

CASE STUDIES

Vegetation Management Planning

NATIONWIDE OFFICES

Corporate

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New Hampshire

Hampton
Westmoreland

Delaware

Lewes

Maine

Falmouth

Massachusetts

Falmouth

New York

West Haverstraw

Pennsylvania

Drumore
Stowe

South Carolina

Aiken

Washington

Stevenson
Vancouver
Wenatchee

Wisconsin

Verona

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REPRESENTATIVE PROJECTS

Mt. Snow Snowmaking Expansion, West Dover, Vermont

Normandeau worked closely with Sno.engineering to prepare the Draft Environmental Impact Statement (DEIS) for the US Forest Service, Green Mountain National Forest. Project alternatives included consideration of water withdrawal from two existing reservoirs and conveyance by pipeline to the ski-resort area, as well as construction of a new reservoir nearer the resort, with off take from the Deerfield River North Branch. Normandeau conducted baseline studies of project area soils and geology, wetlands and floodplains, and plant and vertebrate resources including rare species and unusual habitats. The impacts of each proposed alternative were systematically compared. Normandeau prepared a Biological Assessment/Biological Evaluation of the possible effects of the project on federally listed species Region 9 Sensitive Species, and others.



Waterville Valley Ski Area Trail and Snowmaking Expansion, Waterville Valley, New Hampshire

Normandeau assisted Sno.engineering in preparing a comprehensive Environmental Impact Statement (EIS) for the proposed Waterville Valley Snowmaking Ponds Project, for the US Forest Service, White Mountain National Forest. Normandeau was responsible for addressing environmental issues including: soils and geology; subsurface geology and hydrogeology; pond siting; water resources; wetlands; vegetation; wildlife and fisheries; and a wetland mitigation conceptual (30%) design and preparation of a Biological Assessment/Biological Evaluation of potential effects of the project on federally listed species, Region 9 Sensitive Species and others.



At Waterville Valley, the US Forest Service established a staff gage in the Upper Mad River to assist Waterville Company in determining when stream flows were adequate for snowmaking withdrawals. Normandeau was engaged by Waterville Company to provide calibration of the gage and provide a hydrologic analysis to determine dependable surface water supply in the Upper Basin. It was determined that moving the snowmaking intake downstream to a site below the village would increase water availability by about 280% while still maintaining necessary minimum flows to protect water supply and aquatic resources.

Sugarbush Resort Expansion, Environmental Impact Statement (EIS), Warren, Vermont

Normandeau assisted Sno.engineering in preparing a comprehensive Environmental Impact Statement (EIS) for the Mad River Water Withdrawal and Sugarbush South Snowmaking and Trail Improvement Project for the US Forest Service, Green Mountain National Forest. Normandeau was responsible for environmental issues including: soils and geology; water resources; wetlands and floodplains; vegetation; wildlife; fisheries and rare species. Field investigations were performed to delineate wetland boundaries in the vicinity of ski trails proposed for widening, new ski trails, pipeline routes and snowmaking ponds to assess impacts of a major resort expansion.



Field studies also included characterization of baseline conditions for vegetation and wildlife and searches for threatened or endangered plant and wildlife species using various species-detection methods such as avian song identification and observation of sign. One species of particular concern was the Goshawk; investigations were performed to determine presence of this species in the expansion areas, using tape recording playbacks to elicit calls from breeding birds. Among the many mitigative measures required by the Forest Service, two of the most important included maintenance of February Median Flows in the Mad River and Clay Brook and five fisheries enhancement projects in the Mad River as out-of-kind wetland mitigation.

Cranmore Ski Resort Expansion Wetlands and Rare Species Search, N. Conway, New Hampshire

As part of the engineering and permitting feasibility study by Sno.engineering for a proposed expansion of the Cranmore Ski Resort, Normandeau conducted a reconnaissance of seven alternative snowmaking ponds for wetlands and state-listed threatened/endangered plant species. Existing conditions were characterized at each site and recommendations for a preferred pond site were made based on constraints posed by wetlands and state-listed species. A reconnaissance was also conducted of six proposed ski trails on a steep, forested mountainside and an access road also under consideration as a ski trail for wetlands, state-listed species and exemplary communities. Existing conditions were characterized and recommendations made to minimize new trail impacts at stream crossings.