

# Mill Creek at Warrior Park

Adopt-a-Stream Site Report, updated January 2012

## Overall Condition: *Fair*

This site may still be in recovery following a 2008 dam removal. Future monitoring will show whether the site will improve with its return to a free-flowing stream. As of now, the creek has an average diversity of insects, including an average amount of sensitive families. The stream banks, streambed, and streamside vegetation are in fine shape, although there are some areas of erosion. This site sees heavy foot traffic, as it is located in the middle of the village of Dexter.

### Measuring Stream Quality

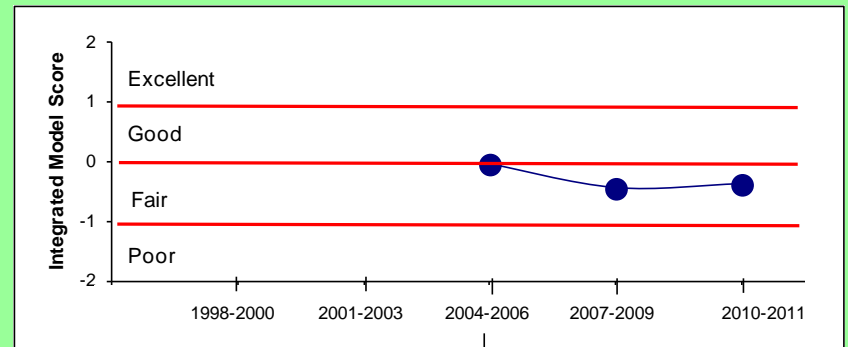
We use the bugs living in the creek to measure stream quality for two reasons. When the stream is rich in habitat variety it will have many diverse kinds of bugs (called families). Also, some bugs (called sensitive) can live only in good quality streams; they die in a poor quality stream. Any stream 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 23 times, starting in 2003. This includes Stonefly Search, River Roundup, Habitat, and Temperature events.

This site on Mill Creek is 44 feet wide and shallow (less than a foot). In 2009 we found fair habitat here with unstable, bare banks, a nice bottom and rocks in the swift water (riffles) were only slightly clogged with silt. It has clean but warm water that often reaches 77°F in the summer. The watershed is still undeveloped enough (see page 2) that the creek should be in good condition.

There an average diversity of bugs here given the stream size. In the spring we typically find 11 different families and 2 are sensitive families that require a good quality stream. In the fall an average of 14 families are typically found, again with 2 sensitive ones. Stoneflies are very sensitive insects that are only found in clean water. Two kinds of "winter stoneflies" are usually found at this site, which indicates good water quality during the winter months.



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: Dave Wilson

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## 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.

You are standing at the site of a success story. In 2007 and 2008, the city of Dexter removed a dam that was beneath the bridge downstream at Warrior Park. This change affected the appearance and ecology of this site significantly. The rapids that you can see beneath the bridge mark the old dam location.

### How is the Creek affected by land use here?

The area of land draining to this site is very large, receiving water from 166 square miles of land, mostly farms. Mill Creek is the largest tributary to the Huron River.

This stream drains one of the most rural areas in the Huron watershed, according to data from 2000. Only 15% of the Mill Creek watershed is developed while 65% is used for agriculture. At that time, only 7% 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: 65% Agriculture, 15% Urban, 10% Forest, 8% Open, 2% 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](http://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.



Google 2011

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

- |  |   |
|--|---|
| *Capniidae — slender winter stonefly           | Hydropsychidae — common net-spinner caddisfly |
| *Isonychiidae — brush-legged mayfly            | Limnephilidae — northern caddisfly            |
| *Taeniopterygidae — broad-back winter stonefly | Simuliidae — black fly                        |
| Baetidae — small minnow mayfly                 | Tipulidae — crane fly                         |
| Baetiscidae — armored mayfly                   |   |
| Chironomidae — midge                           |   |
| Dytiscidae — predacious diving beetle          | *Sensitive Family                             |
| Heptageniidae — flathead mayfly                |   |