

# Davis Creek at Doane Road

Adopt-a-Stream Site Report, updated January 2012

## Overall Condition: *Fair*

In 2011, there were an average amount of bugs found here, but few of them are sensitive. The stream banks, streambed, and streamside vegetation are healthy, though shrubby, making access difficult. Throughout the Davis Creek watershed, our insects samples have declined in quantity over the past several years, indicating an watershed wide problem. A recent water sample revealed slightly elevated conductivity levels, which indicates the *possibility* of an unknown pollutant.

### 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.

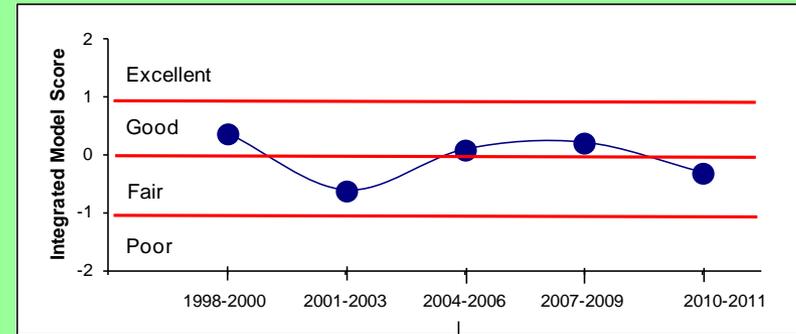
### Monitoring Data

These data come from HRWC volunteers who have monitored this site 37 times, starting in 1994. This includes River Roundup, Stonefly Search, Habitat, and Temperature.

This site on Davis Creek is 15 feet wide and shallow (half a foot) here, with an occasional "pool" that is a little over one foot deep. In 2010 we found good habitat here, a fairly sturdy bottom, stable banks and the rocks in the riffles were free of silt. A recent water sample revealed slightly elevated conductivity levels, which indicates the *possibility* of an unknown pollutant.

In the spring we typically find 10 different families but never more than one that requires a good quality stream. In the fall there are usually 13 families, again with a sensitive one only occasionally. These are slightly below average numbers for a creek in the Huron Watershed.

However, in the winter we do find both kinds of stoneflies that grow only in winter and are dormant the rest of the year. The presence of sensitive insects in the winter but few sensitive insects during the rest of the year indicates a warm-weather water quality problem, such as excessive fertilizer running into the stream upstream.



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: HRWC

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## Background Information

### Site History

Parts of Davis Creek have been designated by the state as a Natural River Zone (as is a major portion of the Huron River itself). This designation prevents bank erosion and retains the scenic appearance of the stream banks by restricting the location of new buildings and the clearing of trees and other vegetation. Green Oak Township has extended this protection to all creeks in that Township.

The land draining to this site includes all of the watershed for the site at Pontiac Trail, which has slightly better quality than this site. In 1927 the Davis Creek watershed had the largest sand and gravel extraction in the entire US.

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

This site is mid-sized, receiving water from 31 square miles of land, mostly residential with a few farms.

This is a sprawling rural-residential area, according to data from 2000. Nearly half of this Davis Creek watershed is developed while one quarter of the land is used for agriculture. At that time, 13% of the land was covered by impervious surface.

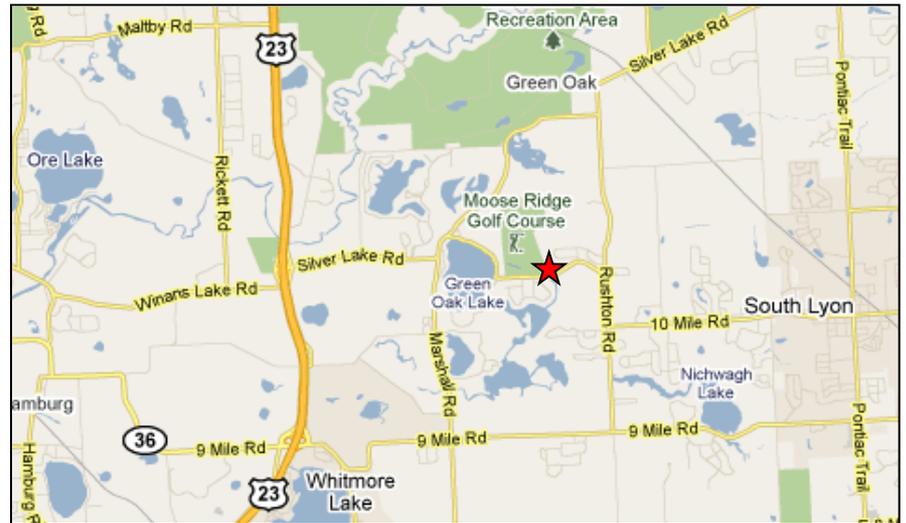
Impervious surface is hard on streams because it prevents rain from being filtered and cleaned through the soil and, instead, delivers it quickly to the stream, carrying pollutants and causing surging flows that damage the stream habitat and biotic community.

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: 25% Agriculture, 42% Urban, 5% Forest, 13% Open, 15% 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](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           | Heptageniidae — flathead mayfly               |
| *Perlidae — Perlid stonefly                    | Hydropsychidae — common net-spinner caddisfly |
| *Taeniopterygidae — broad-back winter stonefly | Limnephilidae — northern caddisfly            |
| Baetidae — small minnow mayfly                 | Philopotamidae — finger-net caddisfly         |
| Belostomatidae — giant water bug               | Simuliidae — black fly                        |
| Calopterygidae — broad-winged damselfly        | Uenoidae — Uenoid caddisfly                   |
| Chironomidae — midge                           | Veliidae — short-legged striders              |
| Dixidae — dixid midge                          |   |
| Elmidae — riffle beetle                        |   |
| Helicopsychidae — snail-case caddisfly         | *Sensitive Family                             |