

Malletts Creek near I-94

Adopt-a-Stream Site Report, updated January 2012

Overall Condition: **Poor**

At this site there are few kinds of bugs and no sensitive ones have ever been found. The water has a high concentration of unknown pollutants (as determined by conductivity measurements). The stream banks, streambed, and streamside vegetation are poor here. This stream is "flashy", meaning that after storms it can flow very high and very fast, in a very short amount of time after the storm.

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

This data comes from HRWC volunteers who have monitored this site 31 times, starting in 1992. This includes Stonefly Search, River Roundup, Habitat, and Temperature events.

This site on Malletts Creek is 9 feet wide and shallow (less than 0.5 feet). In 2010 we found poor habitat here with areas of bare banks and the rocks in the swift water (riffles) were somewhat clogged with silt. It has warm water (often reaching 77°F in the summer). Since 49% of the surface in this watershed is already paved, the urban runoff is undoubtedly degrading the creek.

There is poor diversity of bugs here for a stream this size. In the spring we typically find eight different families and none are the sensitive families that can survive in a degraded stream. In the fall an average of only seven 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.



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 is at the southern tip of the main stem of Malletts Creek, flowing through Pittsfield Township and Ann Arbor near the airport. Due to the large amount of impervious surface in its watershed, Malletts Creek has a significant number of water quality and hydrology problems, and this tiny sub-watershed has an even higher percentage of impervious surface than average for the Malletts watershed.

How is the Creek affected by land use here

The area of land draining to this site on Malletts Creek is very small, receiving water from only four square miles of land, mostly residential subdivisions.

This is a densely residential area in the Huron watershed, according to data from 2000. Over 80% of the watershed is developed. At that time, 49% of the land was covered by impervious surface.

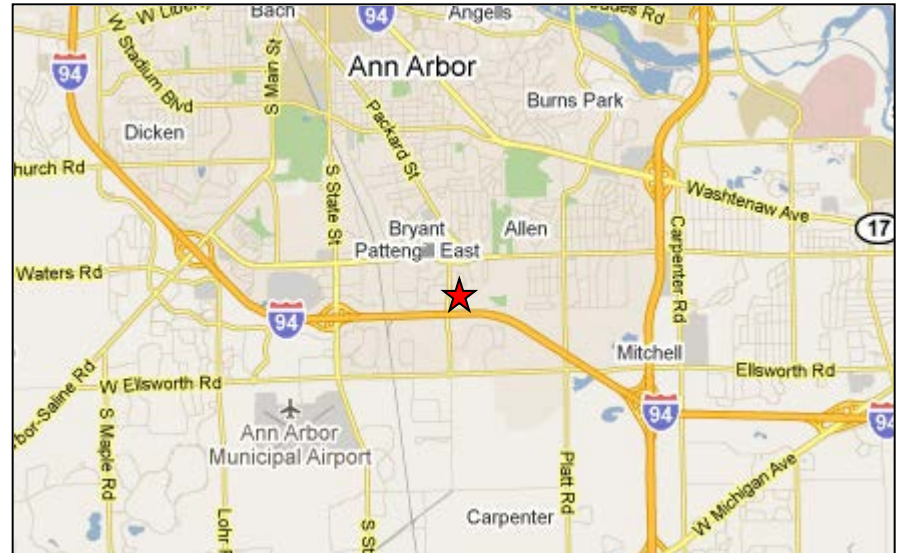
Impervious surface is hard on streams because it prevents rain from being filtered and cleaned through the soil and, instead, delivers it quickly to the stream, carrying pollutants and causing surging flows that damage the stream habitat and biotic community.

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: 3% Agriculture, 81% Urban, 2% Forest, 11% Open, 3% 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.



Google 2011

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

- Calopterygidae — broad-winged damselfly
- Chironomidae — midge
- Coenagrionidae — narrow-winged damselfly
- Elmidae — riffle beetle
- Hydropsychidae — common net-spinner caddisfly
- Simuliidae — black fly
- Tipulidae — crane fly
- Veliidae — short-legged striders