

Swift Run at Shetland Drive

Adopt-a-Stream Site Report, updated January 2012

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 (as determined through conductivity measurements). The stream banks, streambed, and streamside vegetation are average throughout this section. While this creek is rated "poor", it is healthier than other Ann Arbor urban creeks we monitor (Malletts and Millers).

Measuring Stream Quality

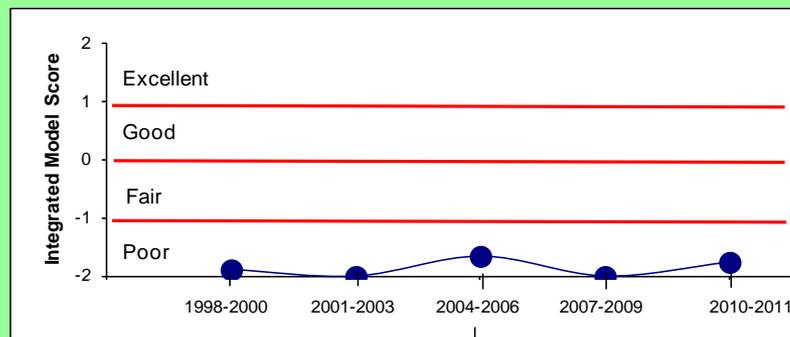
We use the bugs living in the creek to measure stream quality for two reasons. When the stream is rich in habitat variety it will have many diverse kinds of bugs (called families). Also, some bugs (called sensitive) can live only in good quality streams; they die in a poor quality stream. Any stream 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 32 times, starting in 1992. This includes Stonefly Search, River Roundup, Habitat, and Temperature events.

This site on Swift Run is eight feet wide and shallow (less than a foot) with an occasional two-foot deep pool. In 2010 we found average habitat here with clean rocks in the swift water (riffles) although some of the banks were bare, causing them to be unstable. It has cool water (seldom over 75°F) that has a high concentration of unknown pollutants. With so much urban runoff from 23% impervious surface, we expect the creek to be degraded.

There is poor diversity of bugs here. In the spring we typically find only seven different families and none are sensitive families that require a good quality stream. In the fall an average of eleven 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 haven't been found at this site since 1998, 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: David Rivers

Swift Run at Shetland Drive

Background Information

Site History

Swift Run has a narrow watershed that starts a little south of Morgan Road between Stone School and Platt Roads. It flows northeast through the old City landfill (now closed) and recycling facility, neighborhoods and urban malls, under the US-23 interchange at Washtenaw, and then through and forested neighborhoods into South Pond where it flows through a partially blocked culvert into the River.

How is the Creek affected by land use here?

The area of land draining to this site is small, receiving water from only 5 square miles of land, mostly urban residential and, to a lesser extent, commercial.

According to data from 2000, half of the Swift Run watershed is already developed while a quarter is used for agriculture. At that time, 23% 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: 27% Agriculture, 51% Urban, 4% Forest, 11% Open, 7% Wetland.

What You Can Do

Help us improve Swift Run! 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:

- Aeshnidae — damner dragonfly
- Calopterygidae — broad-winged damselfly
- Chironomidae — midge
- Coenagrionidae — narrow-winged damselfly
- Culicidae — mosquito
- Dytiscidae — predacious diving beetle
- Gerridae — water strider
- Hydropsychidae — common net-spinner caddisfly
- Simuliidae — black fly
- Veliidae — short-legged striders