

Huron River at White Lake Road

Adopt-a-Stream Site Report, updated January 2012

Overall Condition: **Excellent**

At this excellent site there are many kinds of bugs and many of them are sensitive. The water is clean, although it can get warm in the summer. The stream banks, streambed, and streamside vegetation are healthy here. This is the most pristine stream, by far, that HRWC monitors.

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.

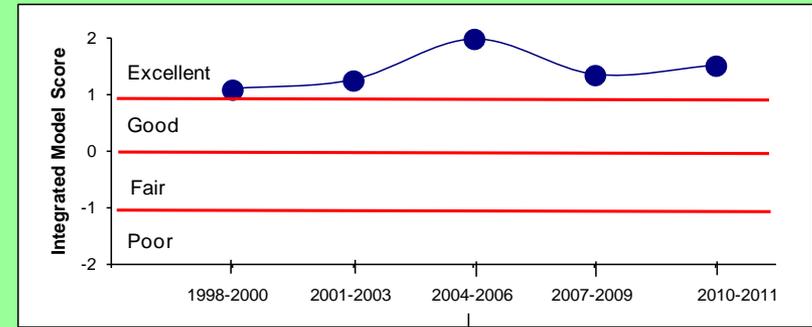
Monitoring Data

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

This site on Huron River is 12 feet wide and shallow (less than a foot). In 2010 we found excellent habitat here with a stable bottom and banks and the rocks in the swift water (riffles) were free of silt. It has clean, warm water (often reaching 82°F in the summer).

There is very good diversity of bugs here for such a small stream. In the spring we typically find 22 different families and 6 are sensitive families that require a good quality stream. In the fall an average of 18 families are typically found, with 5 sensitive ones. This is a tremendous amount of diversity (about twice as good as an average stream of this size).

Stoneflies are very sensitive insects that are only found in clean water. Two kinds of "winter stoneflies" grow only in winter and are dormant the rest of the year. One or two stonefly families are always found at this site, further indication of the excellent condition of this site.



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: Matt Lowney

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Background Information

Site History

This site is historically the most diverse of all the Huron River Watershed Council's Adopt-A-Stream sites and one of southeast Michigan's local treasures. An impressive number of sensitive insect families dwell here, including the rare strong case maker, Odontoceridae. This is the only known location of this caddisfly in Michigan's Lower Peninsula.

While this creek may not look like much, it really is the main branch of the Huron River. At this point, it only drains 14 square miles of land, so the stream is small. The watershed of this site has large areas of preserved undeveloped land in the Pontiac State Recreation Area and Indian Springs MetroPark. It is only a few miles from this site to the origin of the Huron River in Big Lake.

How is the Creek affected by land use here?

The area of land draining to this site is small, receiving water from only 14 square miles of land.

This is a mix of developed and undeveloped land, according to data from 2000. One-fifth of this sub-watershed is developed while a little over one-tenth is used for agriculture. At that time, nearly one-third was wetland and 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.

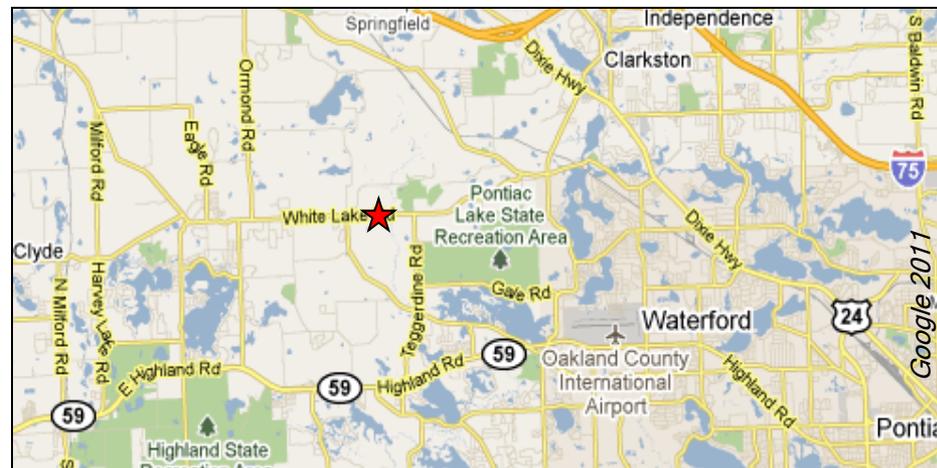
Creeks tend to start degrading once the watershed is more than 8% impervious and become badly degraded by 25%. [The most urbanized Huron River watershed that we study (draining into Millers Creek at Baxter Road) is 51% impervious.]

Since 8% is a dangerous threshold to cross, we need to watch this stream carefully. Further development of the stream's watershed could start to impact the insect community.

Watershed land use in 2000: 13% Agriculture, 22% Urban, 14% Forest, 22% Open, 29% Wetland.

What You Can Do

Help us keep this stream beautiful! 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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| *Corydalidae — dobson fly | Dixidae — dixid midges |
| *Ephemereillidae — spiny crawler mayfly | Elmidae — riffle beetle |
| *Glossosomatidae — saddle-case makers | Heptageniidae — flathead mayfly |
| caddisfly | Hydropsychidae — common net-spinner caddisfly |
| *Gomphidae — clubtail dragonfly | Limnephilidae — northern caddisfly |
| *Leptophlebiidae — pronggill mayfly | Nepidae — water scorpions |
| *Perlodidae — Perlodid stonefly | Philopotamidae — finger-net caddisfly |
| *Taeniopterygidae — broad-back winter stonefly | Simuliidae — black fly |
| Aeshnidae — darner dragonfly | Tipulidae — crane fly |
| Belostomatidae — giant water bug | Veliidae — short-legged striders |
| Calopterygidae — broad-winged damselfly | |
| Cordulegastridae — biddy dragonfly | |

**Sensitive Family*