

Mount Mansfield Paired Watershed Study

U.S. Geological Survey
Vermont Monitoring Cooperative

Water Year 2001

In September 2000, the USGS established stream gages on the West Branch of the Little
Dismal near Dismal Falls (West Branch) and the Ranch Brook (Ranch Brook) near

Brook). West Branch watershed has an area of 11.84 km² and Ranch Brook watershed
has an area of 9.84 km². West Branch drains the entire Stowe Mountain Resort, which
occupies much of the basin. Ranch Brook is an undisturbed forested basin. The gages
were set up to investigate differences in hydrology that may arise from these differences

2). In May, the runoff ratio shifted sharply back to a greater output from West Branch.

compacted snow. It should be noted that snow conditions in the winter of 2001 worked to minimize potential effects of development on differences in flow in the two basins. An unusual abundance of natural snow led to far less machine-made snow produced than in a typical year. At the basin scale, machine-made snow made up very little of the snowpack and melting of the natural snowpack dominated both watersheds. Yet, the high diurnal peaks on May 14 and the sustained flow differential throughout May (Figure 2) are likely

Figure 2. Runoff comparison of West Branch and Ranch Brook during the 2001 spring snowmelt.

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Monthly runoff at Mt Mansfield

250



