

Mount Mansfield Stream Gages

Water Year 2014 report

U.S. Geological Survey
in cooperation with
Vermont Monitoring Cooperative

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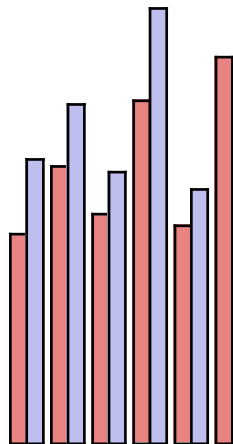
Introduction

This is the annual data report for the U.S. Geological Survey (USGS) stream gages at Ranch Brook and West Branch near Stowe, Vermont for Water Year (WY) 2014 (October 2013 through September 2014). The two gages were established in September 2000, and have been operated continuously by USGS since that time (Wemple et al., 2007). Historic and near real-

patterns in the two watersheds, snow redistribution, or groundwater input from outside the basin via bedrock fractures.

Although annual runoff is consistently greater at West Branch, the relative difference varies greatly from year to year (Figure 4). The runoff differential peaks during the snowmelt period in April and May (Figure 3, right), partly as a consequence of the enhanced snowpack from machine-made snow, and the prolonged melt of skier-compacted snow. The low to negative differentials in late fall and early winter result from historic water extraction from West Branch for snowmaking. As yet, we have not been able to make a definitive assessment of the ski resort build-out on runoff. The assessment has been confounded by the construction of a large snowmaking storage pond, increased snowmaking, irrigation of the new golf course, and a new stormwater drainage system for the development.

fact, the peak annual flows at each gage were only coincident (i.e. from the same storm) in 7 of the 14 years of record (Figure 6).



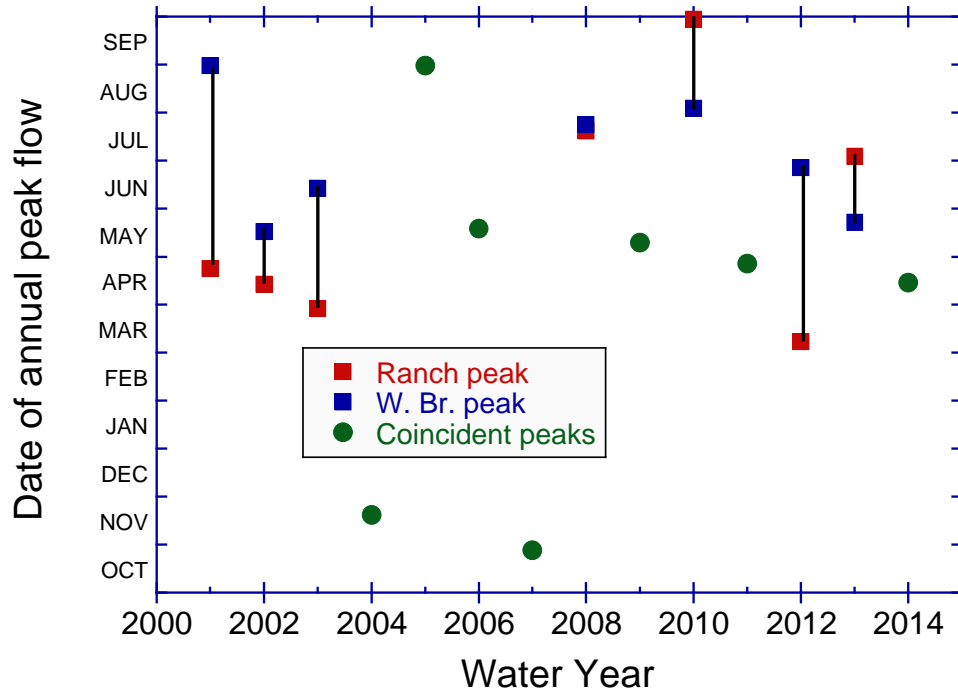


Figure 6. Dates of annual peak flow at West Branch and Ranch Brook gages. Line segments connect dates for same year when peaks fell on different days.

The other aspect of the flow record worth noting is the high magnitude of many of the peak