

# Fleming Creek at Radrick Farms

Adopt-a-Stream Site Report, updated January 2012

## Overall Condition: **Good**

At this site there is a slightly better than average diversity of insects. The water is clean and cool. The stream banks, streambed, and streamside vegetation are healthy here, although the stream is closely bordered by a golf course.

### Measuring Stream Quality

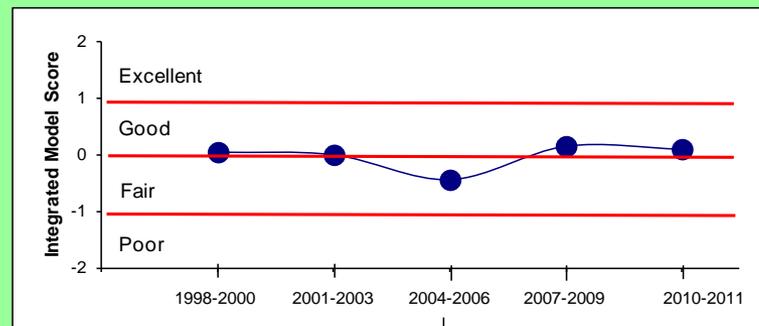
We use the bugs living in the creek to measure stream quality for two reasons. When the stream is rich in habitat variety it will have many diverse kinds of bugs (called families). Also, some bugs (called sensitive) can live only in good quality streams; they die in a poor quality stream. Any stream 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 30 times, starting in 1994. This includes Stonefly Search, River Roundup, Habitat, and Temperature events.

This site on Fleming Creek is 25 feet wide and shallow (a little over a foot) here, with at least one 5 feet deep pool. In 2010 we found very good habitat here, a sturdy bottom, stable banks and the rocks in the riffles were free of silt. It has clean, cold water (seldom over 69°F) but the creek is probably impacted by urban runoff since the watershed is already 11% impervious. (See "How is the Creek affected by land use here".)

In the spring and fall we typically find an average of 13 different families including 2 sensitive families. This is slightly better than average for creeks of this size located in the Huron River Watershed. In the winter we find the smaller of the two kinds of "winter stoneflies" that grow only in winter and are dormant the rest of the year. Winter stoneflies are also indicative of clean water.



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: Jana Smith

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## Background Information

**Site History**

Fleming Creek was a clear, cool and powerful stream when it was an important source of power for the first European settlement in this area. In 1824, Mr. Fleming built one of the first mills on the Huron River system. It was located on Fleming Creek very close to the current Botanical Gardens. The Botanical Gardens are located about 2 miles upstream from this site.

This site is located at the downstream end of Radrick Farms, a championship 18-hole course that opened in 1965 and is busy year-round, being popular with cross-country skiers in the winter. Owned and operated by the University of Michigan, Radrick Farms Golf Course includes a rolling 275-acres and is located just south of the Botanical Gardens.

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

This site receives water from 29 square miles of land that is a mix of residential development and farms.

The few remaining wetlands in this area of the Huron watershed have township protection. According to data from 2000, nearly one-third of the Fleming Creek watershed is developed while one-fourth of the land is used for agriculture. At that time, 11% of the land was covered in impervious surface.

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 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 (draining into Millers Creek at Baxter Road) is 51 % impervious.].

*Watershed land use in 2000: 24% Agriculture, 31% Urban, 12% Forest, 26% Open, 8% Wetland.*

**What You Can Do**

Help us improve Fleming 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:**

*Capniidae — slender winter stonefly	Heptageniidae — flathead mayfly
*Nemouridae — Nemourid broadback stonefly	Hydropsychidae — common net-spinner caddisfly
Aeshnidae — damer	Philopotamidae — finger-net caddisfly
Baetidae — small minnow mayfly	Polycentropodidae — spotted head caddisfly
Calopterygidae — broad-winged damselfly	Simuliidae — black fly
Chironomidae — midge	Tipulidae — crane fly
Corixidae — water boatman	
Elmidae — riffle beetle	

\*Sensitive Family