Huron River Watershed Council

Protecting the river since 1965

Greenock Creek at Rushton Road

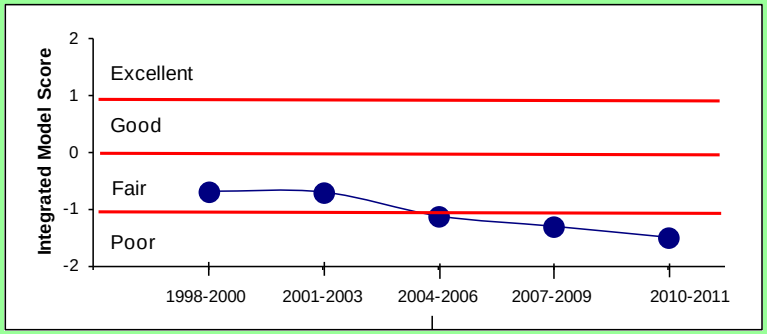
Adopt-a-Stream Site Report, updated January 2012

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. The stream banks, streambed, and streamside vegetation are healthy here but overall the stream has poor quality. It does not support a 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.



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.

Monitoring Data

These data come from HRWC volunteers who have monitored this site 31 times, starting in 1996. This includes River Roundup, Stonefly Search, Habitat, and Temperature.

This site is 21 feet wide and shallow. In 2010 we found the habitat here was good, having a fairly stable bottom, stable banks and clean rocks in the areas of fast flow (riffles). However, it has warmer water than much of the Huron (often 82°F in the summer) and the extent of development (14% impervious surface) creates urban runoff that is likely to degrade the stream.

Unfortunately, there are few bugs here! In the spring we typically find only five different families and none that require a good quality stream. In the fall there are usually only four families, again with no sensitive ones, confirming the poor quality of this creek site. Stoneflies are 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. They are special indicators of the potential of a stream that may be too degraded to sustain sensitive bugs during warmer times of the year. Stoneflies have never been found at this site, which indicates a water quality problem here, possibly caused by residual upstream pollution.

Photo credit: Max Bromley

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Greenock Creek at Rushton Road

Background Information

Site History

Greenock Creek is a tributary to Davis Creek, flowing past the historic Greenock Mill, from Nichwagh Lake to Limekiln Lake. Nichwagh Lake receives water from the Yerkes branch of Davis Creek in Lyon Township and South Lyon. That branch may still be polluted from a 1970's oil spill that seeped into the soil surrounding the Creek and other toxic releases from a metal fabrication plant in South Lyon. HRWC monitors six sites in Davis Creek. The force of the flow from the dam here certainly complicates our evaluation of site condition.

How is the Creek affected by land use here?

This site in the Davis Creek watershed is mid-sized, receiving water from 20 square miles of land, mostly residential with a few farms.

This is a sprawling rural-residential area, according to data from 2000. Nearly half of this sub-watershed is developed, much of it with homes around Nichwagh Lake, while one fifth of the land is used for agriculture. At that time, 14% of the land was impervious (roads and roofs that prevent rain from percolating into the ground for natural cleansing).

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.

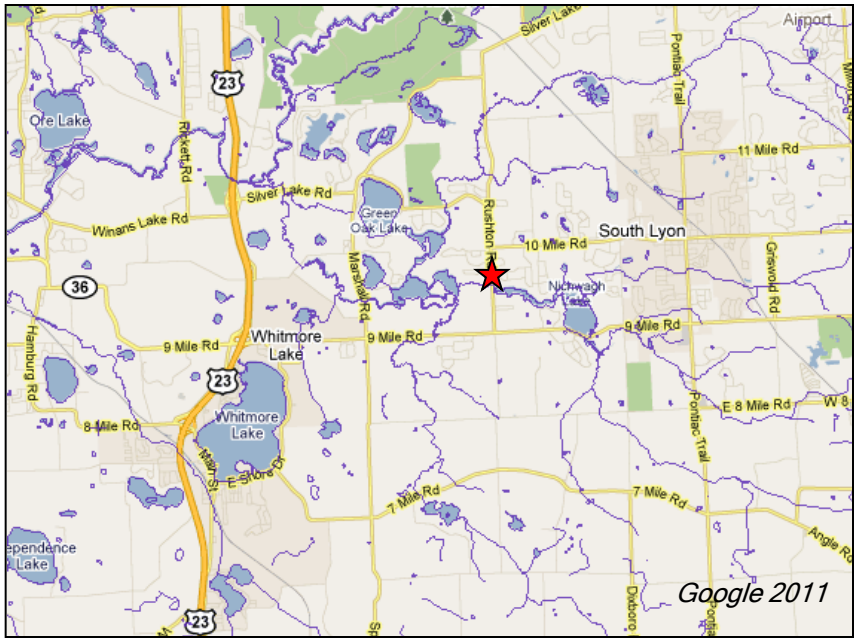
Creeks tend to start degrading once the watershed is more than 8% impervious and become badly degraded by 25%. [The most urbanized Huron River watershed that we study (draining into Millers Creek at Baxter Road) is 51% impervious.]

Land uses in this watershed: 20% Agriculture, 41% Urban, 10% Forest, 15% Open, 14% Wetland.

What You Can Do

Help us improve Greenock 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.



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

Caenidae — square gilled mayfly
Chironomidae — midge
Coenagrionidae — narrow-winged damselfly
Hydropsychidae — common net-spinner caddisfly
Simuliidae — black fly