

Davis Creek at Silver Lake Road

Adopt-a-Stream Site Report, updated January 2012

Overall Condition: **Good/Fair**

At this site there are many kinds of bugs and several of them are sensitive. The stream banks, streambed, and streamside vegetation are healthy. The water normally has a low concentration of unknown pollutants but in April 2010, we found the concentration had increased and the number of sensitive families decreased to one. Overall the stream site has had good to excellent quality since 1998, but we have our eyes on this site as other areas on Davis Creek have been declining recently.

Measuring Stream Quality

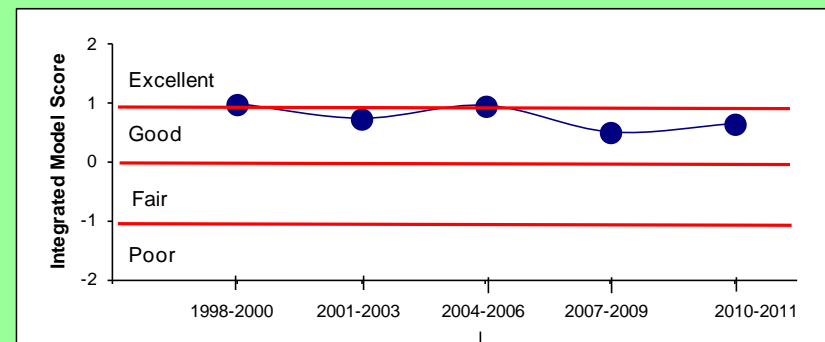
We use the bugs living in the creek to measure stream quality for two reasons. When the stream is rich in habitat variety it will have many diverse kinds of bugs (called families). Also, some bugs (called sensitive) can live only in good quality streams; they die in a poor quality stream. Any stream 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 32 times, starting in 1998. This includes Stonefly Search, River Roundup, Habitat, and Temperature events.

This site on Davis Creek is 34 feet wide and shallow (less than a foot). In 2007 we found excellent habitat here with a rocky bottom and nice, stable banks. The water gets warm in the summer (often 83°F) and contains some unknown pollutants. The average impervious cover of all this land is 12%, which causes enough urban runoff that we expect the creek to be in somewhat impaired.

There is a good diversity of bugs here, especially in the fall. In the spring we typically find 12 different families and two are sensitive families that require a good quality stream. In the fall an average of 19 families are typically found, with four sensitive ones. Stoneflies are very sensitive insects that are only found in clean water. We usually find one of the two kinds of "winter stoneflies" that grow only in winter and are dormant the rest of the year. Other stoneflies are also found at this site, further evidence of good conditions.



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: MSN

Davis Creek at Silver Lake Road

Background Information

Site History

This creek is affectionately called the South Branch of the Huron River by some residents.

Davis Creek is one of only three Huron River tributaries that has a portion designated by the State as a Natural River Zone. 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. Due to the efforts of Green Oak Township, the length of the stream that receives Natural River Protection was greatly increased from the original designation.

This site is near the mouth of this large creek, receiving water from streams and lakes in South Lyon, Green Oak and Lyon Townships before emptying into the Huron River.

How is the Creek affected by land use here?

The area of land draining to this site is large, receiving water from 68 square miles of land, mostly residential and urban.

According to data from 2000, one-third of the Davis Creek watershed is developed while one-quarter is used for agriculture. At that time, 12% 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: 26% Agriculture, 36% Urban, 9% Forest, 14% Open, 16% 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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| *Brachycentridae — humpless case maker caddisfly | Hydropsychidae — common net-spinner caddisfly |
| * Perlodidae — Perlodid stonefly | Limnephilidae — northern caddisfly |
| *Taeniopterygidae — broad-back winter stonefly | Polycentropodidae — spotted head |
| Calopterygidae — broad-winged damselfly | Simuliidae — black fly |
| Chironomidae — midge | Tipulidae — crane fly |
| Coenagrionidae — narrow-winged damselfly | Uenoidae — Uenoid caddisfly |
| Elmidae — riffle beetle | |
| Helicopsychidae — snail-case caddisfly | *Sensitive Family |
| Heptageniidae — flathead mayfly | |