

Huron River at Huroc Park, Flat Rock

Adopt-a-Stream Site Report, updated February 2013

Overall Condition: **Fair/Poor**

At this site there are very few kinds of bugs and none of them are sensitive except in the winter, when winter stoneflies thrive. The stream banks, streambed, and streamside vegetation are certainly impacted by the human land use surrounding the park. Overall the Huron River at this site is rated as borderline fair/poor. It does not support a rich variety of aquatic life most of the year, though in the winter it does support several sensitive families.

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.

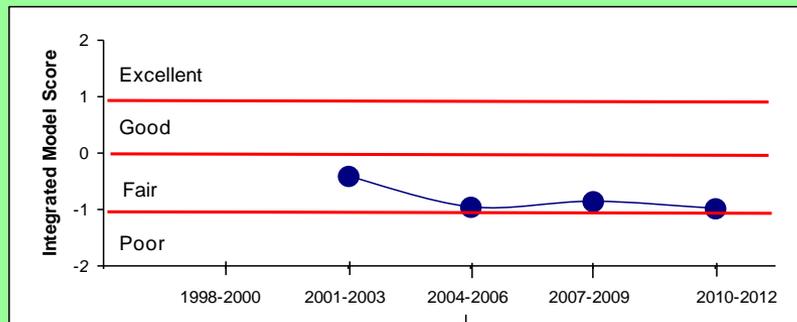
Monitoring Data

These data come from HRWC volunteers who have monitored this site 30 times, starting in 1996. This includes Stonefly Search, River Roundup, Habitat, and Temperature events.

This site on Huron River is 105 feet wide and shallow (1.5 feet) with an occasional 3-foot deep pool. In 2010 we found the quality of the habitat was only average here with a rocky bottom, stable banks and clean rocks in the swift water (riffles). It has warm water (often up to 84°F) that is somewhat polluted (as determined by conductivity measurements).

At such a large river, we would expect to find a large diversity of insects. However, in the spring we typically find only 8 different families and in the fall only find 9 different families. These are low numbers since even small creeks typically have at least this level of diversity. However, in the past two years we have begun to find sensitive insects, which does indicate the river may be getting healthier here. Also, in January 2013, volunteers found 3 families of stoneflies for the first time (normally there are one or two).

Stoneflies are very sensitive insects that are only found in clean water. The abundance of stoneflies in the winter indicates that the water quality problems here are a result of activities (here or upstream) during the growing season.



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.



Photo credit: HRWC

Huron River at Flat Rock

Background Information

Site History

The clamming industry on the Huron River in the early 1900's was especially active near Flat Rock. The clam shells were used to make buttons. (For instance, in 1913, 56 tons of shells from the Huron and Raisin Rivers were sold.) In the 1940's plastic buttons and over-exploitation of the clam beds ended the clam business.

Huroc Park, where this site is located, is very popular for fishing and has trails, playgrounds and a large gazebo used for small weddings. This site has been monitored by Flat Rock High School students also. The water that flows here comes from the entire Huron watershed, a mix of rural, recreational and developed lands.

How is the River affected by land use here?

The area of land draining to this site is huge, receiving water from 866 square miles of land, mostly farms and much of it developed. However, the land use does not inform us well about this site since much of that land is so far away from this site.

This is our most downstream site in the Huron watershed. According to data from 2000, nearly one-third of the watershed is developed while nearly two-fifths is used for agriculture. At that time, 10% of the land was covered by impervious surface.

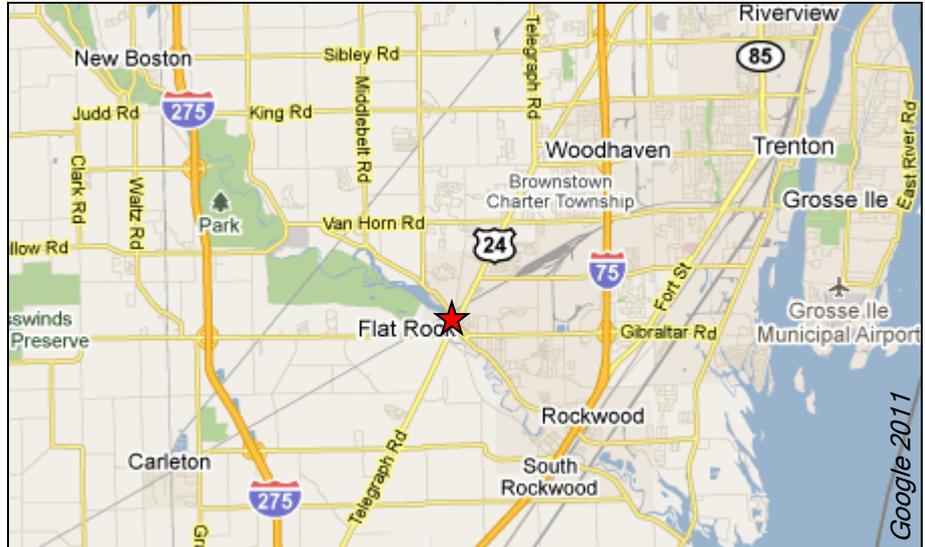
Impervious surface is hard on streams because it prevents rain from being filtered and cleaned through the soil and, instead, delivers it quickly to the stream, carrying pollutants and causing surging flows that damage the stream habitat and biotic community.

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: 24% Agriculture, 33% Urban, 11% Forest, 14% Open, 18% 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 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 2010-2012:

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| *Capniidae — slender winter stonefly | Hydropsychidae — common net spinner caddisfly |
| *Taeniopterygidae — broad-back winter stonefly | Simuliidae — black fly |
| Baetidae — small minnow mayfly | Tipulidae — crane fly |
| Caenidae — square-gilled mayfly | |
| Chironomidae — midge | |
| Coenagrionidae — narrow-winged damselfly | *Sensitive Family |
| Elmidae — riffle beetle | |
| Ephemeroptera — spiny crawler mayfly | |
| Heptageniidae — flathead mayfly | |