealand. In *Biodiversity for Sustainable Development*, Azmal Hussain (Editor). The Icfai University Press, Hyderabad, India.

Bradford, J.B., P. Weishampel, M-L. Smith, R. Kolka, D.Y. Hollinger, R.A. Birdsey, **S.V. Ollinger**, and M.G. Ryan. 2008. Landscape-Scale Carbon Sampling Strategy – Lessons Learned. In Hoover, C.M. (Ed.) *Field Measurements for Forest Carbon Monitoring: A Landscape-Scale Approach*. Springer, NY, 242p.

**Cardoso, M.\*\*** and **Hurt G.C.** 2009. Potential for Advancing Fire Research in Amazonia by Integrating Ground-based, Remote-sensing and Modeling Studies for the Region. In *Forest Fires: Detection, Suppression, and Prevention*. Nova Science Publishers. In press.

**Carroll, J.** The Real Dirt. In **Aber, J.D.**, T. Kelly and B. Mallory (eds.). In Press. *The Sustainable Learning Community: One University's Journey to the Future*. University Press of New England.

**Carroll, J.** and T. Kelly. The UNH Organic Dairy Research Farm. In **Aber, J.D.**, T. Kelly and B. Mallory (eds.). In Press. *The Sustainable Learning Community: One University's Journey to the Future*. University Press of New England

Cleaves, S., T. Kelly and **J.D. Aber**. How the Sustainability Ethic Developed at UNH, and the next phase of our "Journey to the Future". In **Aber, J.D.**, T. Kelly and B. Mallory (eds.). In Press. *The Sustainable Learning Community: One University's Journey to the Future*. University Press of New England

**Congalton, R.** 2009. How to Assess the Accuracy of Maps Generated from Remotely Sensed Data. In *Manual of Geospatial Science and Technology, 2<sup>nd</sup> Edition*. John Bossler. (Editor). Taylor & Francis, London. (In Press).

**Congalton, R.** 2009. Accuracy Assessment of Spatial Data Sets. In *Manual of GIS*. M. Madden (Editor). *American Society for Photogrammetry and Remote Sensing*, (In Press)

**Congalton, R.** 2009. Accuracy and Error Analysis of Global and Local Maps: Lessons Learned and Future Considerations. In *Remote Sensing of Global Croplands for Food Security*. P. Thenkabail, H. Turrall, C. Biradar, and J. Lyon (Eds.). CRC/Taylor & Francis, Boca Raton, FL. (In Press)

Duarte, C.M., J. Borum, **F. T. Short**, and D. I. Walker. 2008. Seagrass Ecosystems: Their Global Status and Prospects. pp. 281-294. In N.V.C. Polunin (ed.) *Aquatic Ecosystems: Trends and Global Prospects*. Cambridge Univ. Press. UK.

**Hurt G.C.** 2009. Biodiversity and Ecosystems: Engaging Students in the Science. In *The Sustainable Learning Community: One Universities' Journey to the Future*, **Aber J.**, Kelly T., Mallory B., eds. University Press of New England, Lebanon, NH.

Johnston, R. and **K. G.Cullen**. 2008. Public Input In Rural Land Preservation: Modeling Preference Asymmetries in Stated Preference Data. In *Commodity Modeling and Pricing: Methods for Analyzing Resource Market Behavior*, P.V. Schaeffer (ed.). Wiley and Sons.

**Jones, S.H.** 2009. Microbial Contamination and Shellfish Safety, Ch 1, pp. 3-42, In *Shellfish Safety and Quality*, Shumway, S and G Rodrick (Eds). Woodhead Publishing, Ltd., Cambridge, UK.

Lugo, A.E., R.B. Waide, M.R. Willig, T.A. Crowl, F. N. Scatena, J. Thompson, W. Silver, **W.H. McDowell**, and N. Brokaw. Ecological Paradigms for the Tropics: Old Questions and Continuing Challenges. In Brokaw, N., T.A. Crowl, A.E. Lugo, **W.H. McDowell**, R.B. Waide and M.R. Willig (eds.). *Disturbance, response, and tropical forest dynamics: Long-term perspectives and implications*. Oxford University Press, New York (in press).

Lugo, A.E., F.N. Scatena, R.B. Waide, E.A. Greathouse, C.M. Pringle, M.R. Willig, K.A. Vogt, L. Walker, G. González, **W.H. McDowell**, and J. Thompson. Management Implications and Applications of Long-term Ecological Research. In Brokaw, N., T.A. Crowl, A.E. Lugo, **W.H. McDowell**, R.B. Waide and M.R. Willig (eds.). *Disturbance, response, and tropical forest dynamics: Long-term perspectives and implications*. Oxford University Press, NY (in press).

**McDowell, W. H.** 2009. Ecology and Role of Headwater Streams. In G.E. Likens, (Editor) *Encyclopedia of Inland Waters*. Volume 3, pp. 357-365. Elsevier, Oxford, U.K.

**McDowell, W.H.**, F.N. Scatena, R.B. Waide, N. Brokaw, G.R. Camilo, A.P. Covich, T.A. Crowl, G. Gonzalez, E.A. Greathouse, P. Klawinski, D.J. Lodge, A.E. Lugo, C.M. Pringle, B.A. Richardson, M.J. Richardson, D.A. Schaefer, W.L. Silver, J. Thompson, D.J. Vogt, K.A. Vogt, M.R. Willig, L.L. Woolbright, X. Zou, J.K. Zimmerman. Geographic and Ecological Setting of the Luquillo Mountains. Ch. 3 in Brokaw, N., T.A. Crowl, A.E. Lugo, **W.H. McDowell**, R.B. Waide and M.R. Willig (eds.). *Disturbance, response, and tropical forest dynamics: Long-term perspectives and implications*. Oxford University Press, New York (in press)

**Rosenberg, A. A.** and P. A. Sandifer. In press. Manager's perspective: the scientific and technical basis for implementing marine ecosystem-based management. In K. O. McLeod and H. Leslie (eds.) *Ecosystem-based management of the ocean*. Island Press.

**Rosenberg, A. A.**, M. Mooney-Seus, I. Kiessling, C.B. Mogensen, R. O'Boyle, J. Peacey, In press. Lessons from national level implementation in North America and beyond. In K. O. McLeod and H. Leslie (eds.) *Ecosystem-based management of the ocean*. Island Press.

Smith, M-L., D.Y. Hollinger, and **S.V. Ollinger**. 2008. Estimation of Forest Canopy Nitrogen Concentration (mg/g). In: Hoover, C.M. (Ed.) *Field Measurements for Forest Carbon Monitoring: A Landscape-Scale Approach*. Springer, NY, 242p.

Sugimura, K. and **T. Howard**. 2009. Development of a forest network system to improve the zoning process – A case study in Japan. In *Landscape Ecology and Forest Management: Challenges and Solutions in a Changing Globe* (Li, C., Laforteza, R., and Chen, J., eds. HEP-Springer (In press).

Valentine, H.T., J.H. Gove, **M.J. Ducey**, T.G. Gregoire, and M.S. Williams. 2008. Estimating the carbon in coarse woody debris with perpendicular distance sampling. In C. Hoover, ed. *Field Measurements for Forest Carbon Monitoring: A Landscape-Scale Approach*. Springer, New York. 242 pages.

## V. Peer-Reviewed Publications/Journal Articles

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**Beem, N.\*\*** and **F.T. Short**. 2009. Subtidal Eelgrass Declines in the Great Bay Estuary, NH-ME. *Estuaries and Coasts*. 32: 202-205.

Bernhardt, E.S. and **W.H. McDowell**. 2008. Twenty years apart: comparisons of DOM uptake during leaf leachate releases to Hubbard Brook Valley streams in 1979 vs. 2000. *Journal of Geophysical Research* 113, G03032, doi:10.1029/2007JG000618.

Bolaños, D.M., and **M.K. Litvaitis** 2009. Embryonic muscle development in direct and indirect developing marine flatworms (Platyhelminthes, Polycladida). *Evol Dev* 11: 290-301.

Bond, C, **K. Giraud Cullen**, and D. Larsen (2009) Joint Estimation of Discount Rates and Willingness to Pay for Public Goods. *Ecological Economics*. In press.

Bradford, J., P. Weishampel, M-L Smith, R. Kolka, R.A. Birdsey, **S.V. Ollinger**, and M.G. Ryan. Carbon pools and fluxes in small temperate forest landscapes: Variability and implications for sampling design. *Forest Ecology and Management*. In Press.

Bradford, J., P. Weishampel, M-L Smith, R. Kolka, R.A. Birdsey, **S.V. Ollinger**, and M.G. Ryan. 2009. Detrital carbon pools in temperate forests: magnitude and potential for landscape-scale assessment. *Can. J. For. Res.* 39: 802-813.

Bradford, M.A., C.A. Davies, **S.D. Frey**, T.R. Maddox, J.M. Melillo, J.E. Mohan, J.F. Reynolds, K.K. Treseder, and M.D. Wallenstein. 2008. Acclimation of soil microbial respiration to elevated temperature. *Ecology Letters* 11, 1316-1327.

Burton, A.J., J.M. Melillo, and **S.D. Frey**. 2008. Adjustment of Forest Ecosystem Root Respiration as Temperature Warms. *Journal of Integrative Plant Biology* 50(11), 1467-1483.

Campbell, J.L., L.E. Rustad, E.W. Boyer, S.F. Christopher, C.T. Driscoll, I.J. Fernandez, P.M. Groffman, D. Houle, J. Kiebusch, A.H. Magill, M.J. Mitchell, and **S.V. Ollinger**. 2009. Consequences of climate change for biogeochemical cycling in forests of northeastern North America. *Can. J. For. Res.* 39(2): 264-284.

Chini LP, **Hurt G.**, Frolking S, Klein Goldewijk K, Stehfest S, Shevliakova E, van Vuuren DP, Betts R, Feddema J, Jones C, Kinoshita T, Riahi K, Smith S, Thornton P, Wang Y (2008), Harmonization of global land-use scenarios for the period 1500-2100 for IPCC 5th Assessment, *Eos Trans. AGU*, 89(53), Fall Meet. Suppl., Abstract B41B-0378

Covich, A.P., T.A. Cowl, C.L. Hein, M.J. Townsend, and **W.H. McDowell**. 2009. Predator-prey interactions in river networks: Comparing shrimp spatial refugia in two drainage basins. *Freshwater Biology* 54:450-465.

Craine, J.M., A.J. Elmore, M.P.M. Aidar, R. Amundson, J.E. Barrett, M. Bustamente, C. Coetsee, T. Dawson, H.J. Hawkins, **E.A. Hobbie**, B.Z. Houlton, K. Koba, M.C. Mack, M. Makarov, K.K. McLauchlan, A. Michelsen, G.B. Nardoto, L.H. Pardo, J. Peñuelas, P.B. Reich, E.G. Schuur, W.D. Stock, R. Tateno, R.A. Virginia, J.M. Welker, and I.J. Wright. Nitrogen isotopes in leaves index global patterns of nitrogen availability. In press. *New Phytologist*.

**Cunard, C.\*\*\*** and **T.D. Lee**. 2009. Is patience a virtue? Succession, light, and the death of invasive glossy buckthorn. *Biological Invasions* 11:577-586.

Dillman, D., V. Lesser, R. Mason, J. Carlson, F. Willits, **R. Robertson**, and B. Burke. (2008) Personalization of Mail Survey for the General Public and Populations with Group Identity: Results from Nine Studies. *Rural Sociology*: 72(4):632-646.

Dolan K, **Hurt G.C.**, Chambers J, Masek J, Dubayah R (2008) Evaluating Large Scale Forest Disturbance Resulting from Hurricane Katrina Using the Geoscience Laser Altimeter System (GLAS) LiDAR, *Eos Trans. AGU*, 89(53), Fall Meet. Suppl.

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**Ducey, M.J.** 2009. The ratio of additive and traditional stand density indices. *Western Journal of Applied Forestry* 24(1): 5-10.

**Ducey, M.J.**, D.J. Zarin, S.S. Vasconcelos, and M.M. Araújo. In press. Allometric equations for secondary forests of the eastern Amazon. To appear in *Acta Amazonica*.

**Ducey, M.J.** 2009. Predicting tree shape from simple stand variables. *Journal of Sustainable Forestry* 28(1-2): 5-21.

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Fahey, T.J., P.B. Woodbury, J.J. Battles, C.L. Goodale, S. Hamburg, **S.V. Ollinger**, C.W. Woodall. Forest Carbon Storage: Ecology, Management and Policy. *Frontiers in Ecology and Environment*. In Press

Fast, A.J., **M.J. Ducey**, J.H. Gove, and W.B. Leak. 2008. Dating log mortality from decay in the White Mountains of New Hampshire. *Northern Journal of Applied Forestry* 25(3): 154-157.

Fisher J, **Hurt G.C.**, Thomas RQ, Chambers JQ. 2008. Clustered Disturbances Lead to Bias in Large-Scale Estimates Based on Forest Sample Plots. *Ecology Letters* 11: 554-563.

**Fisk J\*\***, Shevliakova, E, **Hurt G.C.**, Frolking S. 2008. Changes in distribution of carbon sources and sinks due to spatial patterns of harvesting and human consumption, *Eos Trans. AGU*, 89(53), Fall Meet. Suppl., Abstract B41B-0380.

**Fleeger, W.E.\*\*** and **M.L. Becker**. 2008. Creating and sustaining community capacity for ecosystem-based management: Is local government the key? *Journal of Environmental Management*. 88(4): 1396-1404.

**Fleeger, W.E.\*\*** and **M.L. Becker**. 2009. Decision processes for multi-jurisdictional planning and management: Community wildfire protection planning in Oregon. *International Journal of Society and Natural Resources*.

Freeman, A.S., **F.T. Short**, I. Isnain, F.A. Razak, and R.G. Coles. 2008. Seagrass on the edge: land-use practices threaten coastal seagrass communities in Sabah, Malaysia, *Conservation Biology*. 141: 2993-3005.

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**Hartley, T.W., M. Gagne, and R.A. Robertson**. 2008. Coastal Communities Responding to Socioeconomic and Ecological Change: Cases of Collaboration in Gulf of Maine. *Human Ecology Review*: Vol. 15(2): 213-226.

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**Hobbie, E.A.**, and **A.P. Ouimette\*\***. Causes of nitrogen isotope patterns in terrestrial soil profiles. In press. *Biogeochemistry*.

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Liames, J., **R. Congalton**, A. Pilant, and T. Lewis. 2008. Leaf area index (LAI) change detection analysis on Loblolly Pine (*Pinus taeda*) following complete understory removal. *Photogrammetric Engineering and Remote Sensing*. Vol. 74. No. 11. pp. 1389-1400.

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**Zheng, D.L.**<sup>†</sup>, L.S. Heath, and **M.J. Ducey**. 2008. Satellite detection of land-use change effects on forest aboveground biomass estimates for regional applications: 1992 - 2001, in three Lake States of USA. *Environmental Monitoring and Assessment* 144(1-3):67-79.

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## **VI. Miscellaneous Publications and Proceedings**

Bhatt, M.P., T. Masuzawa, M. Yamamoto, and **W.H. McDowell**. 2008. Chemical weathering in Central Himalaya: Focus in dissolved silica dynamics in glacier meltwaters. International Conference on Hydrology and Climate Change in the Mountainous Areas, Kathmandu, Nepal, November, 2008.

Chini, L., Hurtt, G.C. 2009. Carbon sequestration due to the abandonment of agriculture in the former USSR since 1990. *Faculty of 1000 biology*. <http://www.f1000biology.com>

**Congalton, R.** 2008. Thematic and positional accuracy assessment of digital remotely sensed data IN: Proceedings of the 7<sup>th</sup> Annual Forest Inventory and Analysis Symposium, 2005. pp. 149-154. R. Roberts, G. Reams, P. Van Deusen, and P. McWilliams, (eds.) Gen. Tech. Report WO-77, USDA Forest Service. 319 p.

**Fisk J\*\***, **Hurtt, G.C.** 2009. Widespread increase of tree mortality rates in the western United States. *Faculty of 1000 biology*. <http://www.f1000biology.com>

**Halstead, J.M.** 2009. The China Syndrome. *University of New Hampshire Magazine*. Durham, NH. 11(2): 37.

**Hurtt, G.C.** 2008. Has Fire Suppression Increased the Amount of Carbon Stored in Western U.S. Forests? *Faculty of 1000*. <http://www.f1000.com>.

**Jones, SH**, N Landry, C Edwards. 2009. Enhanced Use of *Escherichia coli* Ribotyping for Tracking Bacterial Pollution Sources in Coastal New Hampshire, USA, pp. 269-274, In, Proceedings of the 6<sup>th</sup> International Conference in Molluscan Shellfish Safety. Busby, P (Ed.). 18 to 23 March, 2007, Blenheim, New Zealand. Miscellaneous Series 71. The Royal Society of New Zealand, Wellington.

Mohr, R.D., S.C. Deller, and **J.M. Halstead**. 2008. *Public-Private Partnerships, Cooperative Agreements, and the Production of Public Services in Small and Rural Municipalities*. NEPPC WP No. 08-4. Federal Reserve Bank of Boston. 39 pp.

**Pekins, P.J., and M.D. Tarr.** 2009. A Critical Analysis of the Winter Ecology of White-tailed Deer and Management of Spruce-Fir Deer Wintering Areas with Reference to Northern Maine. Cooperative Forestry Research Unit, Research Report RR-08-02. Orono, Maine. 154 pp.

**Short, F.T., L.J. McKenzie, R.G. Coles, K.P. Vidler, and J.L. Gaeckle.** 2008. *Manual para Monitoreo Científico del Hábitat de Pastos Marinos, Edición Mundial (Versión Español)*. University of New Hampshire Publication, Durham, NH, USA. 76 pp.

## **VII. Professional Presentations**

**Bhatt, M.P. and W.H. McDowell.** 2008. Longitudinal variation of chemistry in a tropical watershed of the Luquillo Experimental Forest, Puerto Rico. Spring meeting of the American Geophysical Union. Baltimore, MD, May 28, 2008.

**Bolaños, D.M. and Litvaitis, M.** First report of poecilogony in a tropical, free-living flatworm (Polycladida: Cotylea: *Pericelis cata*). 8<sup>th</sup> Larval Biology Symposium, Lisbon, Portugal, July 2008

**Bolaños, D.M. and Litvaitis, M.** Embryonic muscle development in direct and indirect developing marine flatworms (Platyhelminthes, Polycladida), poster presentation at the Society of Integrative and Comparative Biology annual meeting, Boston Jan 2009.

**Burdick, D.** Scientific Evaluation of Tidal Hydrology Restoration Projects in the Southeastern U.S; Newly Developed Guidance for the Practitioner. national Restore America's Estuaries Conference, Providence RI, November, 2008.

**Burdick, D.** Benefits of Tidal Wetlands. Invited talk for the Comprehensive Shoreline Protection Act Conference, NH DES January 2009

**Burdick, D.** Valuation of Ecosystem Services in Restored Salt Marshes. New England Estuarine Research Society, Salem MA, April 2009

**Congalton, R.** 2008. Land Cover Mapping in New Zealand: An Evaluation of the Effect of Terrain Normalization on Classification Accuracy. Annual Chauncy Harris Lecture at Brigham Young University. November 13, 2008.

**Congalton, R.** 2008. ISPRS 2008 Beijing – An Amazing Experience. New England Region of the American Society for Photogrammetry and Remote Sensing Annual Banquet and Business Meeting. November 3, 2008.

Covich, A.P., T.A. Crowl, D.J. Lodge, T. Heartsill-Scalley, F.N. Scatena, **W.H. McDowell**, and G.G. Gonzalez. 2008. Non-seasonal intermittent rainforest streams: Caribbean perspectives on pulsed rainfall and litter transport dynamics. 2008. Annual Meeting of the North American Benthological Society, Salt Lake City, Utah. May, 2008.

**Cullen, K.C.** Building Wealth in Resident Owned Communities. Annual W2133 Meeting.

Cusack, D.F., W. Silver, M. Torn, and **W.H. McDowell**. 2008. Stabilization and Destabilization of Soil Carbon with Nitrogen Additions in Two Tropical Forests. Annual Meeting of the American Geophysical Union, San Francisco, CA December 2008.

Cusack, D.F., W.L. Silver, **W.H. McDowell**, and M.S. Torn. 2008. Nitrogen additions alter carbon cycling dynamics and increase soil carbon content in two humid tropical forests. Annual Meeting of the Ecological Society of America, August, 2008.

**Dolan K\*\*, Hurtt G.C.**, Chambers J, Dubayah R, Masek J. 2008. Exploring the Use of GLAS as a Tool to Detect Relative Changes in Forest Structure Caused by Hurricane Katrina. NASA Science Meeting, MD.

**Ducey, M.J.** 2009. Randomized graph sampling for invasive species surveillance. IUFRO International Forest Biosecurity Conference, Rotorua, NZ, March 16-20, 2009.

**Ducey, M.J.**, D. Zheng, and L.S. Heath. 2009. Creating compatible maps from remotely sensed and forest inventory data using radial basis functions. IUFRO Conference, Extending Forest Inventory in Space and Time, Quebec City, Canada, May 19-22, 2009.

**Ducey, M.J.** 2008. Making things better and more efficient. in Getting More From Your Cruises. Maine Forest Service Workshop, Augusta ME, June 18, 2008 and Bangor, ME, June 19, 2008.

**Ducey, M.J.** 2008. Randomized graph sampling: concepts and applications. 12th Annual Meeting, Northeastern Mensurationists Organization, Bar Harbor, ME. Oct. 8-9, 2008.

**Ducey, M.J.** 2009. Managing temperate forests for carbon sequestration. Invited lecture. Managing Forests for Carbon Sequestration: Science, Business, Policy lecture series, Yale School of Forestry and Environmental Studies and Center for Business and the Environment, New Haven, CT, January 26, 2009.

Fenderson, L.E., **A.I. Kovach**, **J.A. Litvaitis**, and **M.K. Litvaitis**. 2008. Effects of Habitat Fragmentation and Landscape Features on New England Cottontail (*Sylvilagus transitionalis*) Population Genetic Structure. Conservation Biology Meeting, Chattanooga, TN.

**Fisk J\*\***, **Hurt G.C.**, Fisher J, Chambers J (2008) Trends in the Ecological Impacts of Hurricanes. Colby-Sawyer College.

**Fisk J\*\***, **Hurt G.C.**, Shevliakova E, Malyshev S (2008) Comparison of Dynamic Vegetation Model and Satellite Remote Sensing Derived Terrestrial Primary Productivity. NASA Science Meeting, MD.

Frades, M. M. Davis, J. Bryce, and **W. McDowell**. 2008. A pilot study of watershed flow using stable water isotopes in support of the development of the Lamprey River Watershed (southeast New Hampshire) as a Hydrologic Observatory. EPSCOR National Conference on Water Resources, Burlington, VT, November, 2008.

Frades, M. J. Davis, J. Bryce, and **W.H. McDowell**. 2008. A Pilot Study of Watershed Flow Using Stable Water Isotopes in Support of the Development of the Lamprey River Watershed (Southeast New Hampshire) as a Hydrologic Observatory. Annual Meeting of the American Geophysical Union, San Francisco, CA December 2008.

**Frey, S.** Harvard Forest Annual Symposium, Petersham, MA: The chronic nitrogen addition experiment at Harvard Forest--a 20 year synthesis.

**Frey, S.** International Soil Ecology Society (plenary address), Burlington, VT: Global change and soil fungi: sustaining the wood-wide web in northeastern forests

Hall, R.O., J.L. Tank, D.J. Sobota, P.J. Mulholland, J.R. Webster, H.M. Valett, G.C. Poole, B.J. Peterson, J.L. Meyer, **W.H. McDowell**, S.L. Johnson, S.K. Hamilton, N.B. Grimm, S.V. Gregory, W.K. Dodds, C.N. Dahm, L.W. Cooper, L.R. Ashkenas, S.M. Thomas, R.W. Sheibley, J.D. Potter, J.M. O'Brien, B.R. Niederlehner, L.T. Johnson, A.M. Helton, C. L. Crenshaw, A.J. Burgin, M.J. Bernot, J.J. Beaulieu, C. Arango. 2008. Linking human land-use with mechanisms of nitrate removal in streams using structural equation modeling. Annual Meeting of the North American Benthological Society, Salt Lake City, Utah. May, 2008.

**Halstead, J.M.**, **P.M. Jarema\*\*** and K.S. Conway. Civic Engagement and Land Use Policy Change: Does Social Capital Affect Ecosystem Service Flows? Presented at the Northeastern Agricultural and Resource Economics Association Meetings. Burlington, Vermont. June 7-9, 2009.

Helton, A.M., G.C. Poole, J.L. Meyer, B.J. Peterson, W. Wollheim, P.J. Mulholland, L.R. Ashkenas, L.W. Cooper, C.N. Dahm, W.K. Dodds, S. Findlay, S.V. Gregory, N.B. Grimm, R.O. Hall, Jr., S.K. Hamilton, S.L. Johnson, **W.H. McDowell**, J.L. Tank, H.M. Valett, J.R. Webster, C. Arango, J.J. Beaulieu, M.J. Bernot, A.J. Burgin, C. Crenshaw, L. Johnson, B. R. Niederlehner, J.M. O'Brien, J.D. Potter, R.W. Sheibley, D.J. Sobota, and S.M. Thomas. 2008. Thinking outside the channel: Research challenges for forecasting stream network denitrification. Annual Meeting of the North American Benthological Society, Salt Lake City, Utah. May, 2008

Hruska, J., P. Kram, **W.H. McDowell**, and F. Oulehle. 2008. Increased Dissolved Organic Carbon (DOC) in Central European Streams is Generated by Ionic Strength Reductions Rather than Decreasing Acidity or Climate Change. Annual Meeting of the American Geophysical Union, San Francisco, CA December 2008.

**Hurt, G.C.** (2008) Understanding the Consequences of Land-Use Activities in the Earth System. EMF/IAM Meeting, Washington, DC.

**Hurt, G.C.**, Chini LP, Frohling S, Betts R, Feedema J, Fischer G, Klein Goldewijk K, Hibbard K, Janetos A, Jones C, Kindermann G, Kinoshita T, Riahi K, Shevliakova E, Smith S, Stehfest E, Thomson A, Thornton P, van Vuuren D, Wang Y. 2009. Harmonization of Global Land-Use Scenarios for IPCC-AR5. Workshop on Land use and Wetlands in AR5 models. Hamburg, Germany.

**Hurt, G.C.**, Chini LP, Frohling S, Betts R, Feedema J, Fischer G, Klein Goldewijk K, Hibbard K, Janetos A, Jones C, Kindermann G, Kinoshita T, Riahi K, Shevliakova E, Smith S, Stehfest E, Thomson A, Thornton P, van Vuuren D, Wang Y. 2009. Harmonization of Global Land-Use Scenarios for IPCC-AR5. National Center for Atmospheric Research. Boulder, CO.

**Hurt G.C.**, **Fisk L\*\***, Frohling S, Shevliakova E, Malyshev S, Pacala S (2008) Strategy for Global Land-use Modeling. International Geosphere Biosphere Program Integrated Land Ecosystem-Atmosphere Process Study. Hyeres, France.

**Hurt G.C.**, Moorcroft P, Dubayah R, **Fisk J\*\*** (2008) Vegetation Structure Modeling and Observations. NASA DESDynI Planning Workshop, Greenbelt.

**Hurt G.C.**, Frohling S, Chini L (2008) Land Use Harmonization 1: Strategy, Methods, Preliminary Results. EMF/IAM Meeting, Snowmass

**Hurt G.C.**, Chini L, Frohling S, Goldewijk K, Stehfest E, van Vuuren D, Shevliakova E. (2008) Global Land-Use Harmonization 1500-2300. NASA Science Meeting, Maryland.

Johnson, L.T., J. L. Tank, P.J. Mulholland, R.O. Hall, S.G. Findlay, **W.H. McDowell**, H. M. Valett, S.K. Hamilton, B.J. Peterson, L.R. Ashkenas, L.W. Cooper, C.N. Dahm, W.K. Dodds, S.V. Gregory, N.B. Grimm, S.L. Johnson, J.L. Meyer, G.C. Poole, J.R. Webster, C.P. Arango, J.J. Beaulieu, M.J. Bernot, A.J. Burgin, C.L. Crenshaw, A.M. Helton, B.R. Niederlehner, J.M. O'Brien, J.D. Potter, R.W. Sheibley, D.J. Sobota, and S.M. Thomas. 2008. The fate of assimilated <sup>15</sup>N-nitrate in 71 headwater streams. 2008. Annual Meeting of the North American Benthological Society, Salt Lake City, Utah. May, 2008.

**James, Ashley\*\*\*, Amanda Landry\*\*\*, and C. French.** Providing Work Force Housing in New Hampshire. Presented at the National Association of Community Development Extension Professionals. San Diego, California. April, 2009.

**Jarema, P.M.\*\***, **J.M. Halstead**, and K.S. Conway. Effects of Civic Engagement on Forested Land Cover Change in the Central Appalachian Region. Presented at the 49<sup>th</sup> Annual Meetings of the Southern Regional Science Association. San Antonio, Texas, April 2-5, 2009.

**Jarema, P.D.\*\*** and **J.M. Halstead.** Effects of Civic Engagement on Land Cover Change. Paper presented at the Northeastern Ecosystem Research Cooperative 2008, Durham, New Hampshire, November, 2008.

Jenkins, J.P. and **S.V. Ollinger**, C.L. Goodale, C. Tonitto, K. Hayhoe. Northeastern US regional predictions of forest response to changing climate and rising CO<sub>2</sub>. International Association for Landscape Ecology annual Meeting, Madison, WI. April, 2008.

**Johnson, Rachel\*\*** and **Thomas D. Lee.** The persistence and expansion of burning bush (*Euonymus alatus*) populations in southeastern New Hampshire forests. 35<sup>th</sup> Natural Areas Conference, Nashville TN, October 14-17, 2008.

**Jones, S.** Gulfwatch and Microbial Source Tracking Laboratory. UNH-NHDES Cooperative Activities meeting, UNH. (Invited)

**Jones, S.** October 17, 2008. KEYNOTE ADDRESS. Water Quality Issues in the New Hampshire Seacoast. New Hampshire Coastal Protection Partnership, Seacoast Science Center, Rye, NH.

**Jones, S.** January 16, 2009. National Coastal Assessment Water Quality Results for the Lamprey River. Second Annual Lamprey River Watershed Symposium, UNH.

**Jones, S.** February 27, 2009. Is it Safe to Eat Oysters from the Pristine Cold Waters of New Hampshire? Dept. of Genetics and Biochemistry, Clemson University, Clemson, SC. (Invited)

**Jones, S.** June 11, 2009. The Gulfwatch Program: Marine Contaminant Monitoring Program in the Gulf of Maine and Bay of Fundy by Canada and the United States-1993 - 2006. NAC SETAC Meeting, Durham, NH.

**Jones, S.** June 14-19, 2009. Distribution of Mercury and Heavy Metals in Shellfish and Sediments in the Gulf of Maine & Identification of *Vibrio spp.* Found in Oysters, Sediments and Water in a Northern Temperate Estuary, USA. 7th International Conference on Molluscan Shellfish Safety, Nantes, France.

Johnson, S.L., S.D. Sebestyen, M.B. Adams, D.M. Amatya, S.W. Bailey, J.B. Jones, J.D. Knoepp, W. McCaughey, **W.H. McDowell**, K.J. McGuire, C.C. Rhoades, and P.M. Wohlgenuth. 2008. Long-term Water Quality and Stream Nutrient Responses to Forest Harvest and Disturbance at US Forest Service Experimental Forests and Ranges. Annual Meeting of the American Geophysical Union, San Francisco, CA December 2008.

Karedes, A., M. Yamasaki, **K. J. Babbitt**, **M. J. Ducey**, C. Costello and J. Janelle. 2009. Landscape Characteristics of a Forest-Matrix Raptor: Northern Goshawk (*Accipiter gentiles*) Habitat Distribution Patterns in a Changing Landscape. New England Society of American Foresters, 89<sup>th</sup> Annual Meeting, Portland, ME, March 17-20, 2009.

Knapp, R. and **M.J. Ducey**. 2009. A Cost Effective and Efficient Way to Assess Trail Conditions: A New Sampling Approach. 2009 George Wright Society Biennial Conference, Portland, OR, March 1-6, 2009.

**Kovach, A.I.** Genetic Insights into the Stock Structure of Atlantic Cod. Workshop on Exploring Fine-scale Ecology for Groundfish in the Gulf of Maine and Georges Bank, York, ME.

**Kovach, A.I., K.J. Babbitt**, and **M.K. Litvaitis**, 2008. Genetic Analysis of Amphibian Dispersal in a Forested Landscape. American Society of Ichthyologists and Herpetologists Meeting, Montreal, Canada.

**Lee, Thomas D.**, Johanna Fickenscher, James Panaccione, Kristina Vagos, **John Litvaitis**, **Serita Frey**, and **Karen Bennett**. A multidisciplinary approach toward understanding and limiting the effects of invasive plants in early-successional Habitats, Ecological Society of America Annual Meetings, Milwaukee, Wisconsin, August 3-8, 2008.

**Litvaitis, J.** *Insect responses to invasive shrubs in early-successional habitats.* Poster presentation with J.L. Fickenscher at the 35<sup>th</sup> Annual Natural Areas Conference, Nashville, TN. Oct 14-17, 2008.

**Litvaitis, J.** Potential impacts of invasive shrubs on early-successional avifauna. Poster presentation with J. Panaccione and J.A. Litvaitis at the 35<sup>th</sup> Annual Natural Areas Conference, Nashville, TN. Oct 14-17, 2008.

**Litvaitis, J.** Ghosts in the thicket: understanding the role of historic and contemporary land uses on New England's wildlife. Colby-Sawyer College Biology Seminars, New London, NH. Oct 15, 2008.

**Litvaitis, J.** Approaches and challenges of managing declining populations of lagomorphs. Plenary Lecture. 3<sup>rd</sup> World Lagomorph Conference, Morelia, Mexico. Nov 11, 2008.

**Litvaitis, J.** New England cottontail biology and status. New England Cottontail Informational Meeting for Land Managers and Non-governmental Organizations. Cabela's Cafe & Conference Center, Scarborough, ME. Nov 19, 2008.

**Litvaitis, J.** New England cottontail biology and status. Spring Meeting of the New England Chapter of the Wildlife Society. Regional Headquarters of the U.S. Fish and Wildlife Service, Hadley, MA. April 16, 2009.

Patti, A., R. Hochberg, and **Litvaitis, M.** Evolution of parasitism in the *Chaetogaster limnaei* complex (Annelida: Oligochaeta), poster presentation at the Society of Integrative and Comparative Biology annual meeting, Boston Jan 2009

Patti A, **Litvaitis M**, Hochberg R. Taxonomy and Morphology of the Symbiotic *Chaetogaster limnaei* complex (Annelida). Eastern New England Biology Conference, Lowell MA, April 2009.

**Mautz, W.** Are we missing the boat in environmental science education? Presented at 3<sup>rd</sup> International Symposium on Environment. Athens, Greece, May, 2008.

**McDowell, W.H.** and **M.L. Daley**<sup>f</sup>. 2008. Global variation in the chemistry of tropical streams. Annual Meeting of the North American Benthological Society, Salt Lake City, Utah. May, 2008.

**McDowell, W.H.** and **M.L. Daley**<sup>f</sup>. 2008. Suburbanization and water quality in SE New Hampshire - The Lamprey River Hydrologic Observatory. Second Symposium on Urbanization and Stream Ecology, Salt Lake City, Utah, May 23, 2008.

**Morris, D.E. and L.E. Goodridge.** Linking Market Valued Community Skill Profiles with Corporate Outsourced Functions to Identify Financially Attractive Rural Sourcing Targets. Western Regional Science Association Annual Meetings. Feb 17 - 20, Napa Valley, California.

**Morris, D.E. and L.E. Goodridge.** The Potential Role of Universities in Facilitating Home-Shoring Activities. Joint Canadian Agricultural Economics Society / Northeastern Agricultural and Resource Economics Association. June 30 - July 1, Quebec City, Canada.

**Morris, D.E. and L.E. Goodridge.** What Skills Are at the End of Broadband Cables in Rural America? Do They Match Up with Firms Wishing to Engage Rural Sourcing? Conference on Broadband in the Rural Economy, ERS, USDA. Washington DC, Septbmer 30 - 31.

**Morris, D.E. L.E. Goodridge, and A.B. Manalo.** Retired individual's skills at the end of broadband in New England. Presented at the Northeastern Agricultural and Resource Economics Association Meetings. Burlington, Vermont. June 7-9, 2009.

Morton, D., **Hurt, G.C.**, DeFries, R. Modeling changes in forest structure from repeated exposure to anthropogenic fires, International Scientific Conference, Amazon in Perspective: Toward an Integrated Science. Manaus, Amazonas, Brazil

**Ollinger S.V.**, D.Y. Hollinger, A.D. Richardson, M.E. Martin, P.B. Reich, L.C. Plourde. Beyond the Carbon Cycle: Forest-Climate Feedbacks Through Coupled Interactions Between Carbon, Nitrogen and Shortwave Albedo. 2008 Conference of the Northeastern Ecosystems Research Cooperative.

**Ollinger S.V.** Potential Effects of Climate Change and Rising CO<sub>2</sub> on Ecosystem Processes in Northeastern U.S. Forests. Harvard Forest Annual Ecology Symposium.

**Ollinger, S.V.** Exploring Carbon-Nitrogen-Albedo Linkages Across a Range of Biomes and Spatial Scales: Functional Relations and Potential Climate Feedbacks. NASA NACP meeting, San Diego, CA, Feb, 2009.

**Ollinger, S.V.**, A.D. Richardson, M.E. Martin, L.C. Plourde, D.Y. Hollinger, S.E. Frothing, and P.B. Reich. Linkages among Canopy Nitrogen, Carbon Assimilation and Albedo in Forests: An Overlooked Role for Nitrogen in the Climate System? European Geosciences Meeting, Vienna, Austria, April, 2009. (*Invited Presentation*)

**Ollinger, S.V.**, A. Richardson, M. Martin, S. Frolking, D. Hollinger, L. Plourde, P. Reich. Exploring carbon-nitrogen-albedo linkages in temperate and boreal forests. American Geophysical Union, Fall Meeting, December 2008. (*Invited Speaker*)

**Ollinger, S.V.** Carbon-Nitrogen-Albedo Linkages in Temperate and Boreal Forests: Functional Relations And Potential Climate Feedbacks. 2008 AmeriFlux Annual Meeting. (*Invited Speaker*)

**Ollinger, S.V.** The Global Carbon Cycle: From the Earth's Climate System to the Classroom. Meeting of the GLOBE Program's Climate Change Education Campaign, Geneva, Switzerland, January 2009. (*Invited Speaker*).

Oulehle, F., **W.H. McDowell**, J.A. Aitkenhead-Peterson, P. Krám, J. Hruška, and D. Fottová. 2008. Long-term trends in stream nitrate concentrations and losses across watersheds undergoing recovery from acidification in the Czech Republic. Annual Meeting of the American Geophysical Union, San Francisco, CA December 2008.

Robinson, S., E. Evetts, W. Taylor, J. Toth, R. Bowden, K. Lajtha, **W.H. McDowell** and J.A. Aitkenhead-Peterson. 2008. Above- and below-ground litter manipulation: impact on the retention and release of dissolved C and N. Annual Meeting of the Agronomy Society of America, Houston, TX October 2008.

**Robertson, R.** Methods of Assessing the Socio-Economic Effects of Fishery Management Activities: The Importance of Data Triangulation and Comparative Research. Paper presented at the 14th International Symposium on Society and Resource Management, University of Vermont Rubenstein School of Environment and Natural Resources, June 10 - 14, 2008. Burlington, Vermont.

**Robertson, R.** A Comparative Study of the Effectiveness of Web-Based Stakeholder Engagement Tools: Does Context Matter? Invited presentation at "Pathways to Success: Integrating Human Dimensions into Fisheries and Wildlife Management," Sept. 29-Oct. 2, 2008. YMCA of the Rockies. Estes Park, Colorado.

**Rosenberg, A.A.** Puget Sound Partnership Keynote address, Ecosystem-based Management 2009

**Rosenberg, A.A.** Aspen Institute, Invited speaker, Ecosystem-based Management 2009

**Rosenberg, A.A.** Northeast Fishery Science Center annual meeting, keynote 2009

**Rosenberg, A.A.** Ransom A. Myers Memorial Lecture, Dalhousie University 2008

**Rosenberg, A.A.** Mid-Atlantic Regional Ecosystem based Management meeting, invited speaker 2008

Sassi, A., **J.M. Halstead**, and J-C Huang. Solid Waste Management and Pay-As-You-Throw Policy in New Hampshire: Spatial Analysis. Presented at the Northeastern Agricultural and Resource Economics Association Meetings. Burlington, Vermont. June 7-9, 2009.

Schmitz, C., **J. Walsh\*\***, **A. Kovach**, and **K. Babbitt**. 2009. Factors Influencing the Nesting Success of Saltmarsh Sharp-tailed Sparrows. Northeast Fish & Wildlife Conference, Lancaster, Pennsylvania.

Shanley, J.B., D.J. Lodge, D.P. Krabbenhoft, M.L.Olson, **W.H. McDowell**. Fluxes of new and old mercury from mercury amendments to Puerto Rico soil columns. 2008. Annual Meeting of the American Geophysical Union, San Francisco, CA December 2008. Pusan University, *Global Seagrass Monitoring*, July 3, 2008, Pusan, South Korea

**Short, F.** The Global Crisis of Seagrass Decline. China Ocean University Seminar, July 9, 2008, Qingdao, Peoples Republic of China

**Short, F.** Seagrass Net Monitoring. Guangxi Marine Environment and Coastal Wetland Research Center, July 16, 2008, Beihai City, Peoples Republic of China

**Short, F.** A Seagrass Global Report Card Based on SeagrassNet Data. The 8<sup>th</sup> International Seagrass Biology Workshop, September 3, 2008, Bamfield Marine Station, Vancouver Island, Canada

**Short, F.** Global Status of Seagrasses. New England Estuarine Research Society, October 16, Block Island, Rhode Island

**Short, F.** The Importance of Seagrass Monitoring. Ministry of Marine Affairs and Fisheries, Indonesia, December 12, 2008, Jakarta, Indonesia

**Short, F.** Tropical Atlantic Seagrass Status. Universidad Autónoma Metropolitana, University of Campeche, Mexico, February 5, 2009, Campeche, Mexico

**Short, F.** , Keynote speaker: The Big Picture: Eelgrass in the Gulf of Maine. Gulf of Maine Eelgrass Workshop, February 24, 2009, Portland, Maine

**Short, F.** Temperate North Atlantic Seagrasses. Universidade do Algarve, Campus de Gambelas, April 8, 2009, Faro, Portugal

**Short, F.** Seagrass Monitoring in the Caribbean. Antigua and Barbuda Department of Fisheries, 28 April, 2009, St. John, Antigua and Barbuda

**Vachon, A.\*\***, **J.M. Halstead**, and J. Jambeck. United States Construction & Demolition Debris Facility Practices: Analysis of a National Survey. Presented at the Northeastern Agricultural and Resource Economics Association Meetings, Quebec City, Quebec. June, 2008.

**Vachon, A.\*\***, **J.M. Halstead**, and J. Jambeck. Results of a National Survey of Construction and Demolition Debris Recycling Facilities in the United States. Paper presented at the annual meetings of the Northeast Resource Recovery Association, Nashua, New Hampshire, June, 2008.

Vagos, Kristina and **Thomas D. Lee**, Effects of soil feedback on the growth of invasive shrubs in early successional habitats. 35<sup>th</sup> Natural Areas Conference, Nashville TN, October 14-17, 2008.

**Walsh, J.\*\***, **A. Kovach**, and **K. Babbitt**. 2009. Identification of Genetic Structure of Saltmarsh Sparrow Populations (*Ammodramus caudacutus*). Northeast Fish & Wildlife Conference, Lancaster, Pennsylvania.

Yamasaki, M., W. Leak, J. Janelle, C. Costello, **M.J. Ducey**, **K.J. Babbitt**, and J. Neely. 2009. The Massabesic Experimental Forest Prescribed Fire Project. New England Society of American Foresters, 89<sup>th</sup> Annual Meeting, Portland, ME, March 17-20, 2009.

**Zheng, D.†**, L.S. Heath, and **M.J. Ducey**. 2009. Estimating bias of scaling effects on satellite based forest area estimation for the conterminous U.S. 2nd North American Carbon Program All Investigators Meeting, San Diego, CA, Feb. 17-20, 2009.

**Zheng, D.†**, L.S. Heath, and **M.J. Ducey**. 2008. Reassessing missing carbon from a new perspective: scaling effects. Landscape Ecology and Forest Management: Challenges and Solutions. IUFRO Conference, Chengdu, Sichuan, China, Sep. 16-18, 2008.

**Zheng, D. †**, L.S. Heath, **M.J. Ducey**, and J.E. Smith. 2008. Dynamic change in forest carbon associated with land-use change and ownership in northern New England States of the U.S.: 1992 to 2001. Forest Inventory and Analysis Symposium, Park City, UT, October 21-23, 2008.

## VIII. Other Presentations

**Carroll, J.** Pastures of Plenty: The Future of Food, Agriculture and Environmental Conservation in New England. Durham Community Church

**Carroll, J.** The Wisdom of Small Farms and Local Food. South Church Unitarian, Portsmouth, NH.

**Carroll, J.** Sustainability and Spirituality. St. John's Episcopal Church, Portsmouth, NH.

**Congalton, R.** 2008. Loons in New Hampshire – Doing Quite Well, Thank You. Invited talk at the Nashua Audubon Society as part of the UNH Speaker's Bureau, April 14, 2009

**Congalton, R.** 2009. Preparing for Manuscript Submission. Invited presentation as part of a Student Advisory Council Special Session on "Academic Publishing" at the 75<sup>th</sup> Annual ASPRS Conference in Baltimore, MD, March 12, 2009.

**Frey, S.** Dept of Molecular and Cellular Biology, Michigan State University, East Lansing, MI: Microbial responses to chronic soil warming and nitrogen fertilization.

**Frey, S.** Dept of Biology, Mt. Holyoke College, South Hadley, MA: Microbial responses to chronic warming and nitrogen fertilization

**Frey, S.** Department of Evolutionary and Organismal Biology, Harvard, Cambridge, MA: Interactions between microbial metabolism and soil carbon storage in a global change context

**Frey, S.** Michigan Technological University, Houghton, MI: Interactions between microbial metabolism and soil carbon storage in a global change context

**Frey, S.** Rafael Landivar University, Guatemala City, Guatemala: Soil microbial communities in a warmer, fertilized world

**Frey, S.** Harvard Forest Seminar Series, Petersham, MA: Microbial community and organic matter dynamics in response to soil warming and nitrogen fertilization

**Halstead, J.M.** The Value of Visibility in New Hampshire's White Mountains. Mt. Washington Hotel lecture series. August, 2008.

**Hobbie, E.A.** Messages from the Deep: Isotopes, Symbiotic Mushrooms and Life Belowground. Cornell University, February 13, 2009.

**Hobbie, E.A.** Messages from the Deep: What Nitrogen Isotopes on Ectomycorrhizal Fungi Say About Ecosystem Functioning. Rothamsted Research Center, England, November 5, 2008. Technical University of Munich, December 16, 2008.

**Hobbie, E.A.** Nitrogen Isotopes in Ectomycorrhizal Fungi are Linked to Ecosystem Functioning. Rothamsted Research Center, England, November 5, 2008.

**Hobbie, E.A.** Exploration Types Predict Nitrogen Isotopes in Ectomycorrhizal Fungi, Ludwig Maximilian University, Munich, Germany, October 29, 2008.

**Morris, D.E.** Clickers in the classroom: Successes and challenges. University of New Hampshire, Teaching Excellence Workshop, Durham NH January 2009

**Robertson, R.** Collaborations, Partnerships and Engagements with Stakeholders: A Vision for and a Road Map to Sustainability of North Carolina's Coastal Resources an invited presentation at the University of North Carolina's Coastal Studies Institute June 20<sup>th</sup>, 2008, Manteo, North Carolina.

**Robertson, R.** Coastal Communities Responding to Socioeconomic and Ecological Change: Cases of Collaboration in Gulf of Maine an invited presentation at East Carolina University June 21<sup>st</sup>, 2008, Greenville, North Carolina.

**Robertson, R.** Engagement, Collaboration and Partnerships: Tools for Building a Bridge to Success for the Master's in Marine and Environmental Science at the University of the Virgin Islands. Center for Marine and Environmental Science at the University of the Virgin Islands, Saint Thomas, U.S. Virgin Islands.

**Boldface type** denotes NREN faculty member

\*NREN-affiliated Research Staff

\*\* NREN-affiliated graduate student

\*\*\*NREN-affiliated undergraduate student

**T.W. Hartley** resigned 2008, currently at College of William & Mary

## **IX. Professional Awards**

### **IX.a. Profession/Society External**

Congalton, R. Outstanding Service Award presented by the American Society for Photogrammetry and Remote Sensing (2009) – for over 10 years of service as National Workshop Director

Congalton, R. Presidential Citation awarded by the American Society for Photogrammetry and Remote Sensing (2009) – for service as Chair of the 75<sup>th</sup> Anniversary of ASPRS Committee

Frey, S. Bullard Fellowship, Harvard University, 2008-2009

Frey, S. University of New Hampshire Class of 1944 Professorship, 2005-2008

Frey, S. National Science Foundation Faculty Early Career Development Award, 2005-2010

Morris, D.E. Distinguished Member Award. Northeastern Agricultural and Resource Economics Association.

Short, F. Coastal America Partnership Award for Contribution to the South Coast Habitat Restoration Project, given by the President of the United States.

### **IX. b. University of New Hampshire**

John Aber, University Professor

Thomas D. Lee, Jean Brierley Award for Excellence in Teaching

William McDowell, Presidential Research Chair

Barrett Rock, UNH Award for Excellence in Public Service

## X. Professional Offices and Duties

Carroll, J. Member, Operations Committee. Northern New England Passenger Rail Authority (NNEPRA).

Congalton, R. Editor-in-Chief – *Photogrammetric Engineering and Remote Sensing* ; Editorial Board – *GIScience & Remote Sensing Journal*; Editorial Board – *Serie Geografica*, Universidad De Alcala, Madrid, Spain; Secretary/Treasurer – New England Region of the American Society for Photogrammetry and Remote Sensing; Chair, 75<sup>th</sup> Anniversary Committee for the American Society for Photogrammetry and Remote Sensing

Cullen, K.G. President, AES W2133, Policy Affecting Public and Private Lands.

Ducey, M.J. *Forest Science*, Associate Editor, 2004-present; *Forestry* (Oxford, U.K.), Editorial Board, 2006-present; *Mathematical and Computational Forestry and Natural Resource Sciences*, Editorial Board, 2009-present

Frey, Serita. Associate Editor, *Biogeochemistry*, 2008-

Halstead, J.M. Editorial Board, *Journal of Regional Analysis and Policy*

Hobbie, E.A. Vice-chair, Soil Ecology section of the Ecological Society of America

Hurt, G.C. Member, NASA Senior Review Panel, 2009-; Chair, Oak Ridge National Lab DAAC User Working Group, 2008-; Lead, Global Land-Use Harmonization, EMF/IAM Working Group, 2008; Director, NASA-UNH Joint Educational Initiative Research & Discover; Executive Committee, NASA Vegetation Structure Work Group

Jones, S. Project Manager, Gulfwatch Monitoring Program, Gulf of Maine Council on the Marine Environment; Chair, Technical Advisory Board, NH Estuaries Project

Lee, T.D. Associate Editor, *Rhodora*, Journal of the New England Botanical Club; Trustee, New Hampshire Chapter of the Nature Conservancy

Litvaitis, J. Vice Treasurer, World Lagomorph Society (appointed 2006)

Litvaitis, M. Associate Editor, *Meiofauna Marina*

Morris, D.E. Secretary-Treasurer, Northeastern Agricultural and Resource Economics Association.

Ollinger, S.V. Board of Directors, National Ecological Observatory Network (NEON), 2009- ; Associate Editor, *Biogeochemistry*; Northeastern Ecosystem Research Cooperative Steering Committee Member; NASA Terrestrial Ecology Review Panel; Co-Chair of forest sector analysis, Union of Concerned Scientists, Northeastern Climate Impacts Assessment.

Pekins, P.J. Editor in Chief - *ALCES* (International journal dedicated to research and management of moose).

Robertson, M.A. Executive Committee, Northern New England Chapter of the American Planning Association

Robertson, R. Lobster Committee of the Atlantic States Marine Fishery Commission; Science and Statistics Committee of the New England Fishery Management Council; Social and Economic Advisory Committee to the Atlantic State Marine Fishery Commission (NH representative appointed by Director of Marine Fisheries); Gulf of Maine Research Council (Habitat Committee)

Rosenberg, A.A. Member, NAS Ocean Studies Board; member, NAS study on America's Climate Choices panel on adapting to climate change, member; member NSF Geosciences Advisory Board; UN Group of Experts for developing a Global Marine Assessment; member, Steering Committee, Joint Ocean Commission Initiative; member, board of directors, Fishwise Seafood Choice program; co-founder and member of Governing Board, Massachusetts Ocean Partnership; review panel member Northeast Fisheries Science Center stock assessment workshop; member, New England Fishery Management Council Science and Statistical Committee.

Short, F.T. Specialist Group Chair for Seagrasses and IUCN Red Listing, IUCN Species Survival Commission; Coordinator on Global Seagrass Distribution for the online *World Atlas of Seagrasses*, UNEP World Conservation Monitoring Center; Science advisor to SaveGreatBay; Technical Advisory Committee, New Hampshire Estuaries Program (NHEP); Editorial Board, *Aquatic Botany*

## X. NREN Faculty and Staff

### Tenure Track, Extension, and Research Faculty Department of Natural Resources and the Environment

Aber, John	Professor
Babbitt, Kimberly J.	Professor & Associate Dean
Becker, Mimi L.	Associate Professor
Bennett, Karen	Extension Professor
Burdick, David M.	Research Associate Professor
Carroll, John E.	Professor
Congalton, Russell G.	Professor
Cullen, Kelly L.	Associate Professor
Ducey, Mark J.	Professor
Eckert, Robert T.	Professor
French, Charles A.	Extension Associate Professor
Frey, Serita	Associate Professor
Goodridge, Lyndon	Professor
Halstead, John M.	Professor & Chair
Hobbie, Erik	Research Associate Professor
Howard, Theodore E.	Professor
Hurt, George C.	Associate Professor
Johnson, Paul C.	Associate Professor
Jones, Stephen H.	Research Associate Professor
Kovach, Adrienne	Research Assistant Professor
Lee, Thomas D.	Associate Professor
Lindsay, Bruce E.	Professor
Litvaitis, John A.	Professor
Litvaitis, Marianne K.	Professor
Manalo, Alberto B.	Associate Professor
Mautz, William W.	Professor
McDowell, William H.	Professor
Morris, Douglas E.	Associate Professor
Ollinger, Scott V.	Associate Professor
Pekins, Peter J.	Professor
Pennock, Jonathan R.	Associate Professor & Marine Program Director, Jackson Estuarine Laboratory
Peterson, Julia	Extension Associate Professor
Robertson, Mary A.	Lecturer-Contract Faculty
Robertson, Robert A.	Associate Professor
Rock, Barrett N.	Professor
Rosenberg, Andrew A.	Professor

Sciabarrasi, Michael R.	Extension Professor
Short, Fredrick T.	Research Professor
Smith, Sarah S.	Extension Professor
Tarr, Matthew D.	Extension Assistant Professor
Taylor, James T.	Professor
Wraith, Jon	Professor & Associate Dean

### Affiliate Faculty

#### Department of Natural Resources and the Environment

Baber, Matthew	Assistant Professor
Brejaart, Ria	Assistant Professor
Campbell, John L.	Assistant Professor (N.E. Forest Experiment Station)
Cooper, Andrew B.	Associate Professor
Eagar, Christopher	Professor (N.E. Forest Experiment Station)
Gove, Jeffrey E.	Professor (N.E. Forest Experiment Station)
Hallett, Richard A.	Assistant Professor (N.E. Forest Experiment Station)
Hartter, Joel N.	Assistant Professor (Dept of Geography)
Heath, Linda S.	Associate Professor (N.E. Forest Experiment Station)
Kahl, Jeffrey S.	Professor (Professor of Environmental Science)
Leak, William B.	Professor (N.E. Forest Experiment Station)
Li, Changsheng	Professor
Maddison, Peter A.	Associate Professor
Martin, Mary E.	Assistant Professor
Minocha, Rakesh	Professor (N.E. Forest Experiment Station)
Prelli, Lawrence J.	Professor
Wildblood-Crawford, Bruce S.	Assistant Professor (Dept of Geography; University of Canterbury; Te Whare Wananga O Waitaha)
Yamasaki, Mariko	Assistant Professor (N.E. Forest Experiment Station)

#### NREN Administrative Support Staff

Brown, Nancy	Administrative Manager II
Isaacson, Linda	Administrative Assistant II
Norton, Marlene	Senior Administrative Assistant
Scogin, Linda	Senior Administrative Assistant

#### ECOQUEST Program

Dowal, Donna	UNH-EcoQuest Director of Admissions
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