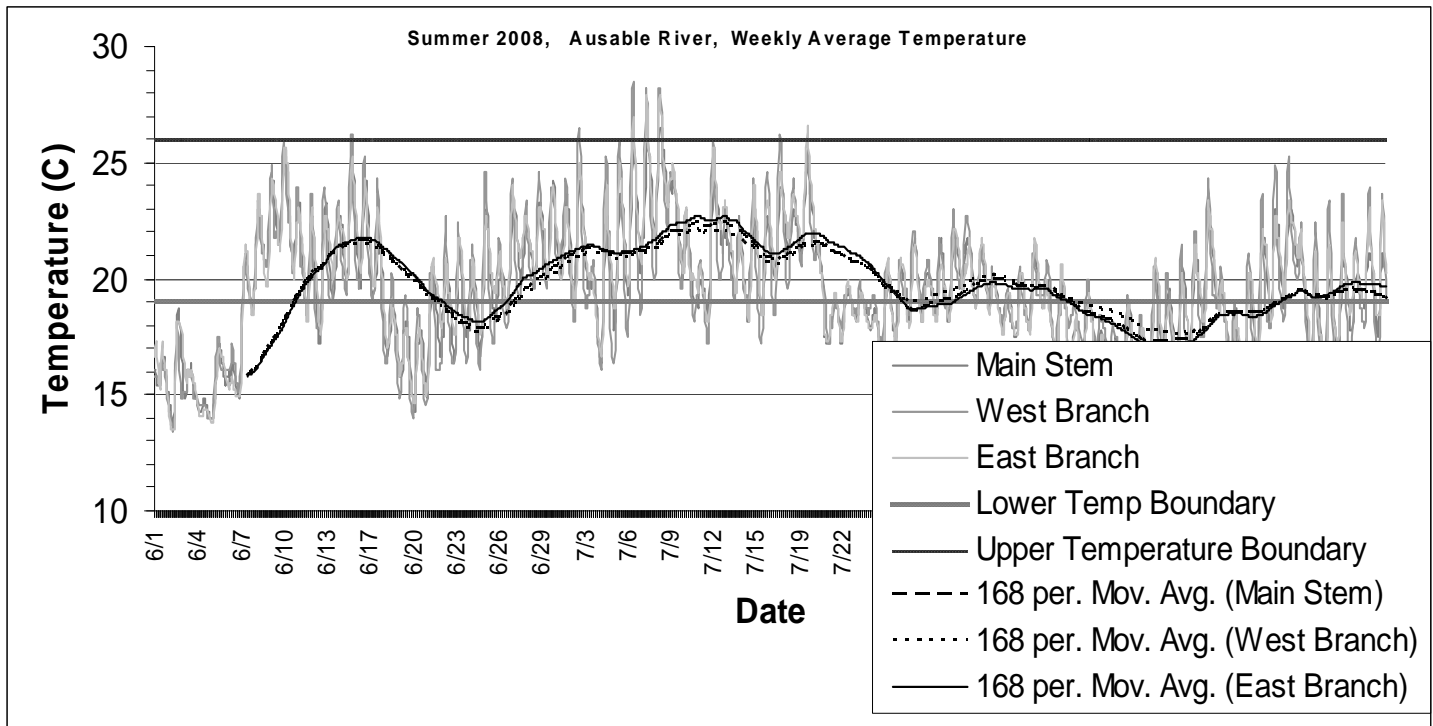


The Need for Shading the Ausable River



“Why are trout catches more abundant in the West Branch than in the East Branch?” It’s a common perception that the West has better tree cover, more deep pools, gorges, and waterfalls, and thus is blessed with cooler water temperatures. To date however, there has been no data collected nor scientific investigation published to quantify or qualify this hypothesis.

As a preliminary attempt to quantify any temperature difference, ASRA placed temperature loggers at three locations in the river – one each in the Main Stem, West and East Branches.

These little electronic wonders are the size of a quarter and record temperature hourly for the duration of their time in the river. The data is extracted to a computer spreadsheet after the loggers are taken out of the river.

Ausable temperature results are shown in the graph above. The chart shows hourly temperature fluctuations in grey. Weekly average temperatures are shown in black.

We were surprised to find very little difference in daily temperature between the three locations. Sometimes the East Branch was slightly warmer but there are also multi-day periods when the West Branch was warmer.

Weekly average temperature trends do show one alarming tendency. There are numerous episodes when average water temperature remains above that considered good for cold water fisheries. Temperatures between 19-26°C (68 to 79°F) are found to be the upper limits tolerable to trout (Eaton et al. 1995). In Southern Ontario streams with weekly maximum temperatures exceeding 22°C (72°F) had mar-

ginal or no brook trout populations (Barton et al., 1985). It is widely accepted that Brook Trout prefer temperatures at or below 20°C.

Although there are several interesting trends recorded in the data it presents more questions than answers and a more detailed study is needed. Possible changes to the placement of the loggers and more loggers placed in each branch will help clarify the temperature storey.

Thank you to Dr. Tim Mihuc at SUNY Plattsburgh, for providing the data loggers.

Eaton, J.G., 1995, A field information-based system for estimating fish temperature tolerances, Fisheries, v. 20, p. 10-18.

Barton, Taylor, and Biette, 1985, Dimensions of riparian buffer strips required to maintain trout habitat in Southern Ontario streams, N. Am. J. Fish. Manage., v. 5, p. 36-378.