**JEFFREY DANIEL MUEHLBAUER**



Curriculum for the Environment & Ecology University of North Carolina- Chapel Hill

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# **Education**

Ph.D. Ecology *(In Progress)*. University of North Carolina- Chapel Hill (expected 2013)

M.S. Ecology. University of North Carolina- Chapel Hill (2010)

B.S. Biology & Chemistry. Northern Arizona University (2007)

Ecology Emphasis, with Honors, *Summa cum laude.* 4.0 GPA.

**Research & Employment**

University of North Carolina. Chapel Hill, NC. *Advisor: Dr. Martin W. Doyle*

* University Fellow (2007–Present), Geography/Ecology TA/RA (2008–present)

Leibniz Institute of Freshwater Ecology & Inland Fisheries (IGB). Berlin, Germany. *Collaborators: Drs. Klement Tockner, Michael Monaghan, Martin Pusch*

* Visiting Fellow (2011)

Northern Arizona University. Flagstaff, AZ. *Advisor:* *Dr. Jane C. Marks*

* Research Associate, Department of Biology (2003–2007)

Ecological Restoration Institute. Flagstaff, AZ. *Director: Dr. Peter Z. Fulé*

* Assistant Crew Leader (2006), Research Assistant (2004–2007)

Duke University. Durham, NC. *Director: Dr. Christopher B. Newgard*

* Chemist/Geneticist Intern (2005)

Boy Scouts of America Camp Raymond. Parks, AZ

* Camp Counselor & Ropes Challenge Course Instructor (2003)

Northland Youth Conservation Corps. Flagstaff, AZ

* Americorps Team (2002)

**Recent Awards & Recognitions**

IGB Fellowship in Freshwater Science, 2011

CUAHSI Pathfinder Fellowship, 2010

Sigma Xi GiAR, 2010

Cary IES Ecosystem Ecology Course, 2010

NABS President’s Award, 2009

Binghamton Student Travel Award, 2009

UNC Pogue Fellow, 2007–Present

UNC Graduate Travel Award, 2009

**Peer-Reviewed Publications**

6) Riggsbee, J.A., Doyle, M.W., Julian, J.P., Manners, R., Muehlbauer, J.D., Sholtes, J. & Small, M.J. (*In Press*) Influence of aquatic and semi-aquatic organisms on channel forms and processes. In: *Treatise in Fluvial Geomorphology* (Ed E. Wohl). Elsevier.

5) Muehlbauer, J.D., Duncan, J. M. & Doyle, M.W. (*In Press*) Benign use of salt slugs on aquatic macroinvertebrates: Measuring discharge with salt during an aquatic ecology study. *River Research & Applications.* [DOI: 10.1002/rra.1546](httP://dx.doi.org/10.1002/rra.1546)

4) Muehlbauer, J.D., Doyle, M.W. & Bernhardt, E.S. (2011) Macroinvertebrate community responses to a dewatering disturbance gradient in a restored stream. *Hydrology and Earth System Sciences* 15:1771-1783. [DOI: 10.5194/hess-15-1771-2011](http://dx.doi.org/10.5194/hess-15-1771-2011)

3) Fuller, R.L., Griego, C., Muehlbauer, J.D., Dennison, J. & Doyle M.W. (2010) Response of stream macroinvertebrates in flow refugia and high-scour areas to a series of floods: A reciprocal replacement study. *Journal of the North American Benthological Society* 29:750–760. [DOI: 10.1899/09-107.1](http://dx.doi.org/10.1899/09-107.1)

2) Muehlbauer J.D., LeRoy C.J., Lovett J.M., Flaccus K.K., Vlieg J.K. & Marks J.C. (2009) Short-term responses of decomposers to flow restoration in Fossil Creek, Arizona, USA. *Hydrobiologia* 618:35–45*.* [DOI: 10.1007/s10750-008-9545-3](http://dx.doi.org/10.1007/s10750-008-9545-3)

1) Joseph, J.W., Odegaard, M.L., Ronnebaum, S.M., Burgess, S.C., Muehlbauer, J., Sherry, A.D. & Newgard, C.B. (2007) Normal flux through ATP-citrate lyase or fatty acid synthase is not required for glucose-stimulated insulin secretion. *Journal of Biological Chemistry* 282:31592–31600. [DOI: 10.1074/jbc.M706080200](http://dx.doi.org/10.1074/jbc.M706080200)

**Manuscripts In Review, THESES & OUTREACH Publications**

Muehlbauer, J.D. & Doyle, M.W. (*In Review*) Knickpoint effects on macroinvertebrates, sediment, and discharge in urban and forested streams: Urbanization outweighs micro-scale heterogeneity. *Journal of the North American Benthological Society.*

Muehlbauer, J.D. (2010) Ecological heterogeneity in streams: geomorphic and hydrologic influences macroinvertebrate community structure. MS Thesis, University of North Carolina- Chapel Hill. 138 pp.

Muehlbauer, J.D. (2007) Getting all wet at the ERI: a study of how riparian restoration influenced the aquatic ecosystem in Fossil Creek, Arizona. Ecological Restoration Institute Newsletter, Spring 2007. 3 pp.

**Major Conference Presentations (AS LEAD AUTHOR ONLY)**

6) Muehlbauer, J.D., Tockner, K. & Doyle, M.W. (2011) “Stream signatures:” aquatic subsidy importance to terrestrial foodwebs with distance from the stream. NABS.

5) Muehlbauer, J.D. & Doyle, M.W. (2010) Does urbanization overcome micro-scale heterogeneity? Knickpoint effects on macroinvertebrates, sediment, and discharge in urban and forested streams. NABS/ASLO.

4) Muehlbauer, J.D., Bernhardt, E.S. & Doyle, M.W. (2009) Macroinvertebrate community responses to an experimental drought gradient on the outer coastal plain of North Carolina. NABS.

3) Muehlbauer, J.D. & Doyle, M.W. (2008) Knickpoint effects on habitat and the macroinvertebrate community. Stream Restoration in the Southeast Conference.

2) Muehlbauer, J.D., *et al.* (2007) Short-term effects of dam decommissioning and flow restoration in Fossil Creek. ESA/SER.

1) Muehlbauer, J.D., *et al.* (2005) Diversion dam reduces decomposition, fungal biomass and macroinvertebrate abundance and diversity (Poster). NABS/AGU.

**INVITED, NON-CONFERENCE PRESENTATIONS**

“Water, watersheds & people”, UNC special course on water issues, February 2010

“Carbon dioxide” (for 200 children), Chapel Hill/Carrboro City Schools, September 2009

**PROFESSIONAL SERVICE & SYNERGISTIC ACTIVITIES**

Seminar Search Committee. UNC Curriculum for the Environment & Ecology

* Chair 2011–Present; Member 2008–2009, 2010–2011

Graduate Research Consultant. UNC Cistern Water Quality Capstone, 2011

“Expert Scientist” Guest. Chapel Hill/Carrboro City Schools, 2009–2010

Author English Help Volunteer. Ecological Society of America, 2006–Present

Peer-reviewer. Limnology and Oceanography: Fluids and Environments, River Research and Applications, Restoration Ecology, Journal of the American Water Resources Association, Water Resources Research (1 each)

**PROFESSIONAL AFFILIATIONS (BY RELEVANCE)**

Ecological Society of America (ESA), 2005–Present

Society for Freshwater Science (SFS, formerly NABS), 2008–Present

Association for the Sciences of Limnology and Oceanography (ASLO), 2009–Present

American Geophysical Union (AGU), 2007–Present

European Geosciences Union (EGU), 2011–Present

Society for Ecological Restoration International (SER), 2005–Present