

# Walker Creek at 8 Mile Road

*Adopt-a-Stream Site Report, updated January 2012*

## Overall Condition: *Fair*

At this site there are many families of bugs and a couple of them are sensitive. The water is clean and cold, but this is a sandy and silty site which lowers the rating since these fine sediments are not favorable to insect life. This site also lacks winter stoneflies, perhaps due to the mucky substrate. Overall, the site has been given an condition rating of "fair". Finding stoneflies would give this site a "good" rating.

### Measuring Stream Quality

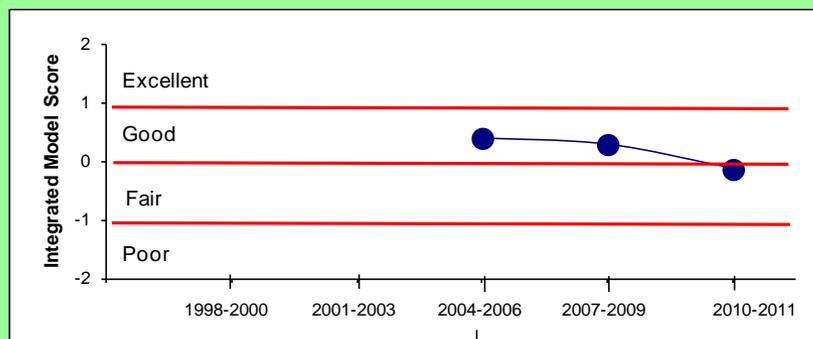
We use the bugs living in the creek to measure stream quality for two reasons. When the stream is rich in habitat variety it will have many diverse kinds of bugs (called families). Also, some bugs (called sensitive) can live only in good quality streams; they die in a poor quality stream. Any stream 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 17 times, starting in 2003. This includes Stonefly Search, River Roundup, Habitat, and Temperature events.

This tiny site on Walker Creek is only 7 feet wide and shallow (less than half a foot). In 2007 we found disappointing structure (habitat) here with a mucky bottom and the rocks in the swift water (riffles) are somewhat clogged with silt although the banks are stable. It has clean, cold water (seldom over 70°F) and so little urban runoff (from only 3% impervious surface) that we expect the creek to be in very good shape.

There is very good diversity of bugs here for such a small stream. In the spring we typically find 14 different families and one or two are sensitive families that require a good quality stream. In the fall an average of 16 families are typically found, again with one or two sensitive ones. However, in the winter we have never found the stoneflies that avoid many forms of pollution by growing only during the cold, winter months. It is possible that the poor streambed (a physical problem) is the reason for the missing stoneflies, rather than poor water quality (a chemical problem)



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

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## Background Information

### Site History

Walker is a tributary of Davis Creek, which flows into the Huron near the intersection of Silver Lake Road and US-23. Davis Creek is one of only three tributaries to the Huron River that are designated by the state as a Natural River Zone.

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

This site receives water from 22 square miles of land, mostly farms.

This is one of the most rural areas in the Huron watershed, according to data from 2000. Only 6% of the Walker Creek watershed is developed while 84% is used for agriculture. At that time, only 3% of the land was covered by an impervious surface.

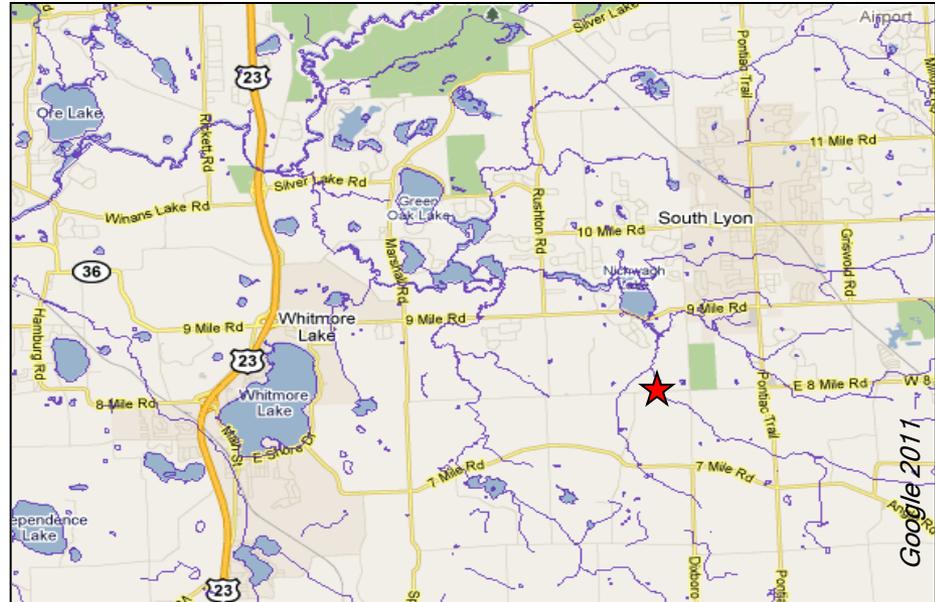
Impervious surface is hard on streams because it prevents rain from being filtered and cleaned through the soil and, instead, delivers it quickly to the stream, carrying pollutants and causing surging flows that damage the stream habitat and biotic community.

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: 84% Agriculture, 6% Urban, 4% Forest, 6% Open, 0% Wetland*

### What You Can Do

Help us improve Walker 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.



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

- |   |                                       |
|---|---------------------------------------|
| *Leptophlebiidae — pronggill mayfly           | Philopotamidae — finger-net caddisfly |
| Aeshnidae — damner dragonfly                  | Polycentropodidae — spotted head      |
| Baetidae — small minnow mayfly                | Sialidae — alderfly                   |
| Calopterygidae — broad-winged damselfly       | Simuliidae — black fly                |
| Chironomidae — midge                          | Tipulidae — crane fly                 |
| Elmidae — riffle beetle                       | Uenoidae — Uenoid caddisfly           |
| Heptageniidae — flathead mayfly               | Veliidae — short-legged striders      |
| Hydropsychidae — common net-spinner caddisfly |                                       |
| Limnephilidae — northern caddisfly            |                                       |

*\*Sensitive Family*