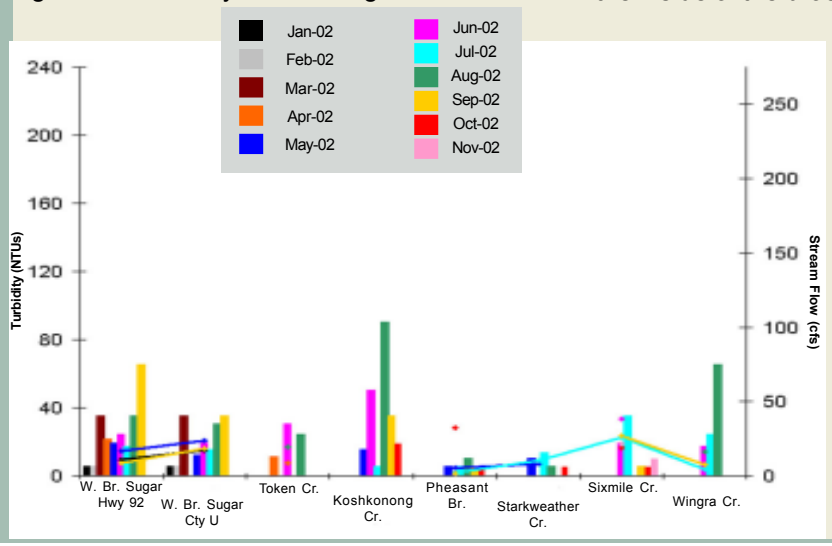
Turbidity and Stream Flow

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 turbidty (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 July 2002. The aqua bars and line show turbidity and flow increased and decreased similarly.

At the W. Br. Sugar R., Pheasant Br., and Starkweather Cr., turbidity was at times <10 NTUs (plotted as 5 NTUs for graphical purposes), which indicates those sites had good water clarity, with no negative effects on aquatic life.



At other sites and dates, although turbidity values were not extremely high, turbidity values often equaled or exceeded 20 NTUs. Prolonged turbidity levels of this magnitude can have a negative effect on aquatic life. Fish begin to show signs of stress when turbidity levels are greater than 10 NTUs and up to 100 NTUs when such levels persist for a number of hours.

When turbidity increases above 100 NTUs for hours or days fish can experience such effects as increased respiration, abandoning cover, and reduced feeding. No sites in Dane County had turbidity readings above 100.

Habitat

Habitat assessments are made 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 on the scores. Refer to the map on the inside of the brochure for 2002 habitat scores. Both 2001 and 2002 scores are shown for the W. Branch of the Sugar River at Cty U. Habitat scores are indicated in grey squares, black font indicates rocky bottom, white font indicates soft bottom assessment. The asterisk for Pheasant Br. indicates an averaged 2002 score from two sample dates.

Like B.I., the most urbanized sites had lowest habitat scores (32 at Starkweather Cr. and 28 at Pheasant Br).

Citizen Stream Monitoring Data Summary

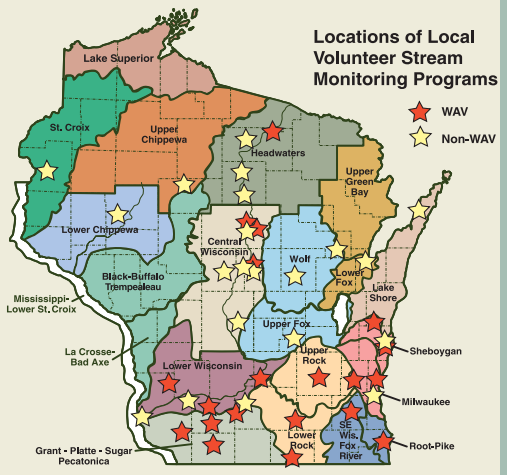
Dane County 2002

Compiled as part of the Univeristy 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 Dane Co. local coordinator, Pete Jopke, at 608-224-3733 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. Dane County's coordinator is Pete Jopke.

2002 Dane County Monitoring Sites

In Dane County, seven streams and eight sites were monitored during 2002. These monitoring sites are as follows:

1. Koshkonong Creek, upstream Cty B bridge in Rockdale
2. Pheasant Branch at Middleton High School
3. Sixmile Creek at Hwy 19 bridge in park
4. Starkweather Creek at Milwaukee St. in Madison
5. Token Creek at Portage Rd.
6. West Branch Sugar River west of Hwy 92 and Cty U
7. Wingra Creek, Wingra Creek Parkway at Franklin Park

Scores ranged from 2.6 (good) at Koshkonong Creek to 1.0 (poor) at Starkweather Creek.

Nine of the 12 B.I. scores showed that there was fair or good water quality at a site.

Sites in the most urbanized areas had lowest B.I. scores (Starkweather Creek and Pheasant Branch), which indicates that organisms requiring a lot of oxygen were unable to survive in these waters. This may be due to organic pollution entering the streams, or low or slow flows.

Biotic Index

The Biotic Index (B.I.) is a score of stream water quality determined by assessing aquatic macroinvertebrates; it is based on their tolerance to varied oxygen concentrations within 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 Dane County during 2001 (W. Br. Sugar River only) and 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.

Biotic Index Score Definitons

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