Huron River Watershed Council

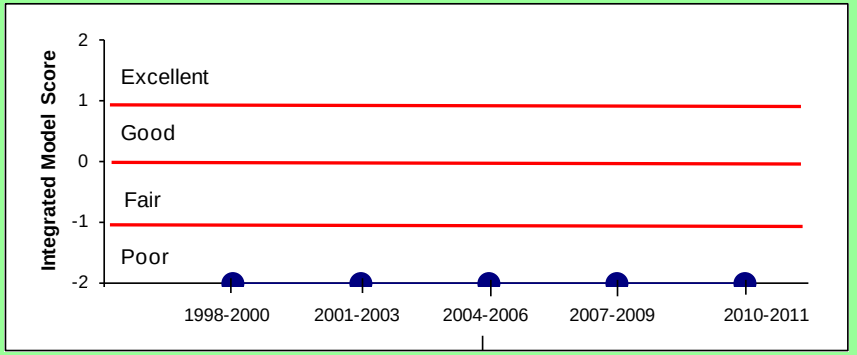
Protecting the river since 1965

Millers Creek at Glazier Way

Adopt-a-Stream Site Report, updated January 2012

Overall Condition: ***Poor***

At this site there are very few kinds of bugs and none of them are sensitive. The water has a high concentration of unknown pollutants (as determined through conductivity measurements). The stream banks, streambed, and streamside vegetation are healthy at this particular location because of a recent restoration project, but habitat throughout most of Millers Creek is degraded from severe erosion problems.



To determine the overall condition rating, HRWC uses an integrative model that compares this site to all of HRWC's other monitoring sites in the Huron watershed. The model uses insect, habitat, temperature, and stream size data.

Measuring Stream Quality

We use the bugs living in the creek to measure stream quality for two reasons. When the stream is rich in habitat variety it will have many diverse kinds of bugs (called families). Also, some bugs (called sensitive) can live only in good quality streams; they die in a poor quality stream. Any stream with sensitive families has the clean water and good habitat required by those bugs to survive.

Monitoring Data

These data come from HRWC volunteers who have monitored this site 36 times, starting in 1993. This includes Stonefly Search, River Roundup, Habitat, and Temperature events.

This site on Millers Creek is 9 feet wide and shallow (about 0.2 feet). In 2010 we found fairly good habitat here with a stable bottom and banks. It has cold water (seldom over 70°F) but since there is so much impervious surface in the watershed (38%) the creek is degraded because of severe hydrologic problems.

There is a very poor diversity of bugs here. In the spring we typically find only 4 different families and none are sensitive families that require a good quality stream. In the fall an average of 10 families are typically found, but again with no sensitive ones. Stoneflies are very sensitive insects that are only found in clean water. Two kinds of "winter stoneflies" grow only in winter and are dormant the rest of the year. Stoneflies have been absent at this site since 2002, which indicates a water quality problem, probably caused by residual upstream pollution and altered hydrology.

Photo credit: Jana Smith

Millers Creek at Glazier Way

Background Information

Site History

Millers Creek has a very high level of impervious surface, which is the primary cause of the degradation at this site and throughout the creek.

Recently one of the stream banks here was a 10 foot cliff that was eroding badly and creeping toward Huron Parkway. In 2008 - 2009, the City of Ann Arbor graded the stream bank to remove this cliff and slow down the erosion problem.

From 2006 through 2010, HRWC carried out the Millers Creek Rainwater Project. In this restoration project, HRWC worked with a number of partners including watershed residents in building raingardens and reducing storm runoff. This site was one of the study sites to test the outcomes. The initial results indicate that the insect community has increased slightly (although you can't see this from the graph on the other side of this paper) and that the water flow after storms is much more stable than it used to be.

How is the Creek affected by land use here?

The area of land draining to this site is small, receiving water from only 2 square miles of land, which is extensively developed.

This is one of the most urbanized areas in the Huron watershed, according to data from 2000. Nearly 80% of the Miller Creek watershed is developed. There is no agriculture in the watershed. 38% of the land in this sub-watershed is covered by impervious surface.

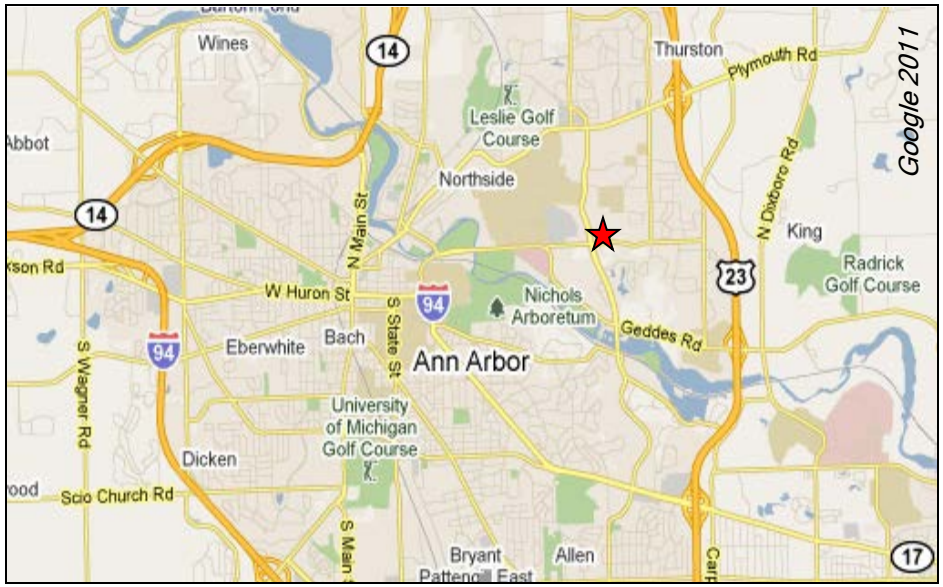
Impervious surface is hard on streams because it prevents rain from being filtered and cleaned through the soil and, instead, delivers it quickly to the stream, carrying pollutants and causing surging flows that damage the stream habitat and biotic community.

Creeks tend to start degrading once the watershed is more than 8% impervious and become badly degraded by 25%. [The most urbanized Huron River watershed that we study (draining into Millers Creek at Baxter Road) is 51% impervious.]

Watershed land use in 2000: 0% Agriculture, 79% Urban, 11% Forest, 10% Open, 0% Wetland.

What You Can Do

Help us improve Millers Creek! Plant trees and deep-rooted plants in low areas on your property to help the rain infiltrate into the earth so it can be cleansed and cooled. Go to **www.hrwc.org/take-action** for ways to keep the rain at home so that it doesn't wash pollutants into the stream and cause flooding from the sudden increase in flow volume.



Insects found in at least two sampling events from 2009-2011:

Aeshnidae — darner dragonfly
Chironomidae — midge
Dytiscidae — predacious diving beetle
Hydropsychidae — common net-spinner caddisfly
Muscidae — muscoid fly
Notonectidae — back-swimmers
Simuliidae — black fly
Tipulidae — crane fly