

Flow Rate Measurement in the Cut River

Test data was collected by high school students Nick Newman 15, Okemos, Michigan, and Ben Hornickle 16, La Grange, Illinois on June 30, 2023.



The site chosen for the test run data collection was about 100' downstream from the County Road 100 bridge where the stream bottom was relatively flat and the Cut was approximately 36' wide. A sturdy stake was driven into the west bank at the water's edge to serve as the zero point for subsequent measurements. Seven bamboo garden stakes were placed in the stream at 5' intervals to define the cells for area between the stakes and define where to measure average water velocity through each cell.

The water velocity was measured with a Global Water Company FP111 flow meter, purchased by Jack Cornell, HLPOA member, and contributed for use with this application. Each data collection team member alternated tasks between taking average flow rate data in each cell, and recording the data from each of those measurements. At the completion of the data collection activity, the team adjourned to work up the data and to determine their estimate of the flow rate in the Cut on this date in Cubic Feet/Second. **Flow rate measurement June 30, 2023** - the flow rate determined from this first test was about 40 cubic feet/second.

Flow Rate Measurement in the Cut River – July 2023

On July 12, 2023, data collection was done by high school students Joe Berglund from Shaker Heights, Ohio and Ramsey of Regis Jesuit, Colorado. Similar procedures were followed at the same location. This program will continue monthly for the balance of the year. The results will be posted on the HLPOA web site in the Water Level Data tab. Ramsey is developing a graphical presentation application. **Flow rate measurement July 12, 2023** determined by this team was about 37 cubic feet/ second

Flow Rate Measurement in the Cut River – August 2023

On August 4, 2023, data was taken by Ramsey Dunn 16, and his mother, Julie Dunn of Denver Colorado. **Flow rate measurement August 4, 2023** at 1:30 PM was determined to be about 34 cubic feet/second.



Flow Rate Measurement in the Cut River – September 2023

September 3, 2023, data was taken by Lily Gorman, MSU student of environmental biology, and Fred Swinehart. **Flow rate measurement** September, 3, 2023 at 11:30 am was determined to be about 31 cubic feet/second.



Flow Rate Measurement in Cut River November 2023



Flow rate November 1, 2023 was determined to be about 33 cubic feet/second. Measurements were taken by Becky Gibson and Fred Swinehart.

Flow Rate Measurement in Cut River – January 2024



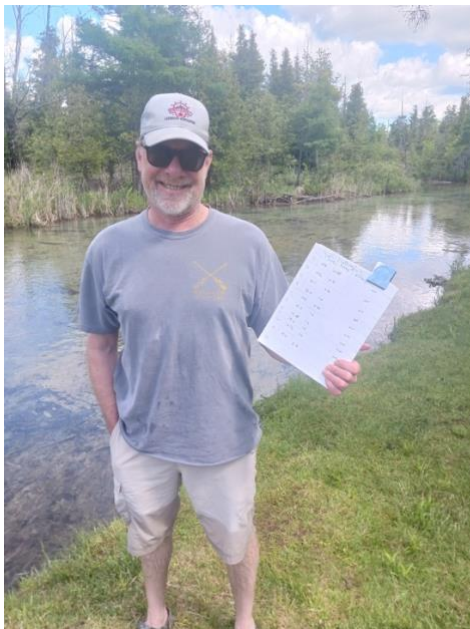
Flow rate January 8, 2024 was determined to be 34 cubic feet/second. Measurements were taken by Becky Gibson and Fred Swinehart.

Flow Rate Measurement – April 2024



Flow rate April 10, 2024 was determined to be 61 cubic feet/second. Measurements were taken by Phil Czech and Fred Swinehart.

Flow Rate Measurement-June 2024



Flow rate June 2, 2024 was determined to be 60.6 cubic feet/second. Measurements were taken by Kurt Newman and Fred Swinehart.

Flow Rate Measurement – July 1, 2024



Fred Swinehart supervises our citizen scientists Julie Swinehart and Brandon Hornickle. **The flow rate July 1, 2024** in The Cut River was 52 cubic feet per second.

Flow Rate Measurement – August 15, 2024



Nick Newman

Fred Swinehart supervised citizen scientist, Nick Newman. Lots of algae was blooming in The Cut River. The flow rate on August 15, 2024 was measured at 29 cubic feet per second.

Flow Rate Measurement – October 11, 2024



Fred Swinehart supervised citizen scientist, Nick Newman. The estimated flow rate on October 11, 2024, was measured at 26 cubic feet per second.