Huron River Watershed Council

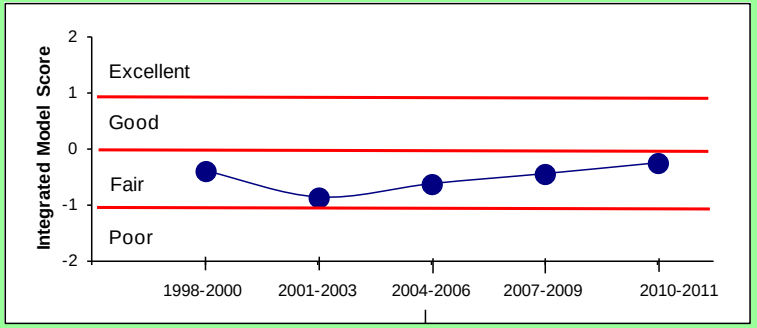
Protecting the river since 1965

# Arms Creek at Walsh Road

*Adopt-a-Stream Site Report, updated January 2012*

## *Overall Condition: Fair*

This site ranks very close to average. The water is clean and cool, the area is free of urban development and this part of the stream is protected by the Natural River designation. The banks and riparian zone are healthy, although the substrate is mucky. It is striking that winter is the only time of the year when we find sensitive families. The lack of sensitive bugs is why this site has only fair quality rather than good or excellent.




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.

**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 34 times, starting in 1994. This includes Stonefly Search, River Roundup, Habitat, and Temperature events.

This site on Arms Creek is 18 feet wide and shallow (less than a foot) with some 2-foot deep pools. In 2009 we found only average habitat here with a mucky bottom and the rocks in the swift water (riffles) were somewhat clogged with silt although the banks were stable and there is an excellent riparian zone. It has clean, cool water (seldom over 74°F) and little urban run-off (from only 5% impervious surface) .

We find an average diversity of bugs here, but very few that require a good quality stream. In the spring we typically find nine different families, and in the fall we find an average of twelve families. In recent years, the insect diversity has improved slightly. However, in the winter we do find the stoneflies that grow only in winter and are dormant the rest of the year. Stoneflies are very sensitive insects that are only found in clean water. Since stoneflies are highly sensitive to organic pollution, and since sensitive insects are not commonly found in the spring and fall, this indicates that the creek has a water quality problem that is absent in the winter, such as excessive fertilizer running into the stream.

*Photo credit: Wes Daining*

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## Background Information

**Site History**

Arms Creek has a beautiful, rural setting and Natural River designation. It is one of only three Huron River tributaries that has a portion, including this site, designated by the State as a Natural River Zone. This designation prevents bank erosion and retains the scenic appearance of the stream banks by restricting the location of new buildings and the clearing of trees and other vegetation.

Old-timers say that trout and shiners used to live in Arms Creek, clams were abundant, and wild turkeys were counted by the acre. There once was a Native American encampment near the mouth of Arms Creek.

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

The area of land draining to this site is small, receiving water from only 18 square miles of land, mostly farms. This is a very rural area in the Huron watershed, according to data from 2000. Only 13% of the Arms Creek watershed is developed while nearly half is used for agriculture. At that time, only 5% 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.

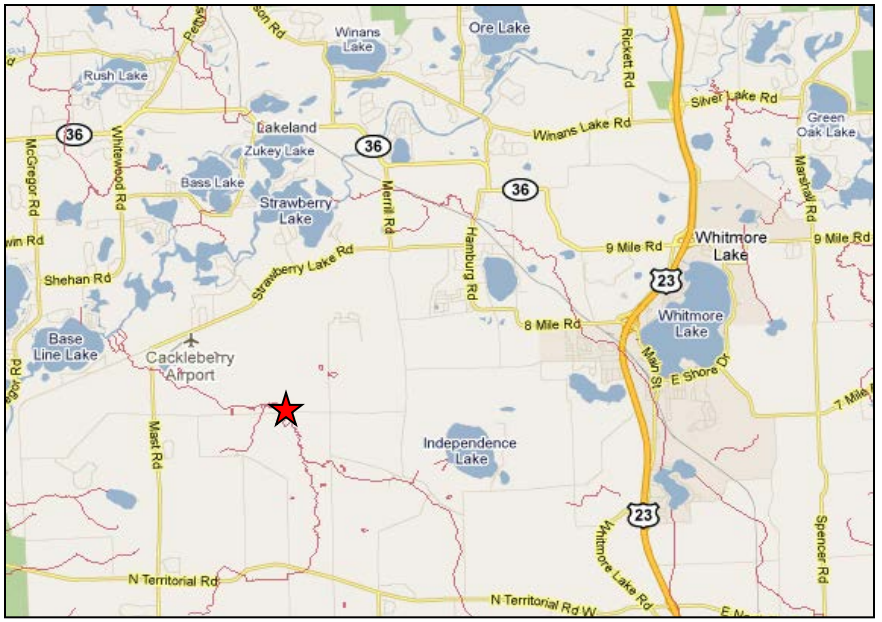
Creeks tend to start degrading once the watershed is more than 8% impervious and become badly degraded by 25%. [The most urbanized Huron River watershed that we study (draining into Millers Creek at Baxter Road) is 51% impervious.]

*Watershed land use in 2000:* 47% Agriculture, 13% Urban, 14% Forest, 9% Open, 17% Wetland.

**What You Can Do**

Help us improve Arms Creek! Residents that live in Arms Creekshed have septic systems, which are often maintained poorly. Leaking septic systems can contribute phosphorus and other pollution out to the watershed. Strive to have septic systems checked every five years!

Go to **www.hrwc.org/take-action** for other ways to give Arms Creek a helping hand!




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

*Capniidae — slender winter stonefly
*Taeniopterygidae — broad-back winter stonefly
Baetidae — small minnow mayfly
Heptageniidae — flathead mayfly
Belostomatidae — giant water bug
Hydropsychidae — common net-spinner
Limnephilidae — northern caddisfly
Phryganeidae — giant case-maker
Polycentropodidae — spotted head
Calopterygidae — broad-winged damselfly
Sialidae — alderfly
Dytiscidae — predacious diving beetle
Chironomidae — midge
Simuliidae — black fly

**Sensitive Family*