



Shelley Gustafson
ENVIRONMENTAL

Shelley Gustafson, Principal Environmental Scientist

KEY QUALIFICATIONS:

My skills include wetland and stream evaluation, water quality monitoring, data analysis, hydrological investigation, ecological assessment, and environmental education. I have worked in a variety of capacities ranging from a U.S. Peace Corps forestry volunteer in rural Dominican Republic to my current position as principal and senior scientist of an environmental consulting company in New Haven, VT. I received my M.S. in Water Resources from the University of Vermont in 1999 where I designed a study to determine the effects of stream water quality on the soil chemistry and vegetation patterns of a northern Vermont wetland, the results of which were published in the *Journal of Environmental Quality*. As a consulting environmental scientist, I offer services related to the evaluation and restoration of water resources, reporting results to both the local scientific community as well as lay clientele.

EDUCATION: M.S. Water Resources, 1999, University of Vermont, Burlington, Vermont.
B.A. Biology, 1990, Luther College, Decorah, Iowa.

PROFESSIONAL EXPERIENCE:

Principal and Senior Environmental Scientist, Shelley Gustafson Environmental, LLC.

Founded in April 2008. Specific services include: wetland, vernal pool and stream assessments; water quality evaluations and remediation plans; wetland restoration planning and design; data analysis and report writing; permit application preparation; and educational presentations and workshops.

Senior Wetland Scientist, Pioneer Environmental Associates, LLC. (April 2000 to March 2008)

Conducted studies related to the ecology and management of wetlands and other aquatic systems. Services included wetland and stream evaluations, the development of restoration plans, water quality assessments, hydrological investigations, and general ecological surveys. Extensive contact with a wide range of clientele such as local VT landowners, dairy farmers, ski resort managers, State and Federal government personnel, and city officials. Recent projects include serving as lead investigator for the development of a wetland restoration plan for the Lake Champlain Basin as a component of the State of Vermont Clean and Clear Action Plan; the development of a wetland restoration plan for the USFWS at the Bennington Landfill; providing expert testimony to the Vermont Environmental Board regarding impacts to wetlands and stream water quality resulting from the expansion of gun club operations in Southern Vermont; and the assessment of cumulative impacts to wetlands/surface waters resulting from large-scale resort activities.

Stream Research Technician, University of Vermont (January 2000 to April 2000)

Managed a stream monitoring study of the downstream effects of detention basins on the UVM campus. Performed various chemical analyses of streams. Collected and identified stream macroinvertebrates. Coordinated UVM's spring seminar on watershed management.

Environmental Consultant, Vermont Natural Resources Council (September 1999 to January 2000)

Analyzed/interpreted stream gage data for a study on the benefits of dam removal. Reconstructed the historical flow regime of an impounded river reach, and calculated velocity, depth and substrate characteristics of the reach under free-flowing conditions.

Wetlands Researcher/M.S. Thesis, University of Vermont (September 1996 to October 1999)

Developed and implemented an experimental design to examine the relationship between stream water quality, soil chemistry, and vegetation patterns of a northern Vermont wetland. Sampled streams, wetland soils, vegetation, and analyzed data using regression and analysis of variance.

Ecology Teaching Assistant, Governor's Institute of Vermont (Summers, 1997, 1998, and 1999)

Developed and taught lessons which facilitated inquiry-based learning for high school students at an institute for science and technology.

Biology Lab Instructor, University of Vermont (September 1998 to May 1999)

Presented laboratory topics to students, facilitated discussion, and assessed students' work in weekly lab exercises for the introductory biology class at UVM.

Soil Science Lab Instructor, University of Vermont (September 1998 to December 1998)

Facilitated weekly lab exercises for the introductory soil science class at UVM. Guided students to outdoor sites and facilitated their analysis of soil and landscape associations.

Environmental Problem Solving Teaching Assistant, University of Vermont (September 1996 to May 1998)

Assisted in the School of Natural Resources' capstone course on environmental problem solving and impact assessment. Assisted students in the preparation of an environmental assessment as regulated by NEPA. Graded reports and exams.

Forestry Research Assistant, University of Vermont (June 1996 to September 1996)

Assisted in a study on the Forest Health Monitoring program and its effects on vegetation. Surveyed vegetation within study plots.

Natural Areas Restoration Assistant, Madison WI Audubon Society (September 1994 to December 1995)

Worked to restore and maintain prairie and oak savanna natural areas. Collected, prepared, and planted native seeds. Conducted bird surveys.

Park Ranger, Biscayne National Park, Florida (February 1994 to August 1994)

Developed and led educational programs about park's natural history. Developed and gave slide programs to local community groups. Directed and organized 250 volunteers for a community-wide clean up of Biscayne Bay. Assisted in data collection for different resource management surveys.

U.S. Peace Corps Forestry Volunteer, Dominican Republic (March 1991 to May 1993)

Developed and taught the following: participatory environmental education programs in a primary school, adult literacy classes, a health course for local villagers, and an English as a second language course to high school students. Facilitated the construction of fuel-efficient clay cooking stoves.

HONORS/AWARDS/CERTIFICATIONS:

- Professional Wetland Scientist Certification (#1613) by the Society of Wetland Scientists
- New Hampshire Wetland Scientist Certification (#00248) by the NH Board of Natural Scientists
- Received Graduate Teaching Fellowship for the School of Natural Resources, University of Vermont, Burlington, VT (1996-1998)
- Received Preuss Presidential Scholarship for Luther College, Decorah, Iowa (1986-1990)

PUBLICATIONS:

Shelley Gustafson and Deane Wang. 2002. Effects of agricultural runoff on vegetation composition of a priority conservation wetland, Vermont, USA. *Journal of Environmental Quality* Vol. 31: 350-357.