

Curriculum Vitae

JOHN S. SANDERSON, Ph.D.

Work address:

The Nature Conservancy of Colorado
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EDUCATION

Ph.D. in Ecology, 2006

Graduate Degree Program in Ecology, Colorado State University, Fort Collins, CO
Dissertation: Hydrology and conservation of intermountain wetlands

Master of Science in Botany/Field Naturalist Program, 1994

University of Vermont, Burlington, VT

Bachelor of Science in Aeronautical Engineering, 1986

Purdue University, West Lafayette, IN

ADDITIONAL TRAINING AND WORKSHOPS

TNC Rocky Mountain Conservation Region Climate Change Workshop, January 2008

U.S. Army Corps of Engineers, Regulatory IV—Interagency Wetlands Identification and Delineation, August 1998

The Nature Conservancy, Introduction to Biohydrology, May 1996

Eagle Hill Wildlife Research Center, Field Ornithology, May 1993

WORK EXPERIENCE

Senior Freshwater Ecologist

The Nature Conservancy of Colorado, Boulder, CO

September 2007 – Present

Provide technical support and guidance to conservation planning efforts for wetlands, riparian areas, and aquatic ecosystems, including Ecoregional Planning and the Colorado Non-consumptive Needs Assessment. Interpret and apply conservation plans to execute on-the-ground conservation actions. Develop water regime prescriptions to achieve aquatic and riparian conservation goals. Analyze and interpret data, write reports and manuscripts, and submit to peer-reviewed publications on topics relating to freshwater conservation, wetland and riparian ecology, and hydrology. Write technical components of grants and research proposals. Serve on graduate committees. Contract and supervise development of conservation tools. Represent TNC's conservation science to landowners, donors, and other public and private entities. Routinely use Microsoft Office Suite, SAS, SigmaPlot, ArcMap, and other common software.

Conservation Ecologist

The Nature Conservancy of Colorado, Boulder, CO

June 2005 – August 2007

Interpreted and applied conservation plans to execute on-the-ground conservation actions. Conducted site assessments, identified site management needs, and wrote management plans. Wrote grant and research proposals. Wrote and supervised contracts for site inventory and monitoring, and site management tasks. Represented TNC's conservation science to landowners, donors, and other public and private entities.

Instructor

Punta Cana, Dominican Republic,
through Columbia University, New York, NY

July – August 2005

Instructed a 5-week undergraduate course in field ecology and conservation biology.

Biohydrologist/Owner

1998 – 2005

Paluster Environmental Services, Fort Collins, Colorado

Conducted a wide range of studies and projects in botany and/or hydrology, often with emphasis on water management as it affects species and ecosystems. Identified plants and plant communities, specializing in Colorado flora. Surveyed R,T, & E species and habitat. Delineated and assessed wetlands. Measured, analyzed, and modeled water budget components, particularly evapotranspiration and surface water flows. Managed all aspects of a small company, including preparation of proposals and reports, budgeting and accounting, and employees.

Research Technician

June 2003

ABR, Inc., North Slope Burrough, Alaska

Located and collected data on nests of geese, ducks, loons, jaegers, and other large birds in patterned tundra habitat as part of an environmental impact assessment.

Research Assistant

1999 – 2003

Dr. David Cooper, Boulder, Colorado

Collected micrometeorological data using a Bowen Ratio Energy Balance System. Analyzed data and developed statistical models relating evapotranspiration to environmental variables.

Teaching Assistant

1999, 2001

Department of Biology, Colorado State University

Organized and taught labs for General Biology and for Poisonous Plants.

Ecology Team Leader/Wetland Ecologist

July 1997 – July 1998

Colorado Natural Heritage Program

Lead, managed and supervised the community ecology staff of ~15 scientists at the Colorado Natural Heritage Program. Identified Colorado's most significant wetlands in support of the Colorado Division of Wildlife's Wetlands Program. Represented The Nature Conservancy on a state-wide committee to select projects to be funded by the \$10.5 million Colorado Wetlands

Initiative that protected over 15,000 acres of wetlands. Wrote grant proposals and procured funding for projects. Oversaw budgets for all ecology projects.

Wetland Ecologist

June 1994 – July 1997

Colorado Natural Heritage Program

Developed a plant community classification for a portion of Colorado's West Slope. Identified, characterized, and prioritized Colorado's most biologically significant wetlands. Supported public and private conservation and planning organizations with technical expertise. Procured and managed funding.

Botanist/Consultant

April 1994 - June 1994

U.S. Fish and Wildlife Service, Portland, Oregon

Developed vegetation section of an Environmental Impact Statement under section 4(d) of the U.S. Endangered Species Act.

Teaching Assistant

December 1993-January 1994

Department of Botany, University of Vermont

Assisted in preparing and teaching Winter Ecology at a remote site in central Maine. Taught field-related subjects (e.g., species i.d., cold adaptation) under challenging field conditions.

Peace Corps Volunteer--Forestry Extension Agent

October 1987 - September 1989

U.S. Peace Corps, Mali, West Africa

Trained groups and individuals in techniques of soils erosion control, nursery and woodlot establishment, live fence construction, and agroforestry. Served on the Small Projects Assistance Fund Committee, reviewing and evaluating proposals for project funding.

PUBLICATIONS: PEER-REVIEWED

Rathburn, S. L., D. M. Merritt, E. E. Wohl, J. S. Sanderson, and H. Knight. Characterizing Environmental Flows for Maintenance of River Ecosystems: North Fork Cache la Poudre River, Colorado. Submitted to Geological Society of America Bulletin.

Sanderson, J. S., N. B. Kotliar, and D. Steingraeber. In press. Opposing environmental gradients govern vegetation zonation in an intermountain playa. *Wetlands*.

Sanderson, J.S., A.T. Carpenter, and T. Schulz. In prep. What is peatland "restoration"? Lessons from a Colorado fen. To be submitted to *Restoration Ecology*.

Sanderson, J. S., N. B. Kotliar, D. A. Steingraeber and C. Browne. 2008. The simulated natural hydrologic regime of an intermountain playa conservation site. *Wetlands* 23:363–377.

Sanderson, J. S. and D. J. Cooper. 2008. Ground water evapotranspiration from wetlands of an arid intermountain basin. *Journal of Hydrology* 351:344-359.

Groeneveld, D. P., W. M. Baugh, J. S. Sanderson and D. J. Cooper. 2007. Annual groundwater evapotranspiration mapped from single satellite scenes. *Journal of Hydrology* 344:146– 156.

Cooper, D. J., J. S. Sanderson, D. I. Stannard, and D. P. Groeneveld. 2006. Effects of long-term water table drawdown on evapotranspiration and vegetation in an arid region phreatophyte community. *Journal of Hydrology* 325:21–34.

Cooper, D. J. and J. Sanderson. 1997. A montane *Kobresia myosuroides* fen community type in the Southern Rocky Mountains of Colorado, U.S.A. *Arctic and Alpine Research* 29: 300-303.

PUBLICATIONS: OTHER

Sanderson, J. S. 2005. Delineation and characterization of surface water features on the Taos Field Office management area: Year 1, Overlook and Orilla Verde. Prepared for the Taos Field Office of the Bureau of Land Management.

Sanderson, J. S. 2004. Natural Heritage Inventory of the Taylor Ranch, Costilla County, Colorado. Colorado Natural Heritage Program. Fort Collins, CO.

Carpenter, A., S. Perce, J. S. Sanderson, and C. Browne. 2004. City of Boulder comprehensive wetland remapping project. Report prepared for the City of Boulder, CO.

Brand, C. and J. Sanderson. 2002. Water resources on the Medano-Zapata Ranch, San Luis Valley, Colorado. Prepared for The Nature Conservancy of Colorado.

Spackman, S., D. Culver, and J. Sanderson. 2000. Park County Inventory of Critical Biological Resources. Prepared for Park County Government, Fairplay, CO.

Sanderson, J. S. and C. B. Brand. 2000. Hydrology of the Mishak Lakes Wetland Preserve and Implications for Conservation. Prepared for The Nature Conservancy of Colorado.

Sanderson, J. S. 2000. Assessment of Potential Effects of Aurora's Conjunctive Use Project on *Ptilagrostis porteri* (Rydberg) W.A. Weber. Memo "to whom it may concern" in support of ESA listing of a Federal Candidate species.

Culver, D. and J. Sanderson. 1998. A natural heritage assessment of wetlands of Summit County, Colorado. Report prepared for Summit County, the Colorado Department of Natural Resources, and the U.S. Environmental Protection Agency. Colorado Natural Heritage Program, Fort Collins, CO.

Sarr, D. and J. Sanderson. 1998. A natural heritage assessment of wetlands of the Closed Basin, San Luis Valley, Colorado. Report prepared for Saguache County, the Colorado Department of Natural Resources, and the U.S. Environmental Protection Agency. Colorado Natural Heritage Program, Fort Collins, CO.

Sanderson, J. and M. March. 1996. Extreme rich fens of South Park, Colorado: their distribution, identification, and natural heritage significance. Report prepared for Park County, the Colorado Department of Natural Resources, and the U.S. Environmental Protection Agency. Colorado Natural Heritage Program, Fort Collins, CO.

Sanderson, J. and S. Kettler. 1996. A preliminary wetland vegetation classification for a portion of Colorado's West Slope. Report prepared for the Colorado Department of Natural Resources, and the U.S. Environmental Protection Agency. Colorado Natural Heritage Program, Fort Collins, CO.

Culver, D. and J. Sanderson. 1996. A natural heritage assessment of wetlands and riparian areas in Routt County, Colorado. Report prepared for the Colorado Department of Natural Resources. Colorado Natural Heritage Program, Fort Collins, CO.

Kettler, S., J. Sanderson, S. Spackman, K. Fayette, C. Pague, D. Clark, and A. Hicks. 1996. Natural heritage and wetland/riparian resources of Larimer County and their conservation. Report prepared for the Larimer County Parks Department and the Colorado Department of Natural Resources. Colorado Natural Heritage Program, Fort Collins, CO.

Sanderson, J., D. Campbell, and P. Neitlich. 1993. Molly Bog: A conservation overview. Report to the University of Vermont Natural Areas Program, Burlington, Vermont.

PRESENTATIONS

Sanderson, J.S. (invited speaker). 2008. Sustaining streams: environmental flows for aquatic ecosystems. USDA Forest Service 2008 Regional Conference on Sustainable Operations, April 16, 2008, Denver, CO

Sanderson, J.S. (invited speaker). 2007. Sustaining streams: environmental flows for aquatic ecosystems. USDA Forest Service 2007 Sustainable Operations Summit, November 13–16, Denver, CO

Rathburn, S. L., D. M. Merritt, E. E. Wohl, H. A. Knight, and J. S. Sanderson. 2007. Streamflow and sediment management for maintenance of river ecosystems: North Fork Cache la Poudre River, Colorado. Presented at the annual meeting of the Geological Society of America, Denver, CO.

Sanderson, J. S. 2006. Ground conservation science and strategies: *in situ* groundwater rights. Presented at The Nature Conservancy Bi-Annual Science Conference, Tucson, AZ.

Sanderson, J. S. 2006. The natural hydrologic regime of an intermountain playa conservation site. Presented at: The Nature Conservancy's Bi-Annual Science Conference, Tucson, AZ.

Kappen, B., W. Sanford, and J. Sanderson. 2004. Ground and Surface Water Interaction in Ephemeral Wetlands, San Luis Valley, Colorado. Presented at: the 24th Annual American Geophysical Union Hydrology Days, Colorado State University, Fort Collins, CO.

Sanderson, J.S. and N.T. Kotliar. 2004. The altered hydrology of an intermountain playa. Presented at the Society of Wetland Scientists Annual Meeting. Seattle, WA.

PEER-REVIEWING

Salix candida Flueggé ex Wild. (sageleaf willow): A Technical Conservation Assessment (a USFS publications, reviewed for the Society for Conservation Biology)

Salix myrtilifolia Anderss. (blueberry willow): A Technical Conservation Assessment (a USFS publications, reviewed for the Society for Conservation Biology)

Ptilagrostis porteri (Rydb.) W.A. Weber (Porter's false needlegrass): A Technical Conservation Assessment (a USFS publications, reviewed for the Society for Conservation Biology)

Wetlands (Journal of the Society of Wetland Scientists)

Geological Society of America Bulletin

PROFESSIONAL MEMBERSHIPS

Ecological Society of America

Society of Wetland Scientists

HONORS

University Fellowship, Colorado State University, 1998

Switzer Foundation Environmental Fellowship, 1992

Mellon Foundation Field Naturalist Fellowship, 1991