

Joel Stephen Sholtes

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OBJECTIVE: To study, manage, and restore water resources and aquatic systems for public and environmental health and to provide for sustainable management our waters through sound research and professional standards.

SUMMARY: I have focused my education and work experiences in the field of water resources acquiring skills in the following areas:

- Hydrology and Hydraulics, Open Channel Flow;
- Fluvial Geomorphology, Sediment Transport and applications to stream restoration;
- Watershed and Water Quality Modeling, Assessment, and Management; and,
- Water Supply Management, Source Protection, and Environmental Regulation.

Through my professional and academic careers I have gained a fluency in water and river related sciences and regulation, and have instilled in me an understanding of the importance of work based on the foundations of science and research.

SKILLS: Hydrologic, hydraulic, & sediment investigation and modeling; stream, wetland, & forestry field research including topographic total station surveying, water quality and hydrologic monitoring; hazardous waste & clean water regulation management; Spanish speaker.

SOFTWARE: HEC-RAS (Steady & Unsteady Flow, Sediment Transport), Arc GIS (ArcHydro, Spatial Analyst), TAS, SWMM, TR-55, HEC-HMS, LINDO, Microsoft Access and Excel.

EDUCATION

Master's Degree: 2007 to 2009 – Univ. of North Carolina, Chapel Hill, Dept. of Geography. Advisor: Dr. Martin Doyle

- *Environmental Fellow*, UNC Institute for the Environment
- *Course Work:* Fluid Mechanics, Fluvial Geomorphology, Sediment Transport, Watershed GIS, Water Supply Systems Analysis, Watershed Planning, Hydrometeorology.
- *Master's Thesis: Stream Restoration's Impact on Flood Wave Propagation:* Field measurement and modeling of channel reconfiguration's impact to floods with considerations of watershed scale and land use change.
- *Suspended Sediment Analysis of Stream Restoration Project.* Deployed ISCO automated water samplers and measured TSS up and downstream of an active restoration site to document changes on TSS export.

Undergraduate Degree: 2000 to 2004 – Duke University, Durham, North Carolina B.S. with Distinction - May, 2004

- *Major:* Environmental Sci., Water Res. Concentration GPA: 3.58
- *Course Work:* Water Quality Mgmt, Hydrology, Wetlands Field Skills, Env. Toxicology, Ecology, Env. Policy.
- *Undergraduate Thesis: Water Supply Watershed Protection: The Future of Durham's Water Supply.* Assessed adequacy of watershed protection policy in maintaining the quality of the City of Durham's water supply. Explored supply protection measures to mitigate the impacts of predicted development.

PROFESSIONAL EXPERIENCE

Conservation Specialist at the Department of Water Management - City of Durham, NC - June 2006 to June 2007

Implemented various programs to increase efficiency of water use within the city. Tasks included forming partnerships and conducting audits with large water users; developing water efficiency standards for municipal facilities; outreach, education, and presentations to community, business and student groups; modeling water supply outlook; maintaining city-wide water consumption statistics; supporting compliance efforts with state and federal regulations; and, creating and updating conservation ordinances.

Environmental Policy Associate at the Conservancy of SW Florida - Naples, FL - January 2006 to May 2006

Supported the Conservancy's Estuaries Program through research, writing, presenting, and outreach. Represented the Conservancy as a stakeholder in rule creation at the regional and state levels regarding water quality, storm water regulation and the restoration of the Everglades and Lake Okeechobee.

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Project Manager at Ecosystems Strategies Inc. - Poughkeepsie, NY - September 2004 to November 2005

Coordinated and conducted Phase I-IV environmental site assessments, soil and groundwater investigations, and remediation working first hand with clients, contractors, and regulatory agencies to secure environmental compliance. Trained in environmental sampling and pollution remediation practices and regulations under RCRA and CERCLA and state soil and groundwater pollutant standards.

PUBLICATIONS & PRESENTATIONS

Landscape Characteristics of a Stream and Wetland Mitigation Banking Program. By T. Bendor, J. Sholtes, and M.W. Doyle accepted in Ecological Applications. We analyzed the spatial distribution, clustering, and shifts in hydrologic properties between impact and restoration projects in NC's compensatory mitigation program. I presented this paper in the *NC Water Resources Research Institute 2008 annual conference*.

Impact of Stream Restoration on Flood Waves. By J. Sholtes and M.W. Doyle. Thesis work presented in the *American Ecological Engineering Society 2008 Conference* and the *American Geophysical Union 2008 Fall Meeting*. Manuscript submitted to Journal of Hydraulic Engineering.

PROFESSIONAL AFFILIATIONS

American Geophysical Union, American Ecological Engineering Society, Georgia Association of Water Professionals

SERVICE

Engineers Without Borders

Developed local projects for EWB and assisted with fundraising. Partnered with a rural community in North Carolina assessing the management of their water distribution network. Worked with town officials to identify needs and concerns related to water system. Conducted a water audit on the distribution system and presented findings and recommendations to the town council.

Ellerbe Creek Watershed Association

Served on the Water Quality Committee. Working with board members to identify water quality goals of ECWA and identify resources and partnership potentials to fulfill those goals.

Environmental Education

Beginning in college with a student organization that teaches environmental ed. to Durham students in afterschool programs and continuing on with outreach and education work at the Conservancy of SW Florida, the Durham Water Dept., and with the Durham Soil and Water Conservation Service, I have maintained an active role in teaching about the natural world and human-environmental issues in my community.