

Sean P. Sweeney, P.E., CWS
Headwaters Hydrology, PLLC
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Mr. Sweeney is a licensed professional engineer and certified wetland scientist experienced in hydrology, hydraulic engineering, fluvial geomorphology, wetland science, environmental permitting, and land surveying. His experience includes projects involving fluvial geomorphic assessments; stream restoration design, construction oversight, and post-construction monitoring; hydraulic and sediment transport analyses; bridge and culvert waterway opening design; precipitation runoff modeling; statistical analysis of discharge data; development of hydraulic geometry relationships; floodplain mapping and impact evaluations; wetland mapping, functional assessments, mitigation design, and permitting; and design of stormwater management infrastructure.

REPRESENTATIVE PROJECT EXPERIENCE

Cold River Restoration Project, Acworth, Alstead, Langdon, and Walpole, NH

Performed a fluvial geomorphic assessment of approximately 18½ miles of the Cold River, Warren Brook, and Bowers Brook following the devastating flood of October 2005. Also prioritized restoration sites, developed a restoration master plan for the studied reaches, presented the project at three public meetings, developed construction-level restoration plans and specifications for approximately one-half mile of Warren Brook, prepared a construction cost estimate, acquired a state wetland permit, and oversaw project construction.

Bridge and Culvert Design Support

Provided design assistance for several new and replacement bridges and culverts. Typical services have included hydrologic modeling to estimate design flood flows, field surveys and data collection, geomorphic assessment, preparation of existing and proposed conditions hydraulic models using the Corps of Engineers HEC-RAS program, design of waterway openings to comply with state and federal environmental and floodplain management regulations, scour analysis, and environmental permitting. Representative projects include: Christie Road over Bog Brook, Stratford, NH; Bristol Multi-Use Path over the Newfound River, Bristol, NH; Cobble Hill Road over California Brook, Swanzey, NH; and Breezy Hill Road over the Warner River, Bradford, NH.

Swift River Stabilization Project, Conway, NH

Completed a fluvial geomorphic assessment, developed river restoration construction plans which include channel realignment and the addition of two large open-bottom culverts through an existing railroad embankment, prepared pre- and post-project HEC-RAS hydraulic models, and acquired a FEMA Conditional Letter of Map Revision (CLOMR) for the project.

Bog Brook Restoration Projects, Stratford, NH

Completed fluvial geomorphic assessments, developed stream restoration construction plans, acquired environmental permits, supervised construction, and performed post-construction monitoring at two separate sites on Bog Brook.

Lake Abeniki Dam Rehabilitation, Dixville Notch, NH

Performed hydrologic and hydraulic analyses in support of the design and permitting of the reconstruction of Lake Abeniki Dam. Developed new primary and emergency spillway configuration and designed 900 feet of new outlet channel.

Bretton Woods Floodplain Mapping, Bretton Woods, NH

Performed hydrologic analyses to estimate flood discharges, developed a HEC-RAS hydraulic model of approximately 4 miles of the Ammonoosuc River, 1¼ miles of Crawford Brook, and ½ mile of two smaller tributaries, and prepared a 100-year flood inundation map of the project area.

Hypertherm Floodplain Impact Assessment, Lebanon, NH

Performed hydrologic analysis and prepared pre- and post-development unsteady flow HEC-RAS hydraulic models to evaluate the impact of proposed construction within a flood storage area.

The Home Depot, Littleton, NH

Performed wetland delineation, created a HEC-RAS hydraulic model to evaluate the effects of proposed floodplain construction, developed wetland/floodplain mitigation plans, designed stormwater management infrastructure, obtained state and federal environmental permits, and provided daily construction supervision for a 6 acre mitigation site.

Ragged Mountain Wetland Mapping, Danbury, NH

Managed a team of wetland scientists delineating wetlands on approximately 680 acres at Ragged Mountain Resort, personally delineated approximately 220 acres, completed wetland data plot transects at representative locations across the site, and prepared a wetland delineation map and report.

EMPLOYMENT HISTORY

March 2007 – Present	Manager, Headwaters Hydrology, PLLC, Littleton, NH
June 2004 – Feb. 2007	Project Manager, Horizons Engineering, PLLC, Littleton, NH
June 2001 – May 2004	Project Manager, Provan & Lorber, Inc., Littleton, NH
Oct. 1996 – May 2001	Staff Hydrologist, Basin Hydrology, Inc., Park City, UT
Jan. 1994 – Sept. 1996	Project Engineer/Surveyor, Jack Johnson Co., Inc., Park City, UT

EDUCATION

Bachelor of Science with distinction, Civil and Environmental Engineering, Clarkson University, Potsdam, NY, 1993

CONTINUING EDUCATION

West Consultants, *Sediment Transport Analysis using HEC-RAS*, August 2009
Wildland Hydrology Consultants, *River Restoration and Natural Channel Design*, April 2003
Wildland Hydrology Consultants, *River Assessment and Monitoring*, September 2000
Wildland Hydrology Consultants, *River Morphology and Applications*, July 1998
Wildland Hydrology Consultants, *Applied Fluvial Geomorphology*, August 1997

LICENSES AND MEMBERSHIPS

NH Licensed Professional Engineer #11053
NH Certified Wetland Scientist #216
Member NH Association of Natural Resource Scientists
Member American Society of Civil Engineers