

South Ore Creek at Lake Ridge Road

Adopt-a-Stream Site Report, updated January 2012

Overall Condition: **Fair/Poor**

At this site there are few kinds of bugs and none of them are sensitive. The water has a high concentration of unknown pollutants (as determined by conductivity measurements). The stream banks, streambed, and streamside vegetation are healthy, but overall the stream has a borderline "fair/poor" quality since it does not support a rich variety of aquatic life.

Measuring Stream Quality

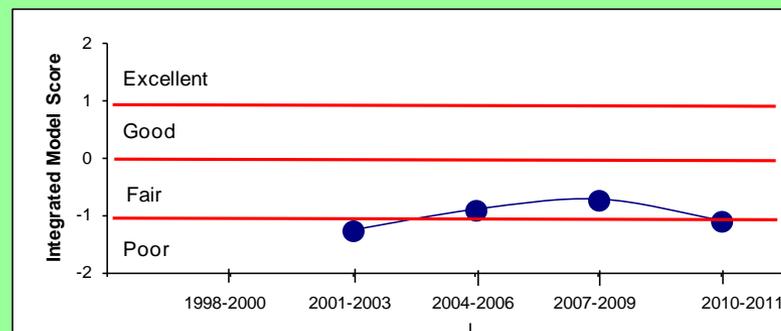
We use the bugs living in the creek to measure stream quality for two reasons. When the stream is rich in habitat variety it will have many diverse kinds of bugs (called families). Also, some bugs (called sensitive) can live only in good quality streams; they die in a poor quality stream. Any stream 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 26 times, starting in 1998. This includes Stonefly Search, River Roundup, Habitat, and Temperature events.

This site on South Ore Creek is 15 feet wide and shallow (less than half a foot) with an occasional 2.5-foot deep pool. In 2008 we found average habitat here with healthy stream banks, streambed and streamside vegetation. It has clean water that gets warm in the summer (often reaching 78°F) and with 16% urban runoff that we expect the creek to be degraded.

There is poor diversity of bugs here. In the spring we typically find only nine different families and none are the sensitive families that require a good quality stream. In the fall an average of only six families are typically found, again with no sensitive ones. 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 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: Max Bromley

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Background Information

Site History

This site on South Ore Creek is just below the outfall of Brighton Lake, which may complicate our evaluation of the site condition as the lake may be introducing sediment and low oxygenated water into the creek.

We have little knowledge of the upstream influences beyond the fact that the creek flows through the City of Brighton and this site is at the bottom of steep land that has been developed into very large homes.

How is the Creek affected by land use here?

The area of land draining to this site is small, receiving water from 24 square miles of land, mostly urban and residential.

According to data from 2000, nearly half of the South Ore Creek watershed is developed while only a tenth is used for agriculture. At that time, 16% of the land was covered by impervious surface.

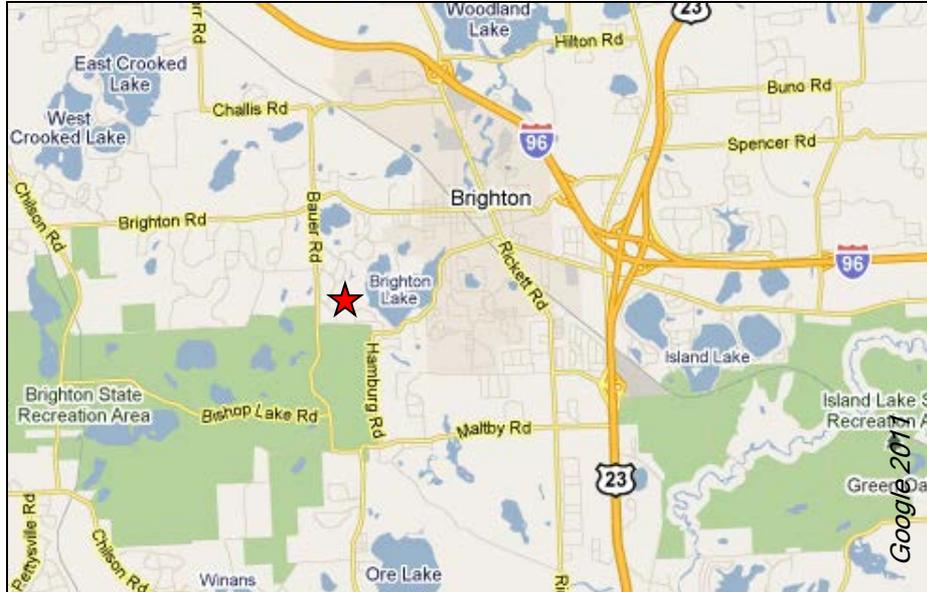
Impervious surface is hard on streams because it prevents rain from being filtered and cleaned through the soil and, instead, delivers it quickly to the stream, carrying pollutants and causing surging flows that damage the stream habitat and biotic community.

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: 12% Agriculture, 44% Urban, 6% Forest, 13% Open, 24% Wetland.

What You Can Do

Help us improve South Ore 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:

- Chironomidae — midge
- Coenagrionidae — narrow-winged damselfly
- Hydropsychidae — common net-spinner caddisfly
- Philopotamidae — finger-net caddisfly
- Scirtidae — marsh beetle
- Simuliidae — black fly
- Tipulidae — crane fly