

Port Creek at Armstrong Road

Adopt-a-Stream Site Report, updated February 2013

Overall Condition: **Poor**

At this site there are very few kinds of bugs and none of them are sensitive. The stream banks are unstable and the habitat is poor. The health of this creek is far below an average stream of this size in the Huron River Watershed.

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.

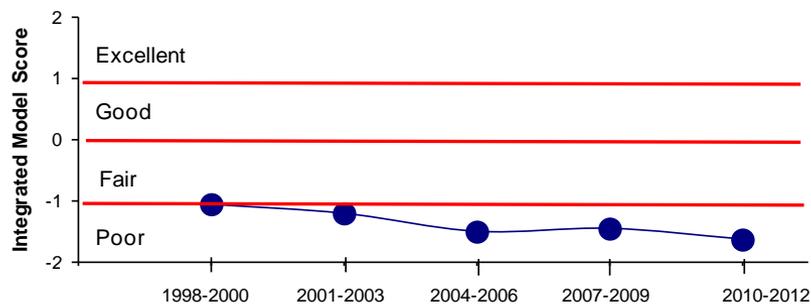
Monitoring Data

These data come from HRWC volunteers who have monitored this site 22 times, starting in 2000. This includes Stonefly Search, River Roundup, Habitat, and Temperature events.

This site on Port Creek is 10 feet wide and shallow (about half a foot). In 2010 we found poor habitat here with a mucky bottom and many areas of bare, unstable banks. The water often reaches 75°F in the summer.

There is poor diversity of bugs here, especially in the spring, when we typically find only six different families. In the fall an average of 10 families are typically found, again with only one sensitive one.

Leptophlebiidae, the pronggill mayfly, is the sensitive insect that is commonly found in this stream. The presence of this mayfly causes this stream to be in the middle range of "poor", rather than a very low "poor". None of the special "winter stoneflies" (that are dormant most of the year and grow only in winter) are found at 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: Max Bromley

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Background Information

Site History

Many creeks in the lower part of the Huron River Watershed, including this one, are on an old glacier lake plain, which results in low gradient and a streambed made of sand and silt. This means that these streams are predisposed to holding less insect diversity than the steeper and rockier streams in the upper Huron River Watershed.

How is the Creek affected by land use here?

The area of land draining to this site is small, receiving water from only 6 square miles of land, mostly farms.

According to data from 2000, one-quarter of the Port Creek watershed is developed while over half is used for agriculture. At that time, only 9% of the land was impervious, which prevents rain from percolating into the ground for natural cleansing.

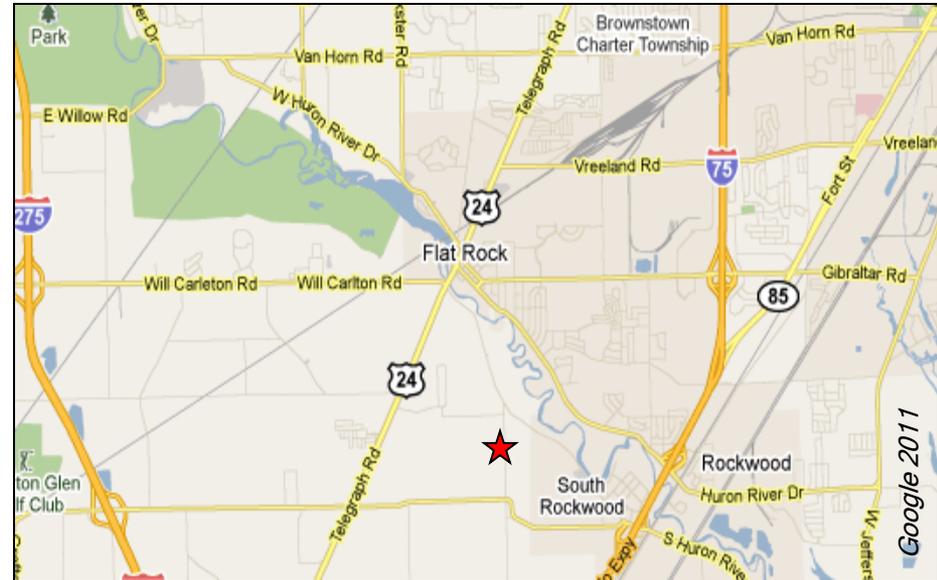
Impervious surface is hard on streams because it prevents rain from being filtered and cleaned through the soil and, instead, delivers it quickly to the stream, carrying pollutants and causing surging flows that damage the stream habitat and biotic community.

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: 56% Agriculture, 24% Urban, 2% Forest, 8% Open, 9% Wetland.

What You Can Do

Help us improve Port 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 commonly found in sampling events from 2010-2012:

- *Leptophlebiidae — pronggill mayfly
- Calopterygidae — broad-winged damselfly
- Chironomidae — midge
- Corixidae — water boatman
- Culicidae — mosquito
- Dixidae — dixid midges
- Elmidae — riffle beetle
- Gerridae — water strider

**Sensitive Family*