

Malletts Creek at S. Main Street

Adopt-a-Stream Site Report, updated January 2012

Overall Condition: **Poor**

At this site there are very few kinds of bugs and none of them are sensitive. The water has a high concentration of unknown pollutants. The stream banks, streambed, and streamside vegetation are average here. Overall, the stream has a poor condition rating because of the lack of insects and poor water quality.

Measuring Stream Quality

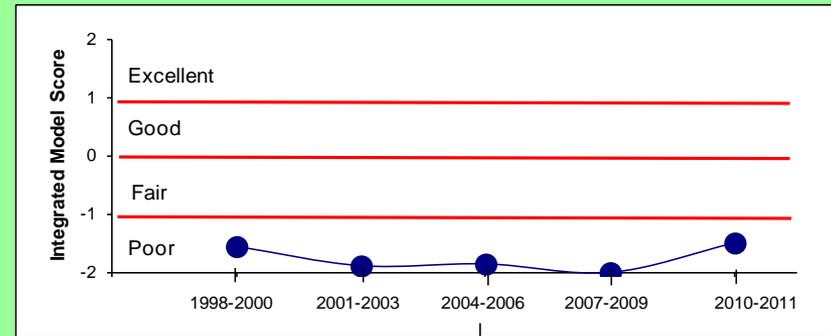
We use the bugs living in the creek to measure stream quality for two reasons. When the stream is rich in habitat variety it will have many diverse kinds of bugs (called families). Also, some bugs (called sensitive) can live only in good quality streams; they die in a poor quality stream. Any stream 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 27 times, starting in 1999. This includes Stonefly Search, River Roundup, Habitat, and Temperature events.

This site on Malletts Creek is 10 feet wide and shallow (less than half a foot). In 2010, we found average habitat here with areas of bare banks and the rocks in the swift water (riffles) that were somewhat clogged with silt. It has cool water (averaging a high of 73°F in the summer) that has a high concentration of unknown pollutants. Since the watershed is paved on 21% of its surface, it is certain that urban water runoff is degrading the creek.

There is poor diversity of bugs here, even for such a small stream. In the spring we typically find five different families and none are sensitive families that require a good quality stream. In the fall an average of nine families are typically found, again with no 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. Stoneflies have never been found at this site, which adds to the evidence of a water quality problem.



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 is our most western site on Malletts Creek, flowing through southwestern Ann Arbor and a part of adjacent Scio Township as well as several commercial developments (e.g., Oak Valley Drive, I-94 and south Main). It is at the downstream end of the 16-acre Cranbrook Park. Due to the large amount of impervious surface in its watersheds, Malletts Creek has a significant number of water quality and hydrology problems. This tiny sub-watershed has a lower impervious surface coverage than average for the Malletts Creek watershed (although it is still very high compared to most other areas of the entire Huron River Watershed). A group of residents formed the Malletts Creek Association with staff support from the Water Resources Commission and HRWC in 1995. They developed a restoration plan (original in 2000 and revised in 2007) that they are helping the City to implement.

How is the Creek affected by land use here?

The area of land draining to this site includes only two square miles of land and has been extensively developed.

This is one of the most developed areas in the Huron watershed, according to data from 2000. 75% of this Malletts Creek sub-watershed is developed while 10% is still used for agriculture. At that time, 21% 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: 11% Agriculture, 76% Urban, 1% Forest, 9% Open, 2% Wetland.

What You Can Do

Help us improve Malletts 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:

- Veliidae — short-legged striders
- Hydropsychidae — common net-spinner caddisfly
- Coenagrionidae — narrow-winged damselfly
- Dytiscidae — predacious diving beetle
- Chironomidae — midge
- Tipulidae — crane fly