Huron River Watershed Council

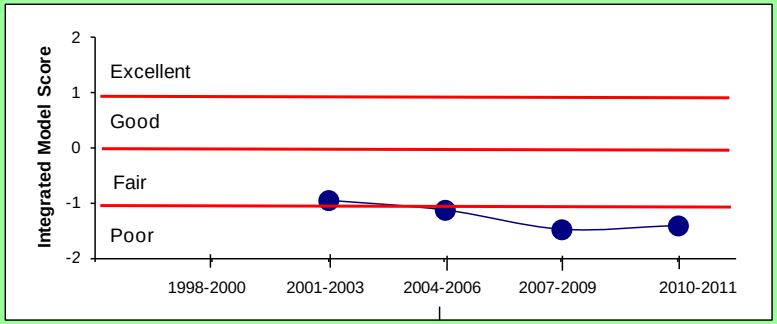
Protecting the river since 1965

Trib. to Millers Creek at Green Road

Adopt-a-Stream Site Report, updated January 2012

*Overall Condition: **Lovely***

This site is very unique, and because of this it is inappropriate to apply the standard health rating that is given to the other study sites. The site is "poor" using the normal rating scale, but realistically the site should be as good as "excellent" as it is quite pristine. Because the normal scale does not apply, lets just say this is a lovely little groundwater seep. It is very small and very short (about 100 yards). The water is unusually clean and cold for a stream in the Huron River Watershed. The watershed is completely forested, despite being in the middle of Ann Arbor. The insect population is low, as this is a very small trickle of water, but some of these insects are sensitive and one family is rarely found elsewhere in the watershed (the Nemourid stonefly).



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.

The results for this site are given in the graph, but be sure to read the explanation given in the "overall condition" box.

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 2002. This includes Stonefly Search, River Roundup, Habitat, and Temperature events.

This site on Millers Creek is less than two feet wide and extremely shallow (a couple inches). It has clean, cold water (seldom over 53°F) and little urban runoff so we expect the creek to be in very good shape.

There is a low diversity of bugs here, but the stream is very small. In the spring we typically find four or five different families and none are the sensitive families that require a good quality stream. In the fall an average of five or six families are typically found, with two sensitive ones. 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. The small winter stoneflies are often found at this site, which indicates good water quality.

Photo credit: John Lloyd

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Millers Creek at Green Road

Background Information

Site History

This small creek is unusual. It flows out of the ground as a groundwater seep. Recently, the city of Ann Arbor purchased the forested land it flows in to preserve it as a natural area. With a tiny watershed that is fully forested, the stream is quite healthy. However, due to its tiny size, the insect diversity is quite low. Unfortunately, this healthy creek flows directly into the most disturbed creek in the watershed- Millers Creek. It is located in the midst of a residential neighborhood and is a short walk from King Elementary School.

How is the Creek affected by land use here?

The area of land draining to this site is extremely small, receiving water from only 0.04 square miles of land, nearly all forested, despite being located in the center of Ann Arbor.

This is an undeveloped watershed, according to data from 2000. None of this watershed is developed and none is used for agriculture. None of the land is covered by impervious surface.

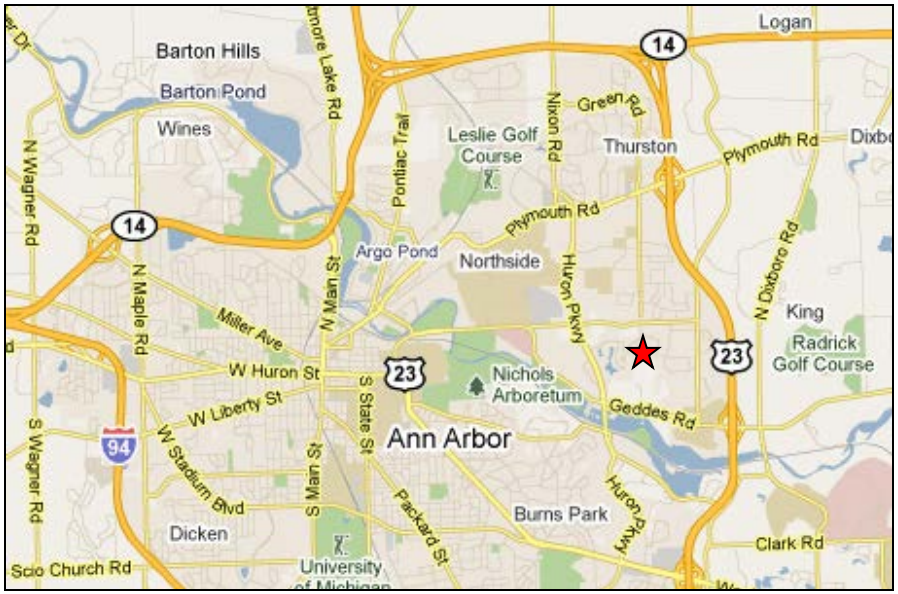
Impervious surface is hard on streams because it prevents rain from being filtered and cleaned through the soil and, instead, delivers it quickly to the stream, carrying pollutants and causing surging flows that damage the stream habitat and biotic community.

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: 0% Agriculture, 0% Urban, 93% Forest, 0% Open, 7% Wetland.

What You Can Do

Help us improve Millers 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.



Google 2011

Insects found in at least two sampling events from 2009-2011:

*Brachycentridae — humpless case makers caddisfly
*Nemouridae — Nemourid broadback stonefly *Sensitive Family*
Chironomidae — midge
Dytiscidae — predacious diving beetle
Hydropsychidae — common net-spinner caddisfly
Tipulidae — crane fly
Veliidae — short-legged striders