

# Norton Creek at West Maple Road

Adopt-a-Stream Site Report, updated November 2011

## 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 but overall the stream has a "poor" rating 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.

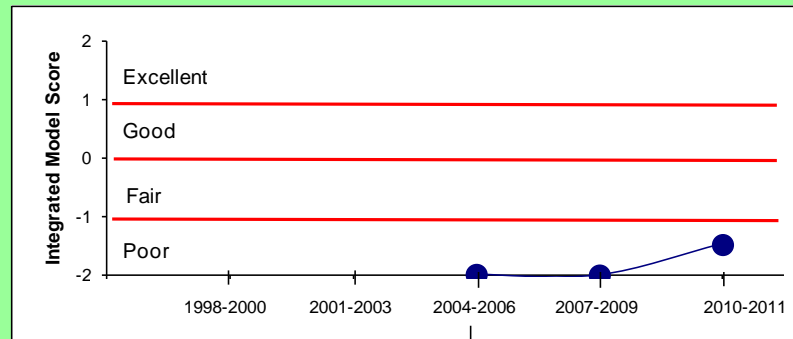
### Monitoring Data

These data come from HRWC volunteers who have monitored this site 24 times, starting in 2000. This includes Stonefly Search, River Roundup, Habitat, and Temperature events.

This site on Norton Creek is 10 feet wide and shallow (less than a foot) with an occasional two-foot deep pool. In 2009 we found average habitat here although the rocks in the swift water (riffles) were somewhat clogged with silt. It has cool water (seldom over 71°F). We expect the creek to be considerably affected by urban runoff (35% of the watershed is impervious surface).

This site has a poor diversity of bugs- especially in the fall. In the spring we typically find nine different families but none are the sensitive families that require a good quality stream. In the fall an average of only three families are typically found, again with no sensitive ones. This site produces the worst fall samples that we collect.

Stoneflies are very sensitive insects that are only found in clean water. It is possible that they can live in streams in winter that do not support sensitive families in the summer and fall due to low flow and warm temperatures. However, stoneflies have never been found at this site, indicating a year-round 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: Ron Fadoir

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## Background Information

### Site History

From the City of Wixom's webpage:

As with every great city, there is a beginning. The saga of Wixom began in 1830 when Lewis Norton came to Oakland County from New York State and settled in the southern portion of what is now Wixom. He soon built a home and sawmill on the creek near where the school playground is now. Today, as then, the creek bears his name. Norton Creek is an tributary of the Huron River, which meanders through much of southern Michigan. Mr. Norton's years in Wixom were few - two or three. He moved on to Williamston where he was killed by lightning while taking shelter under a tree during an electrical storm.

### How is the Creek affected by land use here?

This site receives water from 19 square miles of land, mostly urban residential.

According to data from 2000 a full two-thirds of the Norton Creek watershed is developed while less than one-tenth is used for agriculture. At that time, 35% of the land was covered by impervious surface.

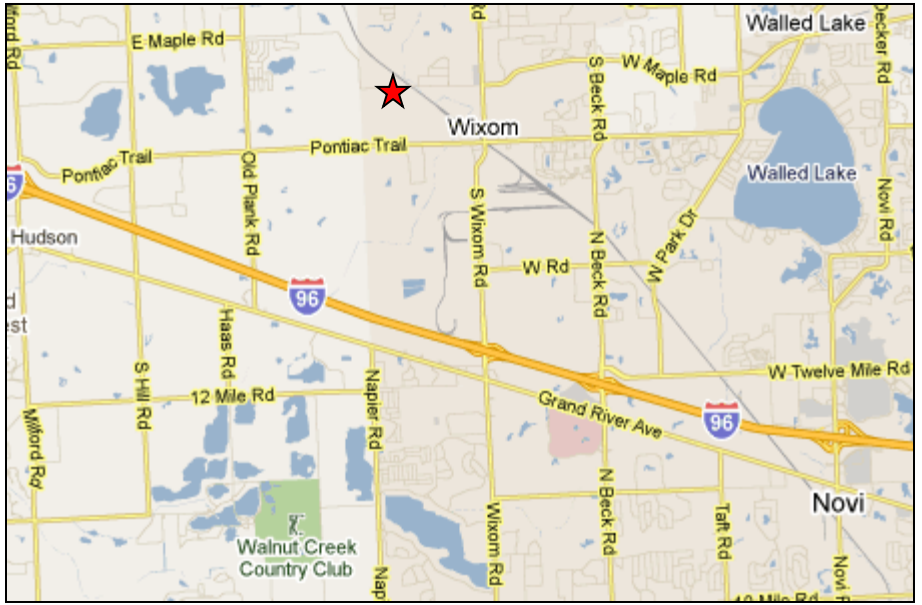
Impervious surface is hard on streams because it prevents rain from being filtered and cleaned through the soil and, instead, delivers it quickly to the stream, carrying pollutants and causing surging flows that damage the stream habitat and biotic community.

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: 9% Agriculture, 66% Urban, 3% Forest, 11% Open, 12% Wetland.*

### What You Can Do

Help us improve Norton 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](http://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:

- Calopterygidae — broad-winged damselfly
- Chironomidae — midge
- Dytiscidae — predacious diving beetle
- Gerridae — water strider
- Simuliidae — black fly