Huron River Watershed Council

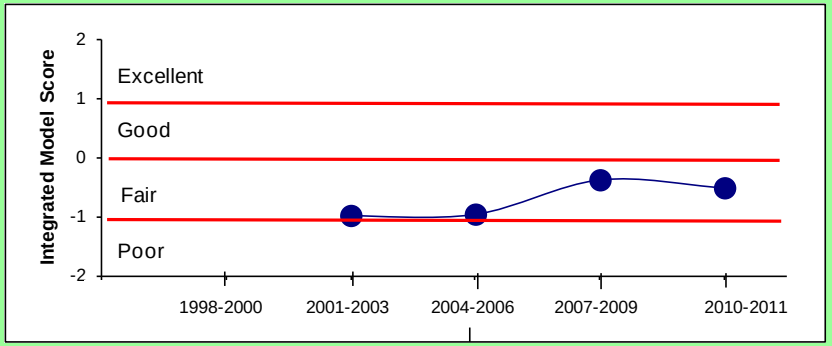
Protecting the river since 1965

Mill Creek at Klinger Road

Adopt-a-Stream Site Report, updated January 2012

Overall Condition: Fair

At this site there is an average diversity bugs and some of them are sensitive. The water is clean but can get warm. This site has pretty good habitat and combined with the average diversity of aquatic life, the stream is rated on the mid-range of "fair". This is very close to the general average across the whole Huron River Watershed. The site condition has steadily increased slightly from a near "poor" in 2001.



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 24 times, starting in 1999. This includes Stonefly Search, River Roundup, Habitat, and Temperature events.

This site on Mill Creek is 20 feet wide and shallow (about a foot) with an occasional two-foot deep pool. In 2011 we found good habitat although the rocks in the swift water (riffles) were somewhat clogged with silt and some of the banks were bare and unstable. It has clean water that gets a little warm in the summer (averaging 75°F). There is so little urban run-off in this sub-watershed (only 3% of the area has impervious surface) that we expect the creek to be in very good shape.

There an average diversity of bugs here. In the spring we typically find 10 different families and two or three are sensitive families that require a good quality stream. In the fall an average of 12 families are typically found, with one or two 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. These winter stoneflies are only found sporadically at this site. It is possible that pollution from the high levels of agriculture in the area could restrict the stonefly population.

Photo credit: Teri Tone

Mill Creek at Klinger Road

Background Information

Site History

In addition to the western branch which we monitor at M-52, this site at Klinger Road receives a large tributary that flows here from south of Pleasant Lake Road. Some of this water comes from channelized agricultural drains

Low lying parts of the Mill Creek watershed were once swampy, so the early settlers drained them to grow a diversity of crops on the rich soil. The land contributing to this site has been farmed for many years and is much less developed than much of the Huron River watershed. However, while not as damaging as an urban landscape. Excess nutrients and unstable and eroding banks are often a problem in agricultural creeks.

How is the Creek affected by land use here?

This site receives water from 35 square miles of land (mostly farms), three times the area of the next site upstream at Manchester Road.

This is one of the most rural areas in the Huron watershed, according to data from 2000. Only 7% of the Mill Creek watershed is developed while 62% is used for agriculture. At that time, only 3% of the land was covered by impervious surface.

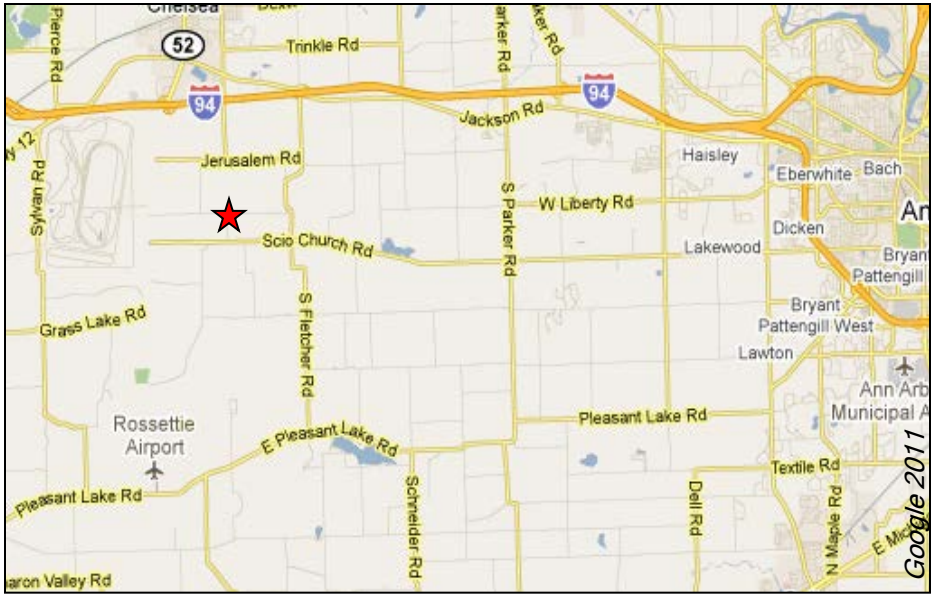
Impervious surface is hard on streams because it prevents rain from being filtered and cleaned through the soil and, instead, delivers it quickly to the stream, carrying pollutants and causing surging flows that damage the stream habitat and biotic community.

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: 62% Agriculture, 7% Urban, 10% Forest, 11% Open, 10% Wetland.

What You Can Do

Help us improve Mill 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:

*Leptophlebiidae — pronggill mayfly
*Perlodidae — Perlodid stonefly
*Taeniopterygidae — broad-back winter stonefly
Chironomidae — midge
Dytiscidae — predacious diving beetle
Elmidae — riffle beetle
Haliplidae — crawling beetle
Heptageniidae — flathead mayfly
Hydropsychidae — common net spinner caddisfly
Limnephilidae — northern caddisfly
Simuliidae — black fly
Tipulidae — crane fly

**Sensitive Family*