

# ARROWWOOD ENVIRONMENTAL

**Michael Lew-Smith**

**Consulting Ecologist/Botanist**

1315 Hopkins Hill Road  
Hardwick VT, 05843  
(802) 472-5084

## Education

M.S., University of Minnesota Department of Plant Biology, Major: Plant Biology. Minor: Soil Science. June, 1997

B.S., University of Michigan School of Natural Resources, Major: Natural Resource Management and Environmental Education. May, 1991

Relevant Graduate Coursework: Plant Systematics, Boreal Flora, Bryophytes, Ecology, Plant Community Ecology, Plant Physiology, Wetland Soils, Peatlands, Soil Morphology, Taxonomy of Grasses

## Work Experience

**Arrowwood Environmental** Partner, Consulting Ecologist/Botanist. May 2001 to present. Responsible for conducting wetland delineations, natural community assessment and ranking, vegetation plot monitoring and rare plant surveys on a wide variety of consulting projects throughout the state.

**Vermont Department of Fish and Wildlife**, Contract Ecologist/Botanist. Non-Game & Natural Heritage Program, Waterbury Vermont, May 2000 to present. Field ecologist and botanist for a project to catalogue and survey significant examples of hardwood dominated swamp communities throughout Vermont. Responsible for identifying potential sites, visiting sites and determining statewide significance, conducting vegetation plots, and surveying for rare plants.

**Vermont Department of Fish and Wildlife** Contract Ecologist, Non-Game & Natural Heritage Program, Waterbury Vermont, May 1999 to March 2001. Field ecologist on program to map the natural communities of Mount Mansfield State Forest. Developed and implemented a sampling strategy for the survey of natural communities. Conducted vegetation plots in all community types throughout the State Forest.

**Vermont Department of Fish and Wildlife** Contract Botanist, Non-Game & Natural Heritage Program, Waterbury Vermont, March 1999 to September 1999. Conducted a rare plant and significant natural community survey for U.S. Army Corps of Engineers Union Village Dam site in Thetford, Vermont.

**The Nature Conservancy Midwest Regional Office (contract work)**, Botanist/Plant Ecologist, Voyageurs National Park, MN, August 1996 to March 1999. Field team leader on a project to classify and map the vegetation of Voyageurs National Park. Conducted relevés and ground truthing plots and assisted in the development of the vegetation classification system for the park. Experience with plant community analysis including ordination, cluster analysis and indicator species analysis. Wrote descriptions of and developed a dichotomous key for the plant communities of the Park.

**Keewaydin Environmental Education Center**, Naturalist, Salisbury, VT, January to June 1994. Responsible for leading groups of students through a 2-5 day residential environmental education program. Developed lesson plans and taught short courses natural history and environmental issues to school groups.

**Project SOAR**, Naturalist/Trip Leader, Balsam, NC, June to August 1992. Worked with troubled youth in both a residential and wilderness setting. Planned and led low and high ropes course, backpacking, white-water rafting and rock climbing trips.

**North Woods Resource Center**, Naturalist, Ely, MN, January to May 1992. Responsible for leading groups of students through a 5-day residential environmental education program. Planned and taught naturalist activities including plant identification and map/compass use. Also responsible for conducting weekend naturalist programs for adult groups.

**Michigan Department of Natural Resources**, Forest Pest Specialist, Roscommon, MI, May to August 1991. Responsible for detecting and monitoring insect and fungal pest populations. Conducted tree survival surveys, risk rating and damage assessments, map and aerial photograph reading, aerial sketch mapping, and timber sampling.

**Museum of Natural Science**, Docent/Planetarium Operator, Ann Arbor, MI, January 1989 to May 1991. Designed and led tours on wildlife, geology, Native American cultures, and prehistoric life for school groups. Conducted planetarium shows and wrote the astronomy section of the docent training manual.

**National Park Service and US Forest Service Volunteer**. West Glacier, MT, September to November 1989. Assisted in research on population estimates of the timber wolf and grizzly bear. Studied the ecology and management of these species and conducted back-country population surveys. Gained experience in track identification, track casting, sign identification, and radio telemetry.

### Research Experience

Graduate Research Assistant: Department of Plant Biology, University of Minnesota

Project Title: Survey of Arbuscular Mycorrhizal (AM) Fungi in Wetlands

Project Title: Restoration of a Tall Grass Prairie using Mycorrhizal Inoculation

Project Title: Plant Recolonization at a Restored Freshwater Wetland

Research Assistant: School of Natural Resources, University of Michigan

Project Title: Foraging Host Preferences of the Gypsy Moth

### Publications and Presentations

**Lew-Smith, Michael**. 2003. *Cyperus houghtonii* Torrey (Houghton's Flat Sedge) Conservation and Research Plan for New England. New England Wildflower Society, Framingham, Massachusetts, USA.

Hop, K., D. Faber-Langendoen, **M. Lew-Smith**, N. Aaseng and S. Lubinski. 2001. USGS-NPS Vegetation Mapping Program, Voyageurs National Park, Minnesota. Project Report.

**Smith, M.S.**, I.D. Charvat, and R. Jacobsen. 1998. The significance of arbuscular mycorrhizal fungi in an early successional tallgrass prairie reclamation. *Canadian Journal of Botany*. 76:1947-1956.

Charvat, I.D., **M. Smith**, J. White, H. Agwa, J. Tallaksen, and L. Gould. 1998. Roadside prairie and wetland restoration: mycorrhizal and plant factors. Minnesota Department of Transportation Report MN/RC-1998/15.

E. Gould, **M. Smith** and I. Charvat. 1997. Wetland succession: a comparison of a disturbed and undisturbed site. Poster presentation at Botanical Society of America Meetings, 1997, Montreal, Quebec.

**Smith, M.S.**, I.D. Charvat, and L. Peterson. 1995. Germination of selected prairie forbs in sand and soil. Poster presentation at Botanical Society of America Meetings 1996 Seattle, WA.