Huron River Watershed Council

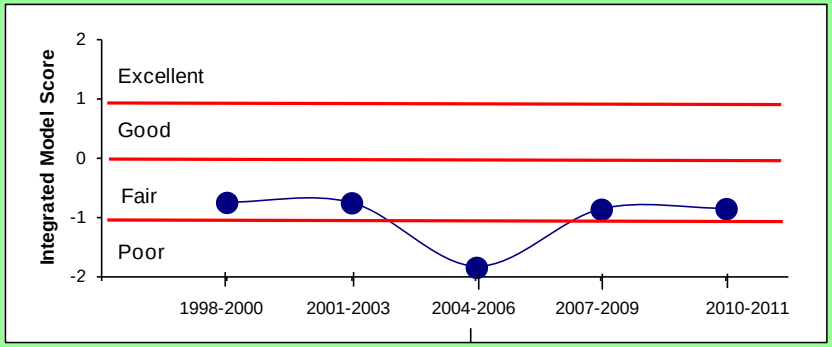
Protecting the river since 1965

Portage Creek at Unadilla Road

Adopt-a-Stream Site Report, updated January 2012

Overall Condition: Fair

At this site, we find a below average level of insect diversity. Those insects that are here are not from "sensitive" families. This section of Portage Creek has a high amount of sand and muck on the stream bed, which limits aquatic life. In 2005, a habitat study found that nearly 100% of the streambed was covered in these fine particles. Studies since that time have found less fine sediment, and the overall rating has gone back up as a result.



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.

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 23 times, starting in 1999. This includes Stonefly Search, River Roundup, Habitat, and Temperature events.

This site on Portage Creek is 19 feet wide and shallow (about 1.4 feet deep). In 2009 we found decent habitat here: the bottom was mucky and the rocks in the swift water (riffles) were somewhat clogged with silt, but the banks were stable. In the summer, the creek has cool water (seldom over 78°F).

There is poor diversity of bugs here. In the spring we typically find 7 different families and none of these require a good quality stream. In the fall an average of 10 families are typically found, also with no sensitive families. 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. Stoneflies have never been found at this site, which indicates a water quality problem. It is likely that the mucky bottom of the stream discourages stoneflies from living here.

Photo credit: HRWC

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Portage Creek at Unadilla Road

Background Information

Site History

The different tribes of the Native American Potawatomi lived in what is now southern Michigan and traveled via the Huron River. The tribes would paddle upstream from Lake Erie to a tributary that became known as Portage Creek. It was possible for large canoes to reach within 0.8 miles of a tributary of the Grand River, now called Portage River, that eventually flows into Lake Michigan. Therefore it was possible to cross the entire southern portion of what is now Michigan with only one land portage of less than one mile.

How is the Creek affected by land use here?

The area of land draining to this site is small, receiving water from only 33 square miles of land, mostly farms.

This is one of the most rural areas in the Huron watershed, according to data from 2000. Only 8% of the Portage Creek watershed is developed while 38% is used for agriculture. At that time, only 4% of the land was covered by impervious surface.

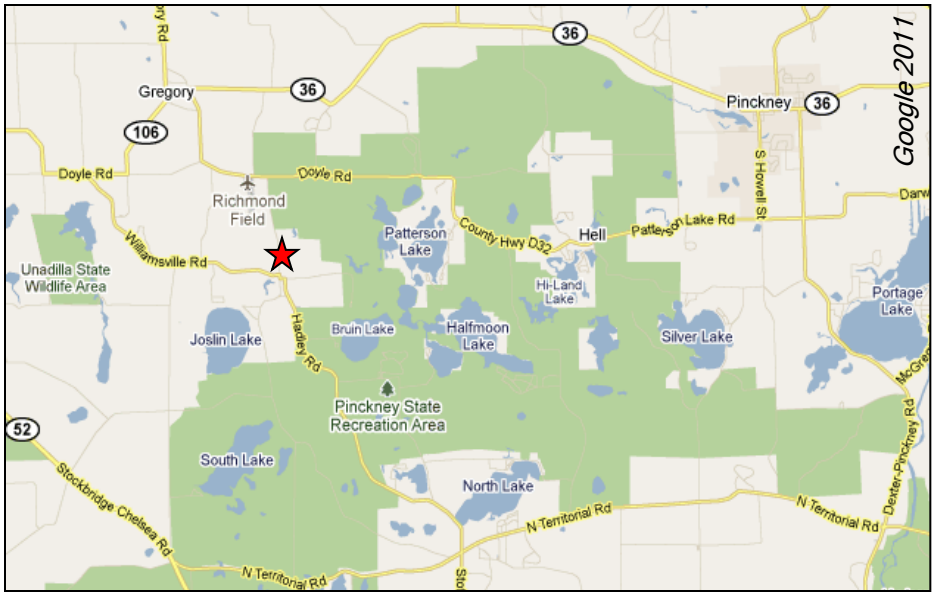
Impervious surface is hard on streams because it prevents rain from being filtered and cleaned through the soil and, instead, delivers it quickly to the stream, carrying pollutants and causing surging flows that damage the stream habitat and biotic community.

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: 38% Agriculture, 8% Urban, 14% Forest, 13% Open, 27% Wetland.

What You Can Do

Help us improve Portage 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 2009-2011:

Baetidae — small minnow mayfly
Belostomatidae — giant water bug
Chironomidae — midge
Elmidae — riffle beetle
Heptageniidae — flathead mayfly
Hydropsychidae — common net-spinner caddisfly
Philopotamidae — finger-net caddisfly
Tabanidae — deer fly, horse fly