



Protecting the river since 1965

# Adopt-a-Stream

## River Round April 2014 Data and Trends



The Huron River Watershed Council holds two full benthic macroinvertebrate collections per year, during which volunteers visit rivers and creeks across the watershed and collect a sample of the critters that live in the stream and on the streambed.

“**Benthic macroinvertebrates**” are another word for stream insects, crustaceans, worms, and mollusks. The word “benthic” refers to the bottom of a lake or stream, the word “macro” means they are large enough to see with the naked eye, and “invertebrates” are creatures without backbones.

There are three categories of benthic macroinvertebrates that are particularly interesting. These categories, or “metrics”, are calculated by the number of families in a sample. A “family” is a taxonomic term that indicates a type of macroinvertebrate (for example, it is possible to find about 10 different mayfly families or 5 different stonefly families in our area of Michigan). In general, the more families found, the healthier the stream.

**All insects:** This metric includes all of the insect families in the sample, and serves as a general indicator of the stream health.

**EPT:** Standing for Ephemeroptera-Plecoptera-Trichoptera, this metric includes all of the mayfly, stonefly, and caddisfly families in the sample. These insects are sensitive to water temperature and oxygen availability. Stagnant or warm streams will not have many of these families.

**Sensitive:** There are a small handful of insect families in the Huron River watershed that are particularly sensitive to organic pollution. In other words, this metric is calculated from insects that are not likely to be found in streams polluted with fertilizers or animal and human waste.

**Current Site condition:** To determine the overall condition rating, HRWC uses an integrative model that compares a monitoring site to all of HRWC’s other monitoring sites in the Huron watershed. This involves insect data, habitat data, water temperature, land cover, and stream size. Streams can be ranked (from best to worst) as excellent, good, fair, and poor.

**Trend:** Trends are determined by simple linear regressions of the sample year vs. the three above metrics. If any of the six regressions (3 for fall, 3 for spring) are significant at the alpha level of 0.1, the trend is noted by an up or down arrow. Six data points are required before a trend is calculated.

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**WANT MORE DETAIL?**

To learn of any particular site in more detail (i.e. more data, graphs), go to: <http://www.hrwc.org/publications/river-study-reports-plans/>

To see a map of all of the monitoring sites, go to: <http://www.hrwc.org/the-watershed/maps/>

All other inquiries, email [psteen@hrwc.org](mailto:psteen@hrwc.org)

Site Location	Site #	Current Site Condition	April 2014 Samples			Averages since 2011			Comments	Trend
			All Insects	EPT	Sensitive	All Insects	EPT	Sensitive		
Arms Creek: Walsh Road	1	Fair	11	5	0	10.7	5.3	1.3	Spring samples have been declining recently (not statistically significantly), while fall samples have remained steady.	-
Bancroft-Noles Drain: Lebo Park	89	Poor	6	2	1	5.5	1.5	0.5	No significant changes over time (2008-2014)	-
Boyden Creek: Delhi	2	Good	14	9	3	14.3	7.7	2.0	Sensitive families have significantly increased in the fall samples since sampling began in 1993, and spring EPT families have significantly increased as well. This location is one of the best in the watershed for caddisflies.	↑
Chilson Creek: Brighton Road	45	Poor	No sample			8.0	4.0	0.0	Fall samples have remained steady. There have been declines in all spring counts over time (1997-2012). The decline in EPT families is statistically significant.	↓
Chilson Creek: Chilson Road	5	Fair	14	6	2	12.7	5.7	2.0	There have been slight declines in most insect categories over time (1995-2014), but none of these changes are statistically significant. This is a site to keep an eye on as further declines will certainly cause this change to be a statistically significant result.	-

Site Location	Site #	Current Site Condition	April 2014 Samples			Averages since 2011			Comments	Trend
			All Insects	EPT	Sensitive	All Insects	EPT	Sensitive		
Davis Creek: Doane Road	6	Fair	9	3	1	8.0	3.5	1.0	No significant changes over time (1994-2013) in the fall samples. In the spring, families have been slowly disappearing from this site since monitoring began in 1994. This is a statistically significant change. We used to find 3-4 sensitive families, now it is normal to find 0-1 families. The total insect diversity and EPT diversity has also declined significantly.	↓
Davis Creek: Pontiac Trail	7	Fair	10	5	1	8.5	5.0	1.0	This site is similar to the one above, Davis Creek at Doane Road. Insect families have been slowly disappearing since monitoring began in 1994.	↓
Davis Creek: Silver Lake	49	Good	13	6	2	16.0	8.0	2.5	There has been no significant changes over time in the samples (1998-2014)	-
Fleming Creek: Botanical Gardens	9	Fair	13	7	0	12.3	6.0	0.7	No significant changes over time (1993-2014)	-
Fleming Creek: Galpin Road	84	Fair				NA			We have detected a significant decrease of spring sensitive families here since 2004, but fall families have remained steady.	↓

Site Location	Site #	Current Site Condition	April 2014 Samples			Averages since 2011			Comments	Trend
			All Insects	EPT	Sensitive	All Insects	EPT	Sensitive		
Fleming Creek: Geddes Road	11	Fair	10	6	1	10.0	4.3	0.8	Slight, but significant increase in sensitive species over time in fall samples (1992-2013) This was shown by establishment of a sensitive species (Athericidae, a watersnipe fly), in 2009. Spring samples are constant.	↑
Fleming Creek: Warren Road	13	Good	No sample			16.0	9.0	4.0	This site remains one of the best that we visit, and since 1994 has improved significantly in fall collections. Spring collections show improvement as well, though not quite statistically significant.	↑
Greenock Creek: Rushton Road	8	Poor	5	2	0	6.0	2.5	0.5	This is a poor site that has only gotten worse over time (1996-2014). Fall insect diversity and spring EPT diversity has significantly decreased.	↓
Hay Creek: M-36	15	Fair	10	7	2	10.0	5.7	2.0	No significant changes over time (1996-2014)	-
Honey Creek (N): Darwin Road	16	Good	14	8	2	13.8	6.8	1.3	This site has consistently been good since 1997. Fall samples have been slowing getting better, but these changes are not yet significant. Spring sensitive diversity has declined, but these changes are not yet significant.	-

Site Location	Site #	Current Site Condition	April 2014 Samples			Averages since 2011			Comments	Trend
			All Insects	EPT	Sensitive	All Insects	EPT	Sensitive		
Honey Creek: Jackson Road	18	Fair	6	2	0	9.7	3.3	0.0	While this spring sample was particularly poor, there are still no significant changes in the long term trends (1993-2014).	—
Honey Creek: Wagner Road	20	Fair	7	3	1	8.7	4.0	2.0	No significant changes over time (1993-2014).	—
Horseshoe Creek: Barker Road	98	Unranked (new site)	5	1	0	5.0	1.5	0.5	This site is too new to observe trends. This is the second time it has been sampled in the spring.	?
Horseshoe Creek: Brookside Drive	99	Unranked (new site)	No sample			4.0	0.0	0.0	This site has been sampled once.	?
Horseshoe Creek: Merrill Road	21	Fair	9	4	0	9.3	3.3	0.3	In the fall, sensitive families have significantly increased from 0 to 1. The sensitive family Brachycentridae (the humpless case maker caddisfly), has been found consistently since 2009, although it was not found in this fall sample. Other metrics have remained steady in fall samples. In the spring samples, both total insect diversity and EPT diversity have significantly declined. (1996-2013). We have had two poor spring samples in a row, now. The conflicting trend results in this site being marked as steady.	—

Site Location	Site #	Current Site Condition	April 2014 Samples			Averages since 2011			Comments	Trend
			All Insects	EPT	Sensitive	All Insects	EPT	Sensitive		
Hummocky Lick: M-36	63	Good	13	10	4	13.5	7.0	2.5	From 2000-2004, about 18 insect families were found in fall samples. Since 2005, it is more usual to find about 13. This is a statistically significant decrease. Last fall, the collection fared better with 16 families. This spring sample was also quite good. Finding four sensitive families is unusual even for the very best sites.	↓
Huron Creek: Dexter-Pinckney Road	22	Good	11	7	2	12.3	6.7	2.7	Spring samples have been consistant here including the 2014 sample. Of special note: The fall 2012 sample here was not only a record for Dexter-Pinkey Rd, but had the highest insect diversity, at 23 families, found at any sample site since 2006! Overall, the site is doing quite well, earning a 'good' rating and showing significant long-term increases in insect and sensitive metrics for fall samples (1996-2014).	↑
Huron River: Bell Road	62	Good	11	4	0	13.5	5.0	1.0	This sample was quite bad compared to past samples, but there have been no significant changes over time (2000-2014).	-

Site Location	Site #	Current Site Condition	April 2014 Samples			Averages since 2011			Comments	Trend
			All Insects	EPT	Sensitive	All Insects	EPT	Sensitive		
Huron River: Commerce Road	47	Poor	No sample			NA			Fall samples have significantly declined over time (1997-2013), with as many as 18 insect families found in the early years of sampling and only about 11 insect families found in recent years. Interestingly, spring samples have statistically improved! The conflict results in the trend being marked as steady.	-
Huron River: Cross Street	24	Fair	12	6	1	11.5	6.0	1.0	Spring samples have significantly improved at this site since 1997 for both total insect diversity and EPT diversity, although fall samples have remained steady.	↑
Huron River: Flat Rock	23	Fair	8	3	0	8.5	4.0	0.5	This site has remained steady over time (1996-2014), with the exception of the spring EPT metric which has significantly declined. However, the fall 2013 sample was one of the most diverse ever taken during the fall season. The conflicting trend results in this site being marked as steady.	-

Site Location	Site #	Current Site Condition	April 2014 Samples			Averages since 2011			Comments	Trend
			All Insects	EPT	Sensitive	All Insects	EPT	Sensitive		
Huron River: Island Park	61	Fair	9	4	0	12	6	1	This spring's sample was poor at this site, but overall spring samples have been getting better here though this is a non-significant change (2000-2014). Fall samples have also improved; trends show statistically increasing number of sensitive families over time. Previously it was comon to find 1-2 sensitives, now it is more normal to find 2-3. (2000-2013)	↑
Huron River: Proud Lake Rec Area	64	Fair	14	8	1	11.5	6.5	0.5	No significant changes over time (2001-2014).	-
Huron River: US-23 (Liv. Co)	51	Fair	13	5	2	11.0	4.5	1.5	No significant changes over time (1998-2014).	-
Huron River: White Lake Road	25	Excellent	19	9	4	17.8	9.3	4.0	This site has the highest average diversity in the watershed despite it being such a small little river. No significant changes over time (1998-2014).	-
Huron River: Zeeb Road	26	Good	17	7	2	18.5	9.0	2.5	No significant changes over time (1996-2014)	-
Livermore Creek: Doyle Road	93	Unranked (new site)	12	3	1	13.0	4.3	1.0	This site has been sampled only three time in the spring. By our initial results, it seems to be a very healthy location, although sampling it is quite difficult because of plentiful muck.	?



Site Location	Site #	Current Site Condition	April 2014 Samples			Averages since 2011			Comments	Trend
			All Insects	EPT	Sensitive	All Insects	EPT	Sensitive		
Malletts Creek: Chalmers Drive	27	Poor	9	2	0	7.5	1.5	0.0	For the first time, changes in Malletts Creek have become statistically significant. A caddisfly that was never seen here previously was discovered (Philopotamidae), and the total insect family count was 9, up from the average of 6 (1993-2014).	↑
Mann Creek: VanAmberg Road	30	Excellent	16	7	4	13.5	7.0	3.3	Mann Creek continues to impress. Fall samples have increased significantly over time (1995-2013) and spring samples have remained steady and high. This site is also the best site to go to during the Stonefly Search as four families of stoneflies are regularly found.	↑
Mill Creek: Fletcher Road	31	Fair	No sample			NA			There have been no significant changes over time (1993-2013)	-
Mill Creek: Ivey Road	32	Good	No sample			14.5	7.0	2.5	No significant changes over time (1994-2013).	-
Mill Creek: Jackson Road	33	Fair	No sample			NA			No significant changes over time (1997-2013)	-
Mill Creek: Klinger Road	57	Fair	No sample			NA			Significantly more sensitive families and EPT families have been found here over time (1999-2013).	↑

Site Location	Site #	Current Site Condition	April 2014 Samples			Averages since 2011			Comments	Trend
			All Insects	EPT	Sensitive	All Insects	EPT	Sensitive		
Mill Creek: Letts Cr at M-52	34	Good	No sample			16.0	6.0	2.0	Spring samples have slightly yet significantly increased here over time (1993-2012).	↑
Mill Creek: Manchester Road	55	Fair	No sample			NA			While this fall sample was worst than others in the recent past, overall fall samples have increased significantly over time (1999-2013). Spring samples have increased though not significantly over the same time period.	↑
Mill Creek: Parker Road	96	Unranked (new site)	7	3	1	8.5	4.0	1.0	This site has only been sampled three times. Initial samples indicate a rather poor insect community, and it is likely that this site will eventually be ranked poor after more data is collected.	?
Mill Creek: Shield Road	80	Good	No sample			13.0	7.0	3.0	Spring samples have increased here over time (2002-2013). Fall samples have remained steady.	↑
Mill Creek: Warrior Park	79	Fair	9	4	0	11.5	6.0	1.5	While this spring sample was lower than normal, there are still no significant changes over time (2003-2014)	-

Site Location	Site #	Current Site Condition	April 2014 Samples			Averages since 2011			Comments	Trend
			All Insects	EPT	Sensitive	All Insects	EPT	Sensitive		
Millers Creek: Glazier Way	35	Poor	No sample.			7.0	0.7	0.0	We have been seeing better samples for this creek since work was done in the headwaters in spring 2009. This past fall sample was the best ever seen. The increase in total insect families is not statistically significant over the long term (1993-2013), but over the short term (2004-2013) there is a significant increase (5-->12).	↑
Norton Creek: West Maple Road	65	Poor	4	0	0	5.3	0.3	0.0	This site shows significant decline in EPT metrics and total families (2000-2014). This creek is probably the worst one that we monitor. The last several years have had particularly poor counts.	↓
Pettibone Creek: Commerce Road	67	Fair	No sample			11.0	5.0	0.0	No significant changes over time (2001-2013)	-
Pettibone Creek: Livingston Road	68	Good	No sample			10.7	4.0	0.3	The creek's total insect diversity has significantly declined since sampling began (2001-2013). However, this fall's sample was better than average, and a sensitive insect was found here for the first autumn since 2003.	↓
Port Creek: Armstrong Road	60	Poor	No sample			NA			No significant changes over time (2000-2011)	-

Site Location	Site #	Current Site Condition	April 2014 Samples			Averages since 2011			Comments	Trend
			All Insects	EPT	Sensitive	All Insects	EPT	Sensitive		
Portage Creek: Dexter-Townhall Road	37	Good	16	8	2	14.5	8.5	1.5	There have been significant declines in the spring sensitive families since 1996 (5->1 or 2); however, fall samples have remained steady. The site is still quite healthy although should be watched carefully.	↓
Portage Creek: Unadilla	58	Fair	No sample			NA			No significant changes over time (1999-2013)	-
Portage Creek: Rockwell Road	94	Unranked (new site)	No sample			NA			This site has been sampled once.	?
Portage Creek: Stockbridge	91	Unranked (new site)	No sample			NA			This site has been sampled once.	?
Portage Creek: Williamsville	92	Unranked (new site)	5	2	0	9.0	3.7	0.7	This site has only been sampled for 3 years. Judging from this small amount of data, it does seem to be getting worse. This is tentative pending more data.	↓
South Ore Creek: Bauer Road	52	Good	8	5	1	10.3	5.3	1.5	This site is significantly declining for the EPT metric in fall samples (1998-2013) and in spring sensitive families (4 in 1998 -> 1 in 2014).	↓

Site Location	Site #	Current Site Condition	April 2014 Samples			Averages since 2011			Comments	Trend
			All Insects	EPT	Sensitive	All Insects	EPT	Sensitive		
South Ore Creek: Hamburg Road	40	Fair	16	7	2	14.7	6.3	2.3	This site is significantly declining in fall EPT families (1995-2013), and declining slightly (and non-significantly) in all of the other spring and fall parameters. This fall's sample was particularly bad and this site needs to be watched carefully. However, this spring's sample was pretty good.	↓
South Ore Creek: Lake Ridge	50	Poor	6	2	0	5.5	1.5	0.0	No significant changes over time (1998-2014)	-
Swift Run: Shetland Drive	41	Poor	5	1	0	5.0	1.0	0.0	No significant changes over time (1992-2014)	-
Traver Creek: Broadway Avenue	42	Poor	4	0	0	4.7	1.3	0.0	No significant changes over time (1992-2014)	-
Walker Creek: 8 Mile Road	82	Fair	No sample						Total insect families have been steadily and significantly declining since 2003 in fall samples. (22-->12). Spring samples are steady.	↓
Woodruff Creek: Buno Road	46	Fair	12	5	1	12.7	5.7	1.0	The past two fall samples were quite poor here compared to past years. There has been a significant decline in fall EPT over time (6-->3) and spring sensitives (2-->1) (2002-2014).	↓
Woodruff Creek: Maxfield Road	44	Fair	No sample			NA			No significant changes over time (1996-2012).	-

Site Location	Site #	Current Site Condition	April 2014 Samples			Averages since 2011			Comments	Trend
			All Insects	EPT	Sensitive	All Insects	EPT	Sensitive		
Woods Creek: L Huron Metropark	14	Good	12	6	2	12.0	6.0	2.0	Long term trends show statistically significant increases in fall EPT samples. Spring samples have remained steady (1997-2014).	↑

These sites are sampled on occasion, sometimes for a specific project, but are not used to determine overall watershed health. The long-term average is a longer window because these sites are visited infrequently.

Site Location	Site #	Current Site Condition	April 2014 Samples			Averages since 2005			Comments	Trend
			All Insects	EPT	Sensitive	All Insects	EPT	Sensitive		
Boyden Creek: Golf Course	3	Fair	No sample			14.0	7.0	2.0	Most of the parameters have not changed over time (1995-2013), however, there are significantly more sensitive families in fall samples over the past couple of years as compared to samples taken in the mid to late 1990s.	↑
Boyden Creek: Huron River Drive	4	Good	No sample			9.0	4.0	0.5	Fall samples have significantly increased in time (1992-2013), though spring samples have remained fairly steady.	↑
Fleming Creek: Radrick Farms	12	Fair	No sample			10.0	4.0	1.0	No significant changes over time (1994-2013)	-
Davis Creek: 11 Mile Road	81	Poor	No sample			8.0	3.0	0.7	No significant changes over time (1993-2010).	-
Honey Creek: Pratt Road	19	Poor	No sample			7.5	2.5	0.5	No significant changes over time (1994-2013)	-

Malletts Creek: Main Street	56	Poor	No sample			4.7	1.0	0.0	Significant decreases in insect families (12-->6) since 2000.	↓
Malletts Creek: Near I-94	28	Poor	No sample			6.5	0.9	0.0	Spring insect family metrics have statistically improved over time. (1992-2011)	↑
Malletts Creek: Scheffler Road	29	Poor	No sample			4.2	1.0	0.0	No significant changes over time (1992-2011).	-
Narrow Gauge Creek: Green Road	75	Unique	No sample			4.0	1.0	0.5	No significant changes over time (2002-2013). This site has much different characteristics than the other streams and so is not rated in the same manner.	-
Millers Creek (W Branch): Plymouth Rd	72	Poor	No sample			3.0	1.0	0.5	We have been seeing better samples (for this creek) since work was done in the headwaters in spring 2009. The change is not yet significant (2002-2011).	-
Traver Creek: Traver Road	101	Unranked (new site)	No sample			7.5	3.0	0.5	This was the second time this site has been sampled in the spring.	?
Traver Creek: Dhu Varren Road	43	Good	No sample			12.0	6.0	1.5	No significant changes over time (1992-2013)	-



Willow Run: VanBuren Park	90	Unranked (new site)	No sample			6.0	1.0	0.0	This site is too new to recognize a trend.	?
Woods Creek: Martinsville Road	87	Fair	No sample			7.0	3.0	2.0	No significant changes over time (2008-2013)	-
Woods Creek: Renton Road	88	Fair	9	4	1	12.5	5.0	2.0	No significant changes over time (2008-2014)	-