

Jeffrey Neil Houser

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Education

University of Wisconsin, Madison, WI 53706

- 2001 Ph.D. Zoology - Dissertation Title: *Dissolved organic carbon in lakes: effects on thermal structure, primary production, and hypolimnetic metabolism.*
- 1998 M.S. Zoology - Thesis Title: *Food web structure and experimental enrichment: effects on phosphorus sedimentation and retention.*

Wake Forest University, Winston-Salem, NC 27109

- 1994 B.S. Magna cum Laude and with Honors in Biology - Senior Thesis Title: *Genetic diversity and divergence of endangered Galapagos and Hawaiian petrel populations*

Teaching Experience

University of Wisconsin-Madison Teaching Assistant

- 1995 Fall semester: Zoology 152 – Ecology and Evolution
- 1996 Spring semester: Zoology 151 – Cellular and Molecular Biology

University of Wisconsin-La Crosse

- 2006 River ecology field trip: Fall 2006 Limnology class (BIO 341)

Research Experience

October 2004 – present: Adjunct Professor, Department of Biology, University of Wisconsin—La Crosse.

November 2003 – present: Research Ecologist/Limnologist, U.S. Geological Survey Upper Midwest Environmental Sciences Center.

July 2001-November 2003: Postdoctoral Research Associate—Stream Ecology, Oak Ridge National Laboratory. Supervisor: Patrick J. Mulholland.

May 1996 – June 2001: Graduate Research Assistant, Center for Limnology, University of Wisconsin, Madison. Dissertation adviser: Stephen R. Carpenter.

Research Interests

Aquatic ecology, large rivers, streams, lakes, ecosystem metabolism, carbon and nutrient cycling, biogeochemistry, food webs, applied ecology, ecological modeling

Professional Service

Reviewed manuscripts for the following journals: Hydrobiologia, Ecosystems, Journal of Environmental Engineering, Limnology and Oceanography, Fisheries, Journal of Environmental Quality, Science of the Total Environment, Journal of Geophysical Research – Biogeosciences

Judged student posters/presentations at the following meetings: Ecological Society of America (Montreal, Quebec; 2005); Mississippi River Research Consortium (La Crosse, WI; 2005)

Professional Societies

American Society of Limnology and Oceanography; Ecological Society of America; North American Benthological Society

Grants

US Army Corps of Engineers/US Geological Survey Long Term Resource Monitoring Project Additional Program Expenditure. 2006. Title: Vegetation, primary production, and dissolved oxygen dynamics in UMRS backwater lakes. Amount: \$90,000.

US Army Corps of Engineers/US Geological Survey Long Term Resource Monitoring Project Additional Program Expenditure. 2007 (*pending passage of the 2007 Federal Budget*). Primary production in the UMRS: Contrasts in dissolved oxygen dynamics, primary production, and respiration among aquatic areas of the Upper Mississippi River System. Amount: \$105,000.

Invited Seminars

Houser, J.N. Nutrients, chlorophyll, and suspended sediment in the Upper Mississippi River: Patterns in time and space. U.S. Environmental Protection Agency Science Symposium: Sources, Transport, and Fate of Nutrients in the Mississippi and Atchafalaya River Basins. Minneapolis, MN. November 7-9, 2006.

Houser, J.N., B.S. Ickes, B. Knights. Using monitoring data to increase our understanding of the UMRS and inform decisions about its management. Upper Mississippi River Conservation Committee Annual Meeting. Hannibal, MO. March 14-15, 2006 (Co-presented with B.S. Ickes).

Houser, J.N. Suspended sediments and sedimentation in the Upper Mississippi River System. Upper Mississippi River Basin Association Water Quality Task Force Meeting. Rock Island, IL. November 2-3, 2005.

Houser, J. N., P.J. Mulholland and K.O. Maloney. Watershed land use affects primary production, community respiration, and nutrient cycling in streams: Results of a comparative study of streams at Ft. Benning, Georgia. Thirteenth Tennessee Water Resources Symposium, American Water Resources Association. Nashville, Tennessee. April 9-11, 2003.

Houser, J.N. Inputs of terrestrial dissolved organic carbon, nutrients, and sediment affect the physics, chemistry and biology of aquatic systems: Examples from Wisconsin lakes and Georgia streams." United States Geological Survey. Reston, Virginia. June 25, 2002.

Selected Presentations

Houser, J.N., B.R. Gray, J.T. Rogala. Nutrients, chlorophyll, and suspended sediment in the Upper Mississippi river: Patterns in time and space. American Society for Limnology and Oceanography Annual Meeting. Oral Presentation. Victoria, B.C. June 4-9, 2006.

Houser, J.N., J.T. Rogala, B.R. Gray, and L. A. Gittinger. Nutrients and chlorophyll *a* in the Upper Mississippi River System: What can we learn from spatial and temporal patterns? Oral Presentation. North American Benthological Society. New Orleans, Louisiana. May 22-27, 2005.

Selected Presentations (cont.)

- Houser, J.N., J.T. Rogala, B.R. Gray, J. R. Fischer and B. L. Johnson. Using long-term monitoring data to understand spatial and temporal variability in the Upper Mississippi River System. Oral Presentation. Ecological Society of America 89th Annual Meeting. Portland, Oregon. August 1-6, 2004.
- Houser, J.N., P.J. Mulholland, and K. Maloney. Disturbance of upland soil and vegetation affects the export of nutrients and sediments to streams during storm events. Oral Presentation. Ecological Society of America. Savannah, Georgia. August 3 - 8, 2003.
- Houser, J.N., P.J. Mulholland, and K. Maloney. Patterns in stream respiration and primary production along a gradient of upland soil and vegetation disturbance. Oral Presentation. American Geophysical Union. San Francisco, CA. December 6-10, 2002.
- Houser, J.N. Colored dissolved organic matter affects the surface temperature, heat content, and epilimnetic light intensity of small lakes. Oral Presentation. American Society of Limnology and Oceanography 2002 Summer Meeting. Victoria, British Columbia. June 10-4, 2002.
- Houser, J.N., D. Bade, S.R. Carpenter, J.J. Cole, M.L. Pace. The dual influences of dissolved organic carbon on hypolimnetic metabolism: organic substrate and photosynthetic inhibition. Oral Presentation. American Society of Limnology and Oceanography 2001 Winter Meeting. Albuquerque, New Mexico. February 12-16, 2001.
- Houser, J.N., C.E.H. Scheele, T.E. Essington, S.R. Carpenter, and J.F. Kitchell. Long-term effects of a short-term lake food web manipulation: Tuesday Lake 12 years later. Oral Presentation. Ecological Society of America 85th Annual Meeting. Snowbird, Utah. August 6-10, 2000. Also presented at the LTER All Scientists Meeting which preceded the ESA meeting at Snowbird (August 2-4, 2000).
- Houser, J.N. and S.R. Carpenter. Light-mediated interactions of colored DOC and chlorophyll. Oral Presentation. Ecological Society of America 84th Annual Meeting. Spokane, Washington. August 8-12, 1999.
- Houser, J. N., S.R. Carpenter, and J.J. Cole. Food web structure and experimental enrichment: Effects on phosphorus sedimentation and retention in whole-lake experiments. Oral Presentation. North American Lake Management Society Eighteenth Annual International Symposium. Banff, Alberta Canada. November 10-13, 1998.

Reports

- Houser, J. N., editor. 2005. Multiyear synthesis of limnological data from 1993 to 2001 for the Long Term Resource Monitoring Program. U.S. Geological Survey, Upper Midwest Environment Sciences Center, La Crosse, Wisconsin, March 2005. LTRMP Technical Report 2005-T003. 59 pp. (NTIS PB2005-105228)

Publications

- Houser, J.N.** 2006. Water color affects the stratification, surface temperature, heat content, and mean epilimnetic irradiance of small lakes. Canadian Journal of Fisheries and Aquatic Sciences 63:2447-2455.
- Roberts, B.J., P.J. Mulholland, and **J.N. Houser**. 2006. Effects of upland disturbance and instream restoration on hydrodynamics and ammonium uptake in headwater streams. Journal of the North American Benthological Society 26:38-53.
- Houser, J.N.**, P.J. Mulholland, and K.O. Maloney. 2006. Upland disturbance affects headwater stream nutrients and suspended sediments during baseflow and stormflow. Journal of Environmental Quality 35:352–365.
- Houser, J.N.**, P.J. Mulholland, and K.O. Maloney. 2005. Catchment disturbance and stream metabolism: patterns in ecosystem respiration and gross primary production along a gradient of upland soil and vegetation disturbance. Journal of the North American Benthological Society 24:538-552.
- Mulholland, P.J., **J.N. Houser**, and K.O. Maloney. 2005. Stream diurnal dissolved oxygen profiles as indicators of in-stream metabolism and disturbance effects: Fort Benning as a case study. Ecological Indicators 5:243-252.
- Houser, J.N.**, D.L. Bade, J.J. Cole, M.L. Pace. 2003. The dual influences of dissolved organic carbon on hypolimnetic metabolism: organic substrate and photosynthetic inhibition. Biogeochemistry 64:247-269.
- Essington, T.E. and **J.N. Houser**. 2003. The Effect of Whole-Lake Nutrient Enrichment on Mercury Concentration in Age- 1 Yellow Perch. Transactions of the American Fisheries Society 132:57-68.
- Carpenter, S.R., J.J. Cole, J.R. Hodgson, J.F. Kitchell, M.L. Pace, D. Bade, K.L. Cottingham, T.E. Essington, **J.N. Houser** and D.E. Schindler. 2001. Trophic cascades, nutrients and lake productivity: experimental enrichment of lakes with contrasting food webs. Ecological Monographs 71:163-186.
- Houser, J.N.**, S.R. Carpenter, J.J. Cole. 2000. Food web structure and nutrient enrichment: effects on sediment phosphorus retention in whole-lake experiments. Canadian Journal of Fisheries and Aquatic Sciences 57:1524-1533.
- Bennett, E. M., T. Reed-Andersen, **J.N. Houser**, J.R. Gabriel, S.R. Carpenter. 1999. A phosphorus budget for the Lake Mendota watershed. Ecosystems 2:69-75.
- Carpenter, S.R., J.J. Cole, T.E. Essington, J.R. Hodgson, **J.N. Houser**, J.F. Kitchell, and M.L. Pace. 1998. Evaluating alternative explanations in ecosystem experiments. Ecosystems 1: 335-344.
- Browne, R.A., D.J. Anderson, **J.N. Houser**, F. Cruz, K.J. Glasgow, C.N. Hodges, G. Massey. 1997. Genetic diversity and divergence of endangered Galapagos and Hawaiian Petrel populations. The Condor 99:812-815.