

Chilson Creek at Brighton Road

Adopt-a-Stream Site Report, updated January 2012

Overall Condition: *Fair*

At this site there are several kinds of bugs but very few of them are sensitive. The water appears to be clean. The stream banks are stable but the streambed is mucky and embedded, providing poor habitat for creatures. It is possible that the upstream wetland unfairly and negatively influences our assessment of this site (wetlands typically support a different set of insects than a free flowing river).

Measuring Stream Quality

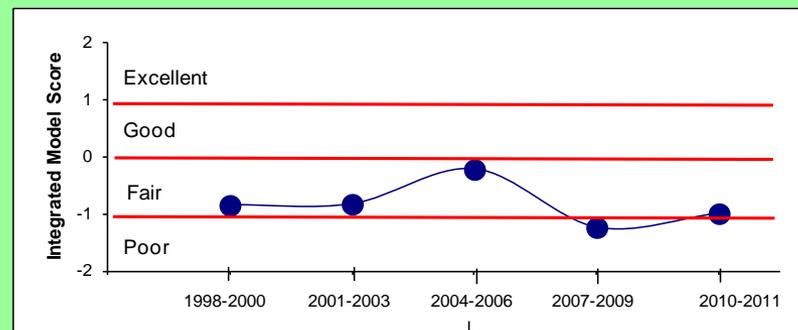
We use the bugs living in the creek to measure stream quality for two reasons. When the stream is rich in habitat variety it will have many diverse kinds of bugs (called families). Also, some bugs (called sensitive) can live only in good quality streams; they die in a poor quality stream. Any stream 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 32 times, starting in 1997. This includes Stonefly Search, River Roundup, Habitat, and Temperature events.

This site on Chilson Creek is 18 feet wide and shallow (about a foot) with an occasional three-foot deep pool. In 2009 we found poor habitat here with a mucky bottom and the rocks in the swift water (riffles) were very clogged with silt although the banks were nice and stable. It has clean, cool water (seldom over 75°F) but the watershed is already developed enough, with 11% impervious surface, that urban runoff has probably begun to impair the stream.

There is average diversity of bugs here for a stream of this size. In the spring we typically find 13 families and one is a sensitive family that requires a good quality stream. In the fall an average of 11 families are typically found, with no sensitive ones. Stoneflies are very sensitive insects that are only found in clean water. The two kinds of "winter stoneflies" that grow only in winter and are dormant the rest of the year have never been found at this site. The lack of stoneflies combined with the lack of sensitive insects from spring and fall indicates a year-round water quality problem. The mucky streambed is likely the primary cause.



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

Chilson Creek at Brighton Road

Background Information

Site History

Chilson is one of five major Huron River creeks in lower Livingston County; this one is located in Hamburg Township.

Mink are plentiful in parts of Chilson Creek, and the creek also provides great fishing.

Chilson meanders south one mile to this site from lower Chilson Pond (constructed in 1961), a little over two miles through residential land to our next study site alongside Chilson Road, and then three miles south before entering Oneida Lake and Zukey Lake.

How is the Creek affected by land use here?

The area of land draining to this site is small, receiving water from only 7 square miles of land, mostly residential.

According to data from 2000, two-fifths of the Chilson Creek watershed is developed while one-seventh is used for agriculture. At that time, 11% of the land was covered by impervious surface.

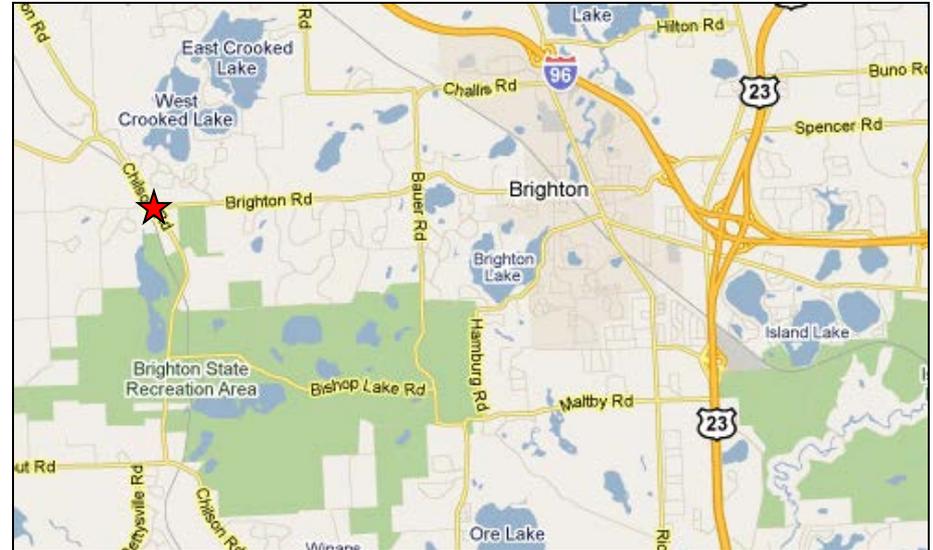
Impervious surface is hard on streams because it prevents rain from being filtered and cleaned through the soil and, instead, delivers it quickly to the stream, carrying pollutants and causing surging flows that damage the stream habitat and biotic community.

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: 14% Agriculture, 38% Urban, 8% Forest, 19% Open, 20% Wetland.

What You Can Do

Help us improve Chilson 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 found in at least two sampling events from 2009-2011:

- Aeshnidae — damner dragonfly
- Calopterygidae — broad-winged damselfly
- Chironomidae — midge
- Elmidae — riffle beetle
- Heptageniidae — flathead mayfly
- Hydropsychidae — common net-spinner caddisfly
- Limnephilidae — northern caddisfly
- Philopotamidae — finger-net caddisfly
- Simuliidae — black fly