



Adopt-a-Stream

River Round October 2012 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.

Overall 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.

.....

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.imrivers.org/hrwc/>

All other inquiries, email psteen@hrwc.org

Site Location	Site #	Current Site Condition	October 2012 Samples			Averages since 2009			Comments	Trend
			All Insects	EPT	Sensitive	All Insects	EPT	Sensitive		
Arms Creek: Walsh Road	1	Fair	10	4	1	11.7	5.5	1.2	Spring samples have been declining recently, while fall samples have remained steady. A few sensitive families have appeared recently - a good sign.	-
Bancroft-Noles Drain: Lebo Park	89	Poor	3	0	0	4.4	0.8	0.4	This site has only been sampled for 3 years. Judging from this small amount of data, it has remained steady.	-
Boyden Creek: Delhi	2	Good	No sample this season			12.0	7.3	2.3	EPT and Sensitive families have significantly increased in the fall samples since sampling began in 1993, and spring EPT families have significantly increased as well.	↑
Chilson Creek: Brighton Road	45	Fair	No sample this season			10.5	4.5	0.5	Fall samples have remained steady. There have been slight declines in all spring counts over time (1997-2011), but none of these changes are statistically significant.	-
Chilson Creek: Chilson Road	5	Good	12	4	2	12.3	5.7	1.7	There have been slight declines in most insect categories over time (1995-2012), but none of these changes are statistically significant.	-
Davis Creek: 11 Mile Road	81	Poor	No sample this season			11.5	1.7	0.3	No significant changes over time (1993-2010)	-
Davis Creek: Doane Road	6	Fair	No Sample This Season			8.7	4.0	0.7	No significant changes over time (1995-2011) in the fall samples. In the spring, sensitive 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 families, now it is normal to find 0-1 families.	↓

Site Location	Site #	Current Site Condition	October 2012 Samples			Averages since 2009			Comments	Trend
			All Insects	EPT	Sensitive	All Insects	EPT	Sensitive		
Davis Creek: Pontiac Trail	7	Fair	No Sample This Season			9.0	5.0	1.0	This site is similar to the one above, Davis Creek at Doane Road. Sensitive families have been slowly disappearing since monitoring began in 1994.	↓
Davis Creek: Silver Lake	49	Good	10	5	2	15.3	7.3	2.9	There has been no significant changes over time in the samples. However, this fall's counts were low, and there are non-significant declines across all three metrics. This change will be statistically significant if the trend continues. (1998-2012)	-
Fleming Creek: Botanical Gardens	9	Good	12	4	0	13.3	5.1	1.1	No significant changes over time (1993-2012)	-
Fleming Creek: Galpin Road	84	Fair	No sample this season			12.3	4.0	0.3	We have detected a significant decrease of spring sensitive families here since 2004, and a decrease of fall total families.	↓
Fleming Creek: Geddes Road	11	Fair	11	4	1	10.0	4.0	0.8	Slight, but significant increase in sensitive species over time. This was shown by establishment of a sensitive species (Athericidae, a watersnipe fly), in 2009. (1992-2012)	↑
Fleming Creek: Warren Road	13	Excellent	No sample this season			17.0	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	7	1	0	5.3	1.7	0.2	This site has been poor since 1989. Unfortunately, this fall's sample confirmed that the EPT metric has gradually, but statistically, declined since 2006 with the disappearance of Batidae, the small minnow mayfly (1996-2012).	↓

Site Location	Site #	Current Site Condition	October 2012 Samples			Averages since 2009			Comments	Trend
			All Insects	EPT	Sensitive	All Insects	EPT	Sensitive		
Hay Creek: M-36	15	Fair	15	4	1	12.2	4.7	1.7	Spring samples here have remained steady since 1996, but all three metrics for fall samples have fallen significantly over time. (1996-2012) The good news is that this year's samples were up from the average.	↓
Honey Creek (N): Darwin Road	16	Good	20	9	5	16.8	8.4	2.8	This site has consistently been good since 1997.	-
Honey Creek: Jackson Road	18	Fair	17	5	0	11.4	3.6	0.1	This site had a big jump in insect diversity this year; fall sample included 17 families where the long term average is 9.3. (1993-2012). The change is not yet statistically significant.	-
Honey Creek: Wagner Road	20	Fair	14	4	1	10.9	4.4	2.0	No significant changes over time (1993-2012)	-
Horseshoe Creek: Barker Road	98	Unranked (new site)	12	2	0	10.0	5.0	1.0	This site is too new to observe trends.	?
Horseshoe Creek: Merrill Road	21	Fair	11	4	1	11.4	4.6	0.7	Sensitive families significantly increased from 0 to 1! The sensitive family Brachycentridae (the humpless case maker caddisfly), has been found consistently since 2009. Other metrics have remained steady in fall and spring samples. (1996-2012)	↑
Hummocky Lick: M-36	63	Good	No sample this season			13.8	7.5	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. Spring samples have remained steady.	↓

Site Location	Site #	Current Site Condition	October 2012 Samples			Averages since 2009			Comments	Trend
			All Insects	EPT	Sensitive	All Insects	EPT	Sensitive		
Huron Creek: Dexter-Pinckney Road	22	Good	23	7	4	15.5	6.5	2.8	This year's sample 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! This is a remarkable jump compared to the site's three-year-average of 15.5. 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. The EPT families increase was nearly significant as well. (1996-2012) Spring samples have been consistent.	↑
Huron River: Bell Road	62	Good	16	6	1	14.8	6.4	1.4	No significant changes over time (2000-2012)	-
Huron River: Commerce Road	47	Fair	No sample this season			11.0	5.5	0.5	Fall samples have significantly declined over time (1997-2012), with about 15 insect families found in the early years of sampling and only about 7 insect families found in recent years. Interestingly, spring samples have statistically improved!	↓↑
Huron River: Cross Street	24	Fair	12	5	1	11.7	5.8	0.8	Spring samples have significantly improved at this site since 1997, although fall samples have remained steady.	↑
Huron River: Flat Rock	23	Fair	7	6	2	8.3	4.3	0.9	The last two fall samples show sensitives appearing at this site. Overall, however, the site has significantly declined over time (1996-2012), especially during the spring samples.	↓

Site Location	Site #	Current Site Condition	October 2012 Samples			Averages since 2009			Comments	Trend
			All Insects	EPT	Sensitive	All Insects	EPT	Sensitive		
Huron River: Island Park	61	Good	12	6	2	13.8	7.5	2.5	Spring samples have been significantly improving at this site over time. Now, fall samples are improving too! 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. (2000-2012)	↑
Huron River: Proud Lake Rec Area	64	Fair	No sample this season			13.8	6.6	1.0	The most recent spring sample was the worst seen since monitoring began (2001), but the overall trend is not statistically significant.	-
Huron River: US-23 (Liv. Co)	51	Fair	No sample this season			10.5	4.3	1.3	This site has declined in both the fall and the spring over time (1998-2012), but the changes are not statistically significant.	-
Huron River: White Lake Road	25	Excellent	17	9	4	18.4	8.9	4.7	This incredible site remains incredible; it has the highest average diversity in the watershed despite it being such a small little river.	-
Huron River: Zeeb Road	26	Good	18	7	3	16.6	8.3	3.7	No significant changes over time (1996-2011)	-
Livermore Creek: Doyle Road	93	Unranked (new site)	No sample this season			16.0	6.0	1.0	This site has been sampled only once so far.	?
Malletts Creek: Chalmers Drive	27	Poor	11	3	0	7.2	1.8	0.0	This fall showed an encouraging increase in the number of insect and EPT familes. For instance, 11 insect families were found compared to the recent average of 7.2. However, no statistically significant changes yet. (1993-2012)	-

Site Location	Site #	Current Site Condition	October 2012 Samples			Averages since 2009			Comments	Trend
			All Insects	EPT	Sensitive	All Insects	EPT	Sensitive		
Mann Creek: VanAmberg Road	30	Good	15	5	2	13.5	7.2	3.3	Fall and spring samples have increased significantly over time (1995-2012).	↑
Mill Creek: Fletcher Road	31	Fair	No sample this season			12.8	3.8	0.8	No significant changes over time (1993-2011)	-
Mill Creek: Ivey Road	32	Fair	No sample this Season			15.0	8.3	2.3	No significant changes over time (1994-2012)	-
Mill Creek: Jackson Road	33	Fair	No sample this season			11.6	4.2	1.0	No significant changes over time (1997-2011)	-
Mill Creek: Klinger Road	57	Fair	No sample this season			11.3	5.0	2.7	Significantly more sensitive families have been found here over time (1999-2010).	↑
Mill Creek: Letts Cr at M-52	34	Fair	No sample this season			14.3	6.7	2.2	Spring samples have slightly yet significantly increased here over time (1993-2012).	↑
Mill Creek: Manchester Road	55	Good	No sample this season			12.5	4.0	1.0	Fall samples have increased significantly over time (1999-2012) and spring samples have increased though not significantly over the same time period.	↑
Mill Creek: Parker Road	96	Unranked (new site)	15	2	0	12.5	3.5	0.5	This was the first time this site has been sampled in the fall.	?
Mill Creek: Shield Road	80	Fair	15	7	2	12.8	6.8	2.0	Spring samples have increased here over time (2002-2012). Fall samples have remained steady.	↑
Mill Creek: Warrior Park	79	Fair	13	5	2	12.9	7.0	2.2	No significant changes over time (2003-2012)	-

Site Location	Site #	Current Site Condition	October 2012 Samples			Averages since 2009			Comments	Trend
			All Insects	EPT	Sensitive	All Insects	EPT	Sensitive		
Millers Creek: Glazier Way	35	Poor	7	0	0	7.6	0.9	0.0	We have been seeing better samples for this creek since work was done in the headwaters in spring 2009. The increase in families is not statistically significant.	-
Norton Creek: West Maple Road	65	Poor	4	0	0	6.2	0.7	0.0	This site shows significant decline in EPT metrics. The last several years have had particularly poor counts. (2000-2012)	↓
Pettibone Creek: Commerce Road	67	Fair	11	3	0	11.3	4.2	0.0	No significant changes over time (2001-2012)	-
Pettibone Creek: Livingston Road	68	Good	13	5	0	10.3	4.0	0.3	Unfortunately, the creek's insect diversity has significantly declined since sampling began. However, this year's sample was better than average. (2001-2012)	↓
Port Creek: Armstrong Road	60	Poor	No sample this season			7.0	1.0	0.7	No significant changes over time (2000-2011)	-
Portage Creek: Dexter-Townhall Road	37	Good	16	7	5	14.6	7.8	2.8	There have been declines in the spring sensitive families since 1996 (5 ->1); however, fall samples have remained steady. The site is still quite healthy although should be watched carefully.	↓
Portage Creek: Unadilla	58	Fair	No sample this season			9.7	4.0	0.0	No significant changes over time (1999-2011)	-
Portage Creek: Williamsville	92	Fair	13	2	0	11.0	4.5	1.0	This site has only been sampled for 3 years. Judging from this small amount of data, it has remained steady.	-
South Ore Creek: Bauer Road	52	Fair	14	3	1	11.3	4.2	1.2	This site is significantly declining for the EPT metric in fall samples (1998-2012), but spring samples are steady.	↓

Site Location	Site #	Current Site Condition	October 2012 Samples			Averages since 2009			Comments	Trend
			All Insects	EPT	Sensitive	All Insects	EPT	Sensitive		
South Ore Creek: Hamburg Road	40	Good	No sample this season			14.2	4.6	2.0	This site is significantly declining in fall EPT families (1995-2011), and declining slightly (and non-significantly) in all of the other spring and fall parameters.	↓
South Ore Creek: Lake Ridge	50	Poor	No sample this season			6.0	1.8	0.0	No significant changes over time (1998-2012)	-
Swift Run: Shetland Drive	41	Poor	6	3	0	7.5	1.7	0.0	Good news! Although still rated 'poor,' this site now shows statistical improvement. Insect diversity has gradually increased - despite this year's worse-than-average sample. (1992-2012)	↑
Traver Creek: Broadway Avenue	42	Poor	No sample this season			5.3	1.8	0.0	No significant changes over time (1992-2012)	-
Woodruff Creek: Buno Road	46	Good	14	3	0	15.7	5.5	1.2	No significant changes over time (2002-2012), but this year showed a drop in EPT families. This is a site to watch.	-
Woodruff Creek: Maxfield Road	44	Fair	No sample this season			9.7	2.3	1.3	No significant changes over time (1996-2012)	-
Woods Creek: L Huron Metropark	14	Good	10	3	1	12.3	5.7	1.7	Long term trends show statistically significant increases despite this year's sample being lower than average. Conditions are improving according to both the EPT and sensitive metrics. (1997-2012)	↑

Site Location	Site #	Current Site Condition	October 2012 Samples			Averages since 2009			Comments	Trend
			All Insects	EPT	Sensitive	All Insects	EPT	Sensitive		

These sites are sampled on occasion, sometimes for a specific project, but are not used to determine overall watershed health:

Boyden Creek: Golf Course	3	Fair	No sample this season			12.6	6.2	1.8	No significant changes over time (1995-2012)	-
Boyden Creek: Huron River Drive	4	Excellent	No sample this season			11.8	4.4	1.2	Fall samples have significantly increased in time (1992-2012), though spring samples have remained fairly steady.	↑
Fleming Creek: Radrick Farms	12	Good	No sample this season			12.3	5.7	1.7	No significant changes over time (1994-2012)	-
Honey Creek: Pratt Road	19	Poor	No sample this season			11.0	3.0	0.4	No significant changes over time (1994-2011)	-
Malletts Creek: Main Street	56	Poor	No sample this season			6.5	1.3	0.0	Significant decreases in insect families (12-->6) since 2000.	↓
Malletts Creek: Near I-94	28	Poor	No sample this season			7.5	1.0	0.0	Spring insect family metrics have statistically improved over time. (1992-2011)	↑
Malletts Creek: Scheffler Road	29	Poor	No sample this season			5.5	1.5	0.0	No significant changes over time (1992-2011)	-
Millers Creek (Trib): Green Road	75	Unique	No sample this season			5.0	1.7	1.0	No significant changes over time (2002-2011)	-
Millers Creek (W Branch): Plymouth Rd	72	Poor	No sample this season			5.2	0.8	0.2	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)	8	3	0	8.0	3.0	0.0	This was the first time this site has been sampled in the fall.	?
Traver Creek: Dhu Varren Road	43	Good	12	4	0	12.2	5.2	0.7	No significant changes over time (1992-2012)	-
Walker Creek: 8 Mile Road	82	Fair	No sample this season			12.8	6.3	1.3	Total insect families have been steadily and significantly declining since 2003 in fall samples. (22-->12). Spring samples are steady.	↓

Site Location	Site #	Current Site Condition	October 2012 Samples			Averages since 2009			Comments	Trend
			All Insects	EPT	Sensitive	All Insects	EPT	Sensitive		
Willow Run: VanBuren Park	90	Unranked (new site)	No sample this season			6.3	2.0	0.0	This site is too new to recognize a trend.	?
Woods Creek: Martinsville Road	87	Fair	No sample this season			12.8	3.2	1.2	No significant changes over time (2008-2011)	-
Woods Creek: Renton Road	88	Fair	14	4	2	12.8	4.7	1.7	No significant changes over time (2008-2012)	-