

Mill Creek at Jackson Road

Adopt-a-Stream Site Report, updated January 2012

Overall Condition: *Fair*

This site has the potential of being great; water is clean and cool and the area is free of urban development. However, the habitat is only average and there are only an average amount of insects. It is striking that the only time of the year when we find more than one sensitive family is winter. The presence of both winter stoneflies suggests this creek has a problem only in the growing season. There is a huge amount of agriculture in this watershed which could be degrading the stream.

Measuring Stream Quality

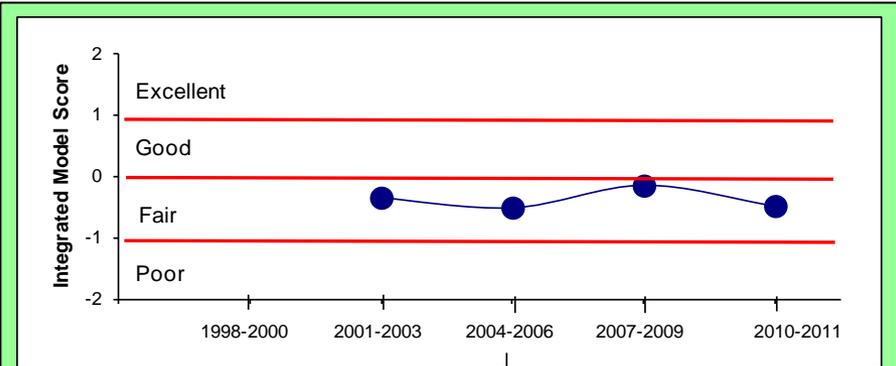
We use the bugs living in the creek to measure stream quality for two reasons. When the stream is rich in habitat variety it will have many diverse kinds of bugs (called families). Also, some bugs (called sensitive) can live only in good quality streams; they die in a poor quality stream. Any stream 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 38 times, starting in 1996. This includes Stonefly Search, River Roundup, Habitat, and Temperature events.

This site on Mill Creek is 36 feet wide and shallow (about a foot deep) but with some pools over 6 feet deep. In 2010 we found average habitat here with a stable bottom but the rocks in the swift water (riffles) were somewhat clogged with silt. The banks were stable and free from erosion. It has clean, cool water (seldom over 71°F) and with only 5% urban runoff, we expect the creek to be in very good shape.

However, there is only fair diversity of bugs here for such a large stream. In the spring we typically find 11 different families and usually one is a sensitive family that requires a good quality stream. In the fall an average of 14 families are typically found, again with one sensitive one. 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. They are special indicators of the potential of a stream that may be too degraded to sustain many sensitive bugs during warmer times of the year. Both kinds of stoneflies are found at this site.



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.



Photo credit: Max Bromley

Mill Creek at Jackson Road

Background Information

Site History

In the 1700's, lake sturgeon, walleye, northern pike, and muskellunge swam up the Huron into Mill Creek every spring. Native Americans seldom took food with them when traveling because fish were so abundant. Now the Huron River system is full of dams that block fish movement from Lake Erie and throughout the length of the River.

In the 1960's, the Army Corps of Engineers proposed a dam on the south branch of Mill Creek (near this site) to create a lake for recreational purposes. Lima Township residents formed the Mill Creek Research Council and were successful in fighting this and a similar proposal in the 1970's.

This site, located downstream of the confluence of the north and south branch, includes flow from most of Mill Creek. HRWC monitors three sites on the north branch and two on the south branch.

How is the Creek affected by land use here?

The area of land draining to this site is huge, receiving water from 129 square miles of land, mostly farms.

This is a very rural area in the Huron watershed, according to data from 2000. Only one-eighth of the Mill Creek watershed is developed while half of it is used for agriculture. At that time, 5% 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: 50% Agriculture, 14% Urban, 10% Forest, 9% Open, 16% 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:

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| *Capniidae — slender winter stonefly | Elmidae — riffle beetle |
| *Isonychiidae — brush-legged mayfly | Gerridae — water strider |
| *Perlodidae — Perlodid stonefly | Haliplidae — crawling beetle |
| *Taeniopterygidae — broad-back winter stonefly | Heptageniidae — flathead mayfly |
| Aeshnidae — damer dragonfly | Hydropsychidae — common net-spinner caddisfly |
| Baetidae — small minnow mayfly | Limnephilidae — northern caddisfly |
| Baetiscidae — armored mayfly | Simuliidae — black fly |
| Belostomatidae — giant water bug | Veliidae — short-legged striders |
| Calopterygidae — broad-winged damselfly | |
| Chironomidae — midge | |
| Dytiscidae — predacious diving beetle | |

**Sensitive Family*