

Malletts Creek at Chalmers Road

Adopt-a-Stream Site Report, updated January 2012

Overall Condition: **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 (determined through conductivity measurements). The stream banks, streambed, and streamside vegetation are fair at this particular location, but Malletts Creek is well known to have erosion problems throughout its length due to high flashy flows. Overall the stream has a rating of poor- the bugs and habitat are far below average for a stream of this size.

Measuring Stream Quality

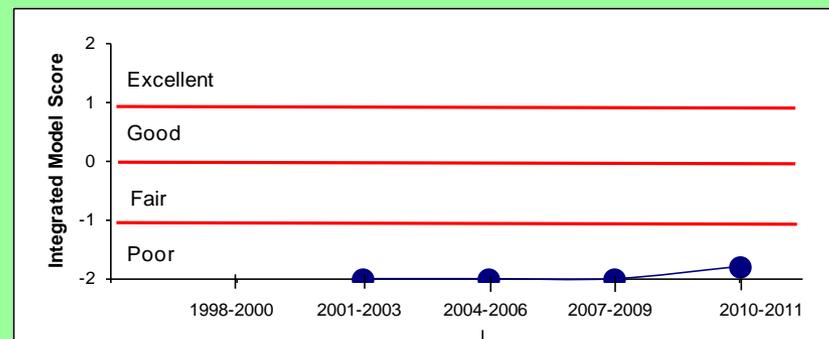
We use the bugs living in the creek to measure stream quality for two reasons. When the stream is rich in habitat variety it will have many diverse kinds of bugs (called families). Also, some bugs (called sensitive) can live only in good quality streams; they die in a poor quality stream. Any stream 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 35 times, starting in 1993. This includes Stonefly Search, River Roundup, Habitat, and Temperature events.

This site on Malletts Creek is 28 feet wide and shallow (less than a foot). In 2008 we found fair habitat here with a stable bottom and some of the rocks in the swift water (riffles) clogged with silt. Half of the banks were bare and, thus, unstable. It has warm water (often 75°F in the summer) that has a high concentration of unknown pollutants.

There is poor diversity of bugs here for such a stream this size. In the spring we typically find only six different families and none are sensitive families that require a good quality stream. In the fall an average of eight 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 indicates 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: HRWC

Malletts Creek at Chalmers Road

Background Information

Site History

Malletts Creek flows through the City of Ann Arbor and a small area of western Pittsfield Township. It flows into the Huron River through a partially blocked culvert at South Pond. This watershed includes many recent dense residential developments, the more forested neighborhoods in Burns Park, Briarwood, Arborland Mall, and additional commercial land in south Ann Arbor and along Washtenaw from Pittsfield Boulevard to Ferdon.

A group of residents formed the Malletts Creek Association with staff support from the Washtenaw County Water Resources Commissioner and HRWC in 1995. They developed a restoration plan (original in 2000; 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 is small, receiving water from only 11 square miles of land, nearly all developed.

This is one of the most urban areas in the Huron watershed, according to data from 2000. Most of the Malletts Creek watershed at this site (85%) is developed while only 3% is used for agriculture. At that time, 35% of the land was covered by impervious surface.

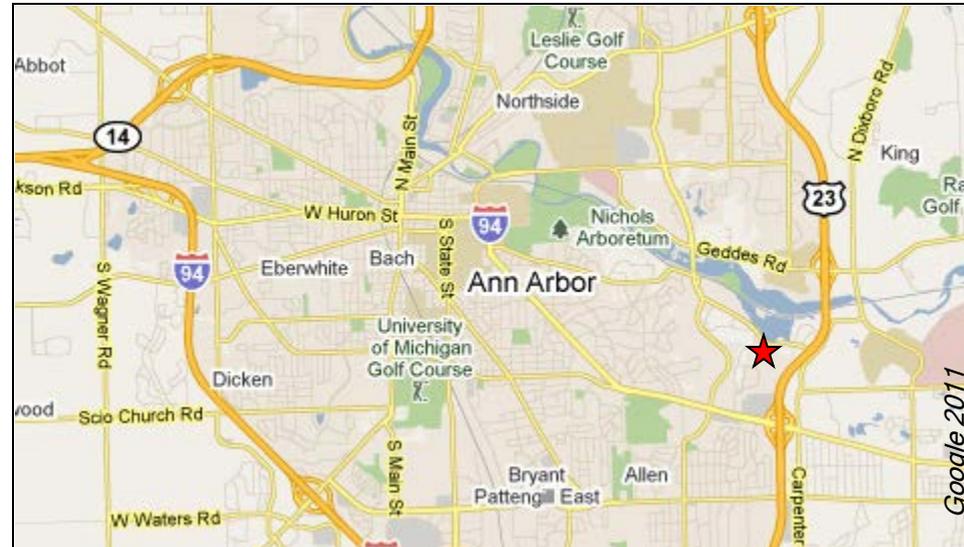
Due to the large amount of impervious surface in its watershed, Malletts Creek has a significant number of water quality and hydrology problems. Impervious surface prevents rain from being filtered and cleaned through the soil and, instead, delivers it quickly to the stream, carrying pollutants and causing surging flows that degrade the habitat and the insect 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: 3% Agriculture, 85% Urban, 3% Forest, 7% 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:

- Hydropsychidae — common net-spinner caddisfly
- Calopterygidae — broad-winged damselfly
- Elmidae — riffle beetle (larvae + adults)
- Chironomidae — midge
- Simuliidae — black fly