

# Huron River at Proud Lake Rec Area

Adopt-a-Stream Site Report, updated January 2012

## Overall Condition: *Fair*

This site can be considered quite average for the Huron River. There is a fair amount of insect diversity, and sensitive families are present though not abundant. However, the stream banks and streambed are not great- the stream is somewhat mucky at this point, which certainly limits the sensitive insects population. If stoneflies and other sensitive organisms were more prominent here, this site would have a better ranking.

### Measuring Stream Quality

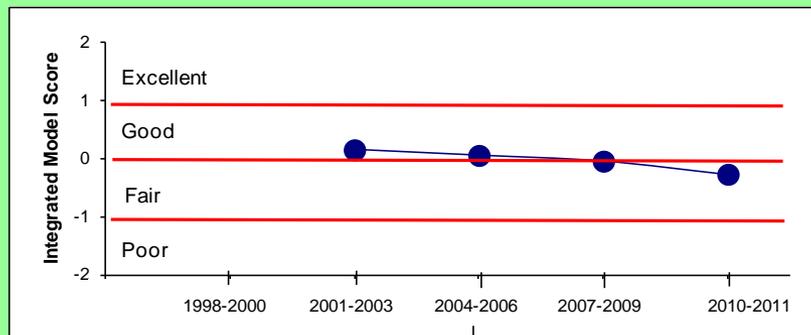
We use the bugs living in the creek to measure stream quality for two reasons. When the stream is rich in habitat variety it will have many diverse kinds of bugs (called families). Also, some bugs (called sensitive) can live only in good quality streams; they die in a poor quality stream. Any stream 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 22 times, starting in 2001. This includes Stonefly Search, River Roundup, Habitat, and Temperature events.

This site on Huron River is 45 feet wide and shallow (about one and a half feet, with an occasional two-foot deep pool). In 2010 we found disappointing habitat here with a mucky bottom, areas of bare banks and the rocks in the swift water (riffles) were clogged with silt. It has clean water that warms to 80°F in the summer

There is fair diversity of bugs here for such a stream this size. 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 17 families are typically found, but only occasionally is there a sensitive one. 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 possible 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: Brent Marrant

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## Background Information

### Site History

At the mouth by Lake Erie, the Huron River drains 908 square miles of land. This is an area the size of about 581,000 football fields. Where you are located, the Huron River is still close to its headwaters and drains 84 square miles, a mere 54,000 football fields! This area of the watershed has numerous lakes and several large state recreation areas, like Pontiac Lake Rec. Area, Proud Lake Rec. Area, and Highland Rec. Area. This makes for beautiful surroundings in the southwest portion of Oakland County. However, at this site there is still enough urbanized land to compromise the quality of the river. With impervious surface covering 19% of the land draining to this point, rain events can cause unstable water flows which damage the stream and the insect community.

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

The area of land draining to this site is large, receiving water from 84 square miles of land, mostly developed.

This is a highly developed area in the Huron watershed, according to data from 2000. Nearly half of this portion of the Huron River watershed is developed while only one-twentieth is used for agriculture. At that time, 19% of the land was covered by impervious surface.

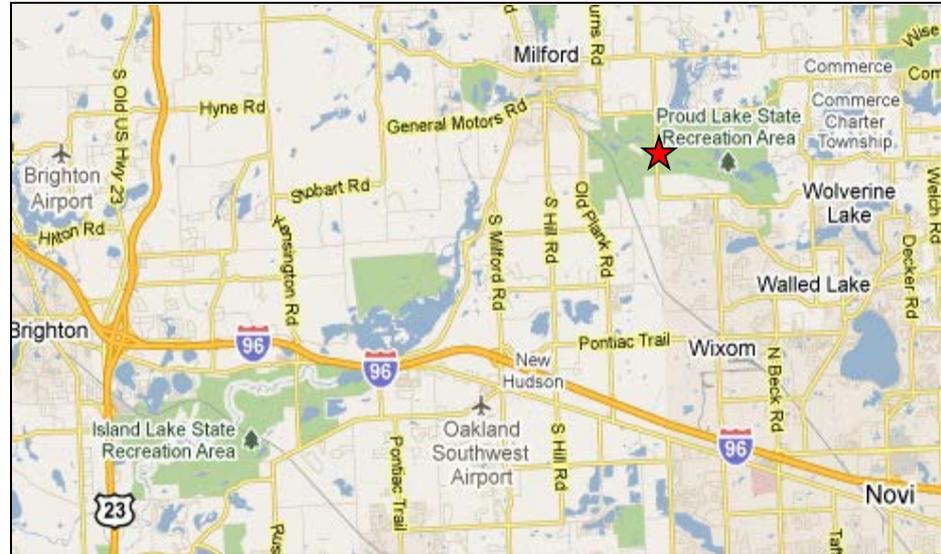
Impervious surface is hard on streams because it prevents rain from being filtered and cleaned through the soil and, instead, delivers it quickly to the stream, carrying pollutants and causing surging flows that damage the stream habitat and biotic community.

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: 6% Agriculture, 47% Urban, 10% Forest, 15% Open, 23% Wetland.

### What You Can Do

Help us improve the Huron River! 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:

- |  |  |
|--|--|
| *Gomphidae — clubtail dragonfly          | Hydropsychidae — common net-spinner caddisfly    |
| *Leptophlebiidae — pronggill mayfly      | Leptoceridae — long-horned case makers caddisfly |
| Aeshnidae — darners dragonfly            | Libellulidae — common skimmer dragonfly          |
| Baetidae — small minnow mayfly           | Limnephilidae — northern caddisfly               |
| Belostomatidae — giant water bug         | Phryganeidae — giant case-maker caddisfly        |
| Caenidae — square gilled mayfly          | Polycentropodidae — spotted head caddisfly       |
| Chironomidae — midge                     | Pyrilidae — aquatic moths                        |
| Coenagrionidae — narrow-winged damselfly |  |
| Elmidae — riffle beetle                  |  |
| Heptageniidae — flathead mayfly          |  |

\*Sensitive Family