Curriculum Vitae

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RESEARCH AND TEACHING INTERESTS:

My interests are in pursuing research uniting ecological and engineering principles through the study of degraded and manipulated aquatic ecosystems, including the evaluation and mitigation of anthropogenic influences on the physical, chemical, and biological conditions of riverine systems. The ecology of physical disturbances (chronic and acute) in aquatic ecosystems is of particular interest. Evaluating the linear and nonlinear (threshold) responses of biological communities to restoration and other engineered manipulations of channels are my long-term research interests. On the global scale, the implications of urbanization and agricultural practices on aquatic ecosystem stability in developing countries in an area of active and ongoing study.

My objectives as an educator and motivator are to encourage critical thinking, a global perspective, and an ecological responsibility in engineering students. I would like to provide students with the knowledge and curiosity to develop sustainable engineering designs that result in enhanced aquatic ecosystems. This requires connecting engineering problems of various kinds (urban development, agriculture, culverts, dams, restoration) to fluvial processes and ultimately to the responses of steam biota.

EDUCATION:

Doctorate of Biological Engineering, May 2005
North Carolina State University, Raleigh, NC
Major Professor: Greg Jennings, PhD, PE
Master of Civil Engineering, May 2002
North Carolina State University, Raleigh, NC
Major Professor: H. Rooney Malcom, PhD, PE
Bachelor of Science in Civil Engineering, December 2000
University of Tennessee, Knoxville, TN

PRACTICAL AND ACADEMIC EXPERIENCE:

September 2005 to present
Assistant Professor
Oregon State University, Corvallis, OR

January 2000 to May 2005
Teaching/Research Assistant
North Carolina State University, Raleigh, NC

May 2002 to August 2002

Environmental Consultant,
Blue Land Water Infrastructure, Clayton, NC

Summer 1998, December 1998 to May 1999
Co-Op Intern
Barge, Waggoner, Sumner, and Cannon, Inc., Nashville, TN

CERTIFICATIONS:

- 2000 - Fundamentals of Engineering Exam

TEACHING AND LEARNING ACTIVITIES:

- 2003 - Lecturer for BAE 573 – Hydrologic and Water Quality Modeling
- 2004 - Lecturer for BAE 590 – Natural Channel Design
- 2004 - NC Stream Restoration Institute RiverCourse, Asheville, NC
- 2005 – Lecturer for BO565 – Plant Community Ecology

AWARDS AND HONORS:

- 2000 - James L. and Martha Howard Scholarship recipient
- 2003 - Selected for College of Agriculture and Life Sciences (CALS) Professional Development workshop
- 2003 - Qualitative Reasoning of Stream Ecosystem Restoration and Recovery workshop participant and scholarship recipient - Jena, Germany
- 2003 - MONET Network of Excellence on Artificial Intelligence: Summer School participant and scholarship recipient – Crete, Greece
- 2004-2005 Preparing the Professoriate Program participant
- 2005 - National Science Foundation (NSF) East Asia Program Summer Institute Participant (EAPSI); Chinese Academy of Science, Beijing, China

CONFERENCE PRESENTATIONS AND ABSTRACTS:

- 2003 - Tar/Pamlico Nutrient Model for NC Department of the Environment and Natural Resources
- 2003 - SER Poster presentation, Austin, TX
- 2004 - SER, Coastal Plain Chapter, Oral Presentation, Raleigh, NC
- 2004 - NABS Oral Presentation, Vancouver, B.C.
- 2004 - Southeastern Regional Conference on Stream Restoration Oral Presentation, Winston-Salem, NC
- 2004 - 18th International Workshop on Qualitative Reasoning, Poster and Oral Presentation, Chicago, IL
- 2005 - NABS Oral Presentation, New Orleans, LA
- 2005 – Chinese Academy of Sciences – Keynote Speaker, Center for Research on Eco-Environmental Sciences, Beijing China, June 2005.

PUBLICATIONS (ACCEPTED, SUBMITTED, AND IN PREPARATION):

- Tullos, D. 2005. Priorities, Policies, and Philosophies: A comparison of restoration practices for aquatic ecosystems in China and America. Ecological Management & Restoration (in preparation)
- Tullos, D. and M. Neumann. 2005. A Qualitative Model for Characterizing Effects of Anthropogenic Activities on Benthic Communities. *Ecological Modeling* (submitted)
- Tullos, D., G. Jennings, D. Penrose, and G. Cope. 2005. Benthic Community Simplification as an Early Response to Stream Restoration? *Restoration Ecology* (submitted)

- Tullos, D., D. Penrose, and G. Jennings. 2005. Development and Application of a Bioindicator for Benthic Habitat Enhancement in the North Carolina Piedmont. *Ecological Engineering* (submitted)
- Tullos, D., D. Penrose, G. Jennings, and G. Grabow. 2005. Evolution of restored Piedmont streams towards a mean-state: early responses of benthic macroinvertebrates. *Journal of the North American Benthological Society* (submitted)
- Tullos, D., Neumann, M., and Alvarez, J. 2004. *Development of a Qualitative Model For Describing Benthic Response to Anthropogenic Activities.* Proceedings of the 18th International Workshop on Qualitative Reasoning, QR'04, Chicago, IL, August 2-4.
- Tullos, D. 2004. "Expectations for MBS&QR in the Next Five Years." MONET Newsletter, Issue 4, January 2004.

PROFESSIONAL AFFILIATIONS:

- Society for Ecological Restoration (SER)
- North American Benthological Society (NABS)
- American Water Resources Association (AWRA)
- Chi-Epsilon National Civil Engineering Honor Society
- American Society of Civil Engineers (ASCE)

PROFESSIONAL DEVELOPMENT / INTERESTS:

- ArcGIS 8 – 3D and spatial analyst, ArcHydro
- Hydrologic, hydraulic, and water quality modeling: HEC-HMS, HEC-RAS, HSPF, Drainmod, Rusle2
- Taxonomic identification of benthic macroinvertebrates