

Turbidity and Stream Flow

Turbidity was measured monthly and stream flow was measured occasionally. Flow is often directly related to turbidity, so both were plotted on the chart below to assess if any connection between the two was visible.

Sites are on the horizontal axis while turbidity (NTUs) and stream flow (cfs) are plotted on the vertical axes. Bars represent turbidity scores, and dots or lines represent stream flow. Compare lines and bars of the same color.

The best relationship between the two was during June 2002. The fuchsia bars and line show turbidity and flow increased similarly.

Turbidity was most often <10 NTUs (plotted as 5 NTUs for graphical purposes), which indicates those sites had good water clarity, with no negative effects on aquatic life.

However, at Otter Cr. (Vickerman Rd), Turtle

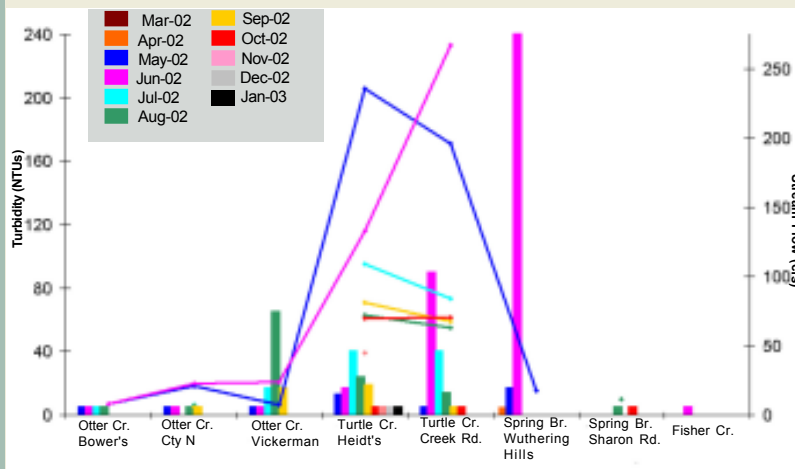
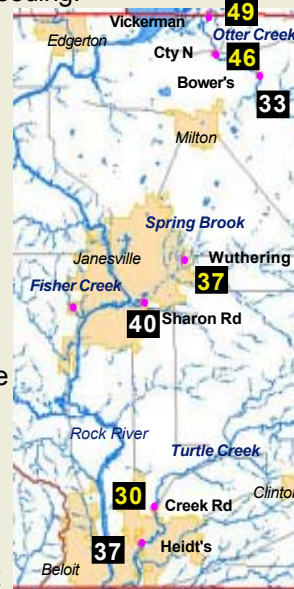
Cr. (Creek Rd), and Spring Br. (Wuthering Hills), turbidity was 65, 90 and 240 NTUs during June (latter two) and August (Otter Cr.). Prolonged turbidity levels of this magnitude can have a negative effect on aquatic life. Fish begin to show signs of stress when turbidity is greater than 10 NTUs and up to 100 NTUs when such levels persist for a number of hours. When turbidity exceeds 100 NTUs for hours or days fish can experience increased respiration, cover abandonment, or reduced feeding.

Habitat

Habitat is assessed once a year. Rocky and soft bottom streams are assessed separately. Scores range from 13 to 52; higher scores indicate better habitat.

Scores should only be compared within a subwatershed or at a site year to year due to effects of soils, slope, and other natural factors. The map shows 2002

habitat scores. Soft bottom scores are in white and rocky in yellow. Scores were high for Vickerman and Cty N and lower at Bower's in Otter Cr. Spring Br. sites' scores were similar. Heidt's score was higher than the Creek Rd. score in Turtle Cr., possibly due to the park setting at Heidt's. Differences between the rocky and soft bottom assessments likely also played a role in noted differences.



Citizen Stream Monitoring Data Summary

Rock County 2002

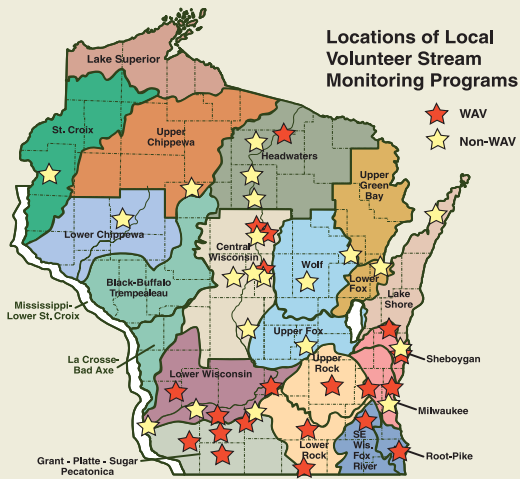
Compiled as part of the University of Wisconsin-Extension's and the Wisconsin Department of Natural Resources' Water Action Volunteers' Stream Monitoring Program

Water Action Volunteers



UW Extension

For more information about the program and data described in this brochure contact WAV coordinator, Kris Stepenuck, at 608-265-3887 or Rock Co. local coordinator, Anne Miller, at 608-754-6617 or visit the WAV website at: <http://clean-water.uwex.edu/wav>.



Extent of Volunteer Stream Monitoring in Wisconsin

Across Wisconsin citizens are monitoring water quality in wadable streams using Water Action Volunteers' (WAV) methods. As of March 2003, nearly 140 monitoring sites were registered in the statewide database. The map above shows locations of local stream monitoring programs, including both WAV and non-WAV efforts.

WAV program volunteers monitor in at least 19 counties, and have collected data on nearly 1500 days.

The volunteers are led by local program coordinators who organize training events, enter data to the statewide database, and interact regularly with local volunteers. Rock County's coordinator is Anne Miller.

2002 Rock County Monitoring Sites

In Rock County, four streams and eight sites were monitored during 2002. These are as follows:



Otter Creek:

1. upstrm Bower's Lake Rd bridge
2. downstrm County Hwy N bridge
3. upstrm Vickerman Rd bridge

Spring Brook:

4. upstrm Wuthering Hills bridge
5. down Sharon Rd at trail bridge

Turtle Creek:

6. Heidt's backyard/park
7. Creek Rd upstrm Shopiere Rd

Fisher Creek:

8. in Rockport Park

Biotic Index

The Biotic Index (B.I.) is a score of stream water quality determined by assessing aquatic macro-invertebrates; it is based on their tolerance to varied oxygen levels in the water.

B.I. scores range from 1 to 3.6 or greater, and a stream is assigned a water quality health rating based on its score. Ratings range from poor to excellent (see box at right for details).

The map to the right shows sampling sites monitored in Rock County during 2002. The sites are marked with pink dots. Biotic Index scores obtained during spring (yellow font) and/or fall (white font) sampling are noted in brown ovals on the map.

Scores ranged from 1.4 (poor) at Fisher Cr. to 3.5 (good) at Turtle Cr. at Creek Road.

Seven of the 11 B.I. scores showed that there was fair or good water quality at a site.

A fairly large difference (1.9 to 2.7 or a change from poor to good) was seen at Otter Cr. (Vickerman Rd.) between spring and fall. This difference is likely connected to the varied life cycles of macroinvertebrates in the stream; some are present and able to be collected in spring, and others are more available to be collected in the fall. The Otter Creek, Cty N bridge site also showed an increase from fair water quality (2.5) to good water quality (2.8) between spring and fall.

Biotic Index Score Definitions

3.6 and up:	Excellent
2.6-3.5:	Good
2.1-2.5:	Fair
1.0-2.0:	Poor

