

Davis Creek at 11 Mile Road

Adopt-a-Stream Site Report, updated January 2012

Overall Condition: **Poor**

At this site there are only a few families of bugs and very few of them are sensitive. This is a mucky site with warm, slightly polluted water. Some of our mediocre sites support winter stoneflies but this creek seems to have a winter pollution problem as well since it lacks winter stoneflies. Since the creek is mucky, it is also possible that lack of proper habitat prevents the winter stoneflies from living here.

Measuring Stream Quality

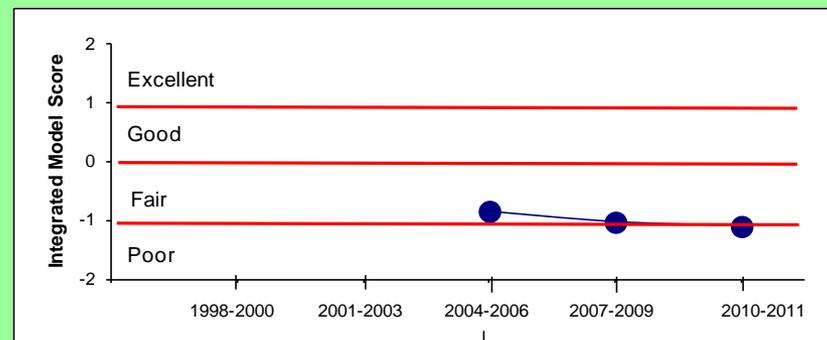
We use the bugs living in the creek to measure stream quality for two reasons. When the stream is rich in habitat variety it will have many diverse kinds of bugs (called families). Also, some bugs (called sensitive) can live only in good quality streams; they die in a poor quality stream. Any stream with sensitive families has the clean water and good habitat required by those bugs to survive.

Monitoring Data

Our data comes from HRWC volunteers who have monitored this site 19 times, starting in 2003. This includes Stonefly Search, River Roundup, Habitat, and Temperature events.

This site on Davis Creek is 18 feet wide and shallow (half a foot) here, with an occasional 1.5-foot deep pool. In 2009 we found very poor habitat here, a mucky bottom and the rocks in the swift areas (riffles) were clogged with silt. It has warm water (often 82°F) that may be polluted. However, it has so little urban runoff (only 8 %) that we expect it to be in better shape than it is.

In the spring we typically find only eight different families, and one sensitive family that can survive in a degraded stream. In the fall an average of 12 families are typically found, but 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.



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: Anne Fairchild

Davis Creek at 11-Mile Road

Background Information

Site History

This part of Davis Creek flows primarily through a rural part of eastern Lyon Township and western Novi, in an area bordered (approximately) by Baseline, Beck, Twelve-Mile and Milford Roads. On the north is a cluster of several large lakes surrounded by houses or by gravel extraction operations.

The land draining to this site is only one part of the larger site at Pontiac Trail, which is part of the still larger site at Doane Road. Both of the larger sites have a better quality ranking than this site.

How is the Creek affected by land use here?

This site is receiving water from 15 square miles of land, containing many farms, residential developments and golf courses.

This is a rural residential area in the Huron watershed, according to data from 2000. About one-third of this watershed is developed while a little over half is still used for agriculture. At that time, only 8% of the land was covered by impervious surface.

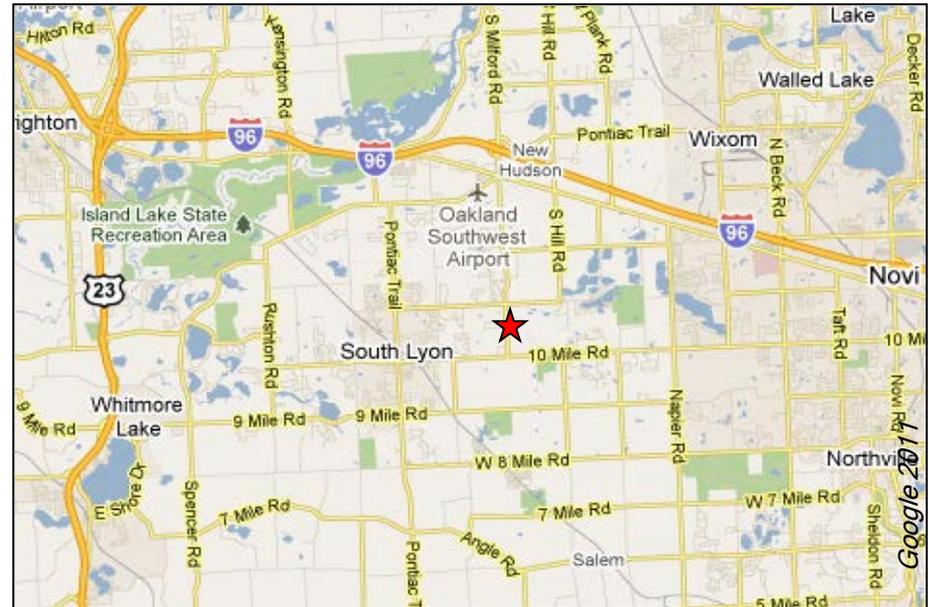
Impervious surface is hard on streams because it prevents rain from being filtered and cleaned through the soil and, instead, delivers it quickly to the stream, carrying pollutants and causing surging flows that damage the stream habitat and biotic community.

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: 53% Agriculture, 32% Urban, 4% Forest, 10% Open, 0% Wetland.

What You Can Do

Help us improve Davis 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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| *Perlodidae — Perlodid stonefly | Coenagrionidae — narrow-winged damselfly |
| Belostomatidae — giant water bug | Elmidae — riffle beetle |
| Notonectidae — back-swimmers | Haliplidae — crawling beetle |
| Hydropsychidae — common net-spinner caddisfly | Chironomidae — midge |
| Limnephilidae — northern caddisfly | Simuliidae — black fly |
| Aeshnidae — damner dragonfly | Tipulidae — crane fly |
| Calopterygidae — broad-winged damselfly | |

**Sensitive Family*