Huron River Watershed Council

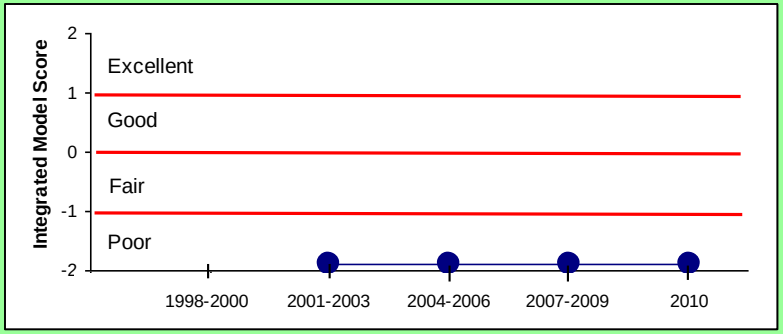
Protecting the river since 1965

Millers Creek at Baxter Road

Adopt-a-Stream Site Report, 2011

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. The stream banks, streambed, and streamside vegetation are also very poor. This site is heavily affected by water runoff from storms. This site is in the worst condition of all sites monitored by HRWC.



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 19 times, starting in 2002. This includes Stonefly Search, River Roundup, Habitat, and Temperature events.

This site on Millers Creek is a foot wide and shallow (a couple inches, with an occasional two-foot deep pool). In 2008 we found a very poor habitat here with bare banks, a mucky bottom and the rocks in the swift water (riffles) were somewhat clogged with silt. It has cool water (seldom over 70°F) containing a high concentration of unknown pollutants. The extent of development (51% impervious surface) creates urban runoff that has already degraded the stream.

There is a very poor diversity of bugs here, even for such a small stream. In the spring we typically find four different families and none are sensitive families that require a good quality stream. In the fall an average of seven families are typically found, again with no sensitive ones.Stoneflies are very sensitive insects that are only found in clean water. In the winter we have never found the two kinds of "winter stoneflies" that grow only in winter and are dormant the rest of the year. This suggests a pollution problem here since streams that are not polluted should have sensitive families in the winter.

Photo credit: HRWC

Huron River Watershed Council, 1100 N. Main Street, Ann Arbor, MI, 48104, (734) 769-5123 x 601. Please contact psteen@hrwc.org or go to www.hrwc.org for more information.

Millers Creek at Baxter Road

Background Information

Site History

Whenever a substantial amount of rain falls or snow melts, this small stream rapidly becomes a torrent. The potential of Millers Creek to cut its banks and move the channel results from three features. First, the creek's path was shortened when the City constructed Huron Parkway. Second, it has a very steep gradient. Third, the watershed is covered by extensive impervious surface, which results in excess runoff during rain events. The rapid change in water levels makes Millers Creek inhospitable to macroinvertebrates which are indicators of stream health. Unfortunately, this site has been rated as the worst of all of the sites that HRWC visits due to the exceptionally high conductivity, poor habitat conditions, and low insect diversity. It is also the most completely developed of our sub-watersheds.

This site is no longer monitored consistently (HRWC more closely monitors other sites on Millers Creek).

How is the Creek affected by land use here?

The area of land draining to this site is tiny, receiving water from 0.8 square miles of land, all of which has been developed.

This is the most developed areas in the Huron watershed, according to data from 2000. This entire sub-watershed is developed, and 51% of the land is covered by impervious surface.

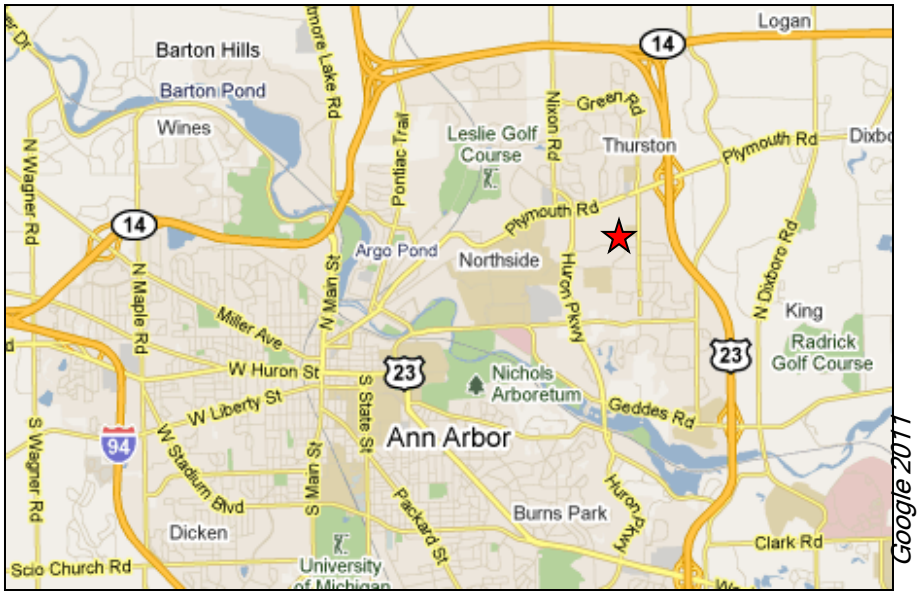
Impervious surface is hard on streams because it prevents rain from being filtered and cleaned through the soil and, instead, delivers it quickly to the stream, carrying pollutants and causing surging flows that damage the stream habitat and biotic community.

Creeks tend to start degrading once the watershed is more than 8% impervious and become badly degraded by 25%. [The watershed of this site- Millers at Baxter- has the highest impervious surface of all the sites we monitor.]

Watershed land use in 2000: Watershed land use: 0% Agriculture, 99% Urban, 1% Forest, 1% 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 2008-2010:

Coenagrionidae — narrow-winged damselfly
Chironomidae — midge
Simuliidae — black fly
Tipulidae — crane fly