

Adopt-a-Stream

River Round October 2015 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 are ranked as excellent, good, fair, and poor and ordered best to worst. This is done on 62 sites, picked to be representative of all parts of the watershed.

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.

WANT MORE DETAIL?

All inquiries, email Paul at psteen@hrwc.org

Site #	Site Location	Current Site Condition	Site ranking (1= Best, 61= Worst)	October 2015 Samples			October averages since 2011 (not including 2015 sample)			Comments	Trend
				All Insects	EPT	Sensitive	All Insects	EPT	Sensitive		
25	Huron River: White Lake Road	Excellent	1				15.5	8.0	3.5	Despite this being a small little river, the insect diversity is high and we always find many sensitive families. There has still been no significant changes over time (1998-2015).	-
30	Mann Creek: VanAmberg Road	Excellent	2				14.3	5.0	3.0	Mann Creek continues to impress. Fall samples have increased significantly over time 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. (1995-2015)	↑
37	Portage Creek: Dexter-Townhall Road	Excellent	3	20	9	5	19.0	9.3	5.3	While fall samples are holding steady and are very diverse, there have been significant declines in the spring total families and sensitive families since 1996 (sensitive families 5-->0). It is possible that high flows in the spring heavily affect the insect population.	↓
26	Huron River: Zeeb Road	Excellent	4				16.0	6.0	3.0	No significant changes over time (1996-2014)	-
49	Davis Creek: Silver Lake	Excellent	5	15	7	2	15.3	7.3	2.3	There has been no significant changes over time in the samples (1998-2015)	-

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13	Fleming Creek: Warren Road	Good	6	10	4	2	12.0	6.0	3.0	Since 1994 this site has improved significantly in fall and spring collections. (1994-2015)	↑
16	Honey Creek (N): Darwin Road	Good	7				17.7	7.7	3.3	No significant changes over time (1997-2015)	-
22	Huron Creek: Dexter-Pinckney Road	Good	8				23.0	7.0	4.0	Of special note: The fall 2012 sample here was not only a record for this location, but had the highest insect diversity, at 23 families, found at any sample site since 2006! The site is showing significant long-term increases in insect and sensitive metrics for fall samples (1996-2014). Spring samples are holding steady.	↑
55	Mill Creek: Manchester Road	Good	9	18	5	1	10.0	3.0	1.0	Total insect diversity in spring and fall samples has increased significantly over time (1999-2015).	↑
80	Mill Creek: Shield Road	Good	10				16.5	7.0	2.0	Total insect diversity and EPT diversity are statistically increasing both in spring and fall samples over time (2002-2015). This site has made these improvements since the dam downstream came out in 2008.	↑

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63	Hummocky Lick: M-36	Good	11				16.0	5.0	1.0	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. In fall 2014, the collection fared better with 16 families. Spring 2014 was also healthier, with 4 sensitive families found.	↓
58	Portage Creek: Unadilla	Good	12	18	6	1	11.0	4.0	1.0	This was one of the best samples ever taken here. However, there have been no significant changes over time (1999-2015)	-
62	Huron River: Bell Road	Good	13				16.0	6.0	0.5	No significant changes over time (2000-2014).	-
94	Portage Creek: Rockwell Road	Good	14	16	3	0	20.0	6.0	1.0	This site has been sampled twice in the fall, once in the spring.	?
14	Woods Creek: L Huron Metropark	Good	15	13	4	0	12.3	4.3	1.0	Long term trends show statistically significant increases in total insects and EPT for fall samples. Spring samples have remained steady (1997-2015).	↑
68	Pettibone Creek: Livingston Road	Good	16	12	4	1	12.3	5.0	0.3	In fall samples there has been a significant decline in total insect families. (2000-2015).	↓

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40	South Ore Creek: Hamburg Road	Good	17	12	4	0	9.5	2.5	1.0	This site is significantly declining in fall EPT families (1995-2013), and declining slightly (but non-significantly) in all of the other spring and fall parameters.	↓
2	Boyden Creek: Delhi	Good	18				9.0	3.0	0.5	Spring EPT families have significantly increased over time (1994-2015). This location is one of the best in the watershed for spring caddisflies.	↑
46	Woodruff Creek: Buno Road	Good	19				10.7	3.0	0.0	Recent samples have been quite poor here compared to five-ten years ago. There has been a significant decline in fall EPT over time (6-->3) and spring sensitives (2-->1) (2002-2014).	↓
67	Pettibone Creek: Commerce Road	Good	20				12.0	4.0	0.0	There have been no significant changes over time. (2001-2015)	-
5	Chilson Creek: Chilson Road	Good	21	11	4	2	7.5	3.0	1.0	There have been declines in all spring counts over time (1997-2015), but the change is not significant.	-
82	Walker Creek: 8 Mile Road	Good	22	19	7	1	No fall samples in this time period (rebooted site)			No significant changes over time (2003-2015).	-

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79	Mill Creek: Warrior Park	Good	23	14	7	1	13.7	6.3	1.7	No significant changes over time (2003-2015)	—
34	Mill Creek: Letts Cr at M-52	Fair	24	12	4	1	11.0	1.0	0.0	The fall EPT metric has declined here over time; yet the spring samples have slightly yet significantly increased here over time (1993-2014). This conflict means that we will record the site as generally unchanged.	—
9	Fleming Creek: Botanical Gardens	Fair	25				12.0	5.0	0.5	No significant changes over time (1993-2014)	—
84	Fleming Creek: Galpin Road	Fair	26				18.0	5.0	2.0	No significant changes over time (2004-2015)	—
15	Hay Creek: M-36	Fair	27	11	3	1	16.0	5.5	2.0	EPT and sensitive families have decreased over time in fall samples. Spring samples are declining but the changes are not significant. (1996-2015)	↓
31	Mill Creek: Fletcher Road	Fair	28	10	3	0	15.0	4.0	2.0	While this fall sample was the worst collected in several years, there have been no significant changes over time (1993-2015).	—

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11	Fleming Creek: Geddes Road	Fair	29	10	4	1	12.0	4.5	1.0	Slight, but significant increase in sensitive species over time in fall samples. Spring samples are constant. (1992-2015)	↑
1	Arms Creek: Walsh Road	Fair	30				13	4.5	2	April 2015 was the best sample taken this this location since 1995. Sensitive families have been found here three times (April 1995, Oct 2014, April 2015). Sensitive families are statistically increasing (1993-2015).	↑
32	Mill Creek: Ivey Road	Fair	31	10	3	0	13.0	7.0	2.0	While this fall sample was the worst collected in several years, there have been no significant changes over time (1993-2015).	-
61	Huron River: Island Park	Fair	32	13	5	1	14.0	7.0	2.3	There are a variety of things happening in the data at this site. For two spring samples in a row, no sensitive families were found when in the past 2 or 3 were common. However, EPT families have been increasing (though not significantly). In addition, fall samples have improved; trends show statistically increasing number of sensitive families over time for the fall. Previously it was comon to find 1-2 sensitives, now it is more normal to find 2-3. (2000-2015). That being said, we only found 1 sensitive at this latest collection.	↑

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51	Huron River: US-23 (Liv. Co)	Fair	33				14.0	5.0	1.5	No significant changes over time (1998-2014).	—
52	South Ore Creek: Bauer Road	Fair	34				13.0	3.0	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).	↓
93	Livermore Creek: Doyle Road	Fair	35				No fall samples			This site has been sampled three times in the spring. By our initial results, it seems to be a healthy location, although sampling it is quite difficult because of plentiful muck.	?
96	Mill Creek: Parker Road	Fair	36				13.5	2.5	0.0	This site has only been sampled four times (twice fall, twice spring). Initial samples indicate a decent insect population with mucky habitat.	?
33	Mill Creek: Jackson Road	Fair	37	10	5	3	16.0	4.0	2.0	This was the first time 3 sensitive families were found here in the fall! However, there have been no significant changes over time (1996-2015)	—
64	Huron River: Proud Lake Rec Area	Fair	38	13	4	2	12.5	3.5	0.5	Two sensitive families were found here; a first for this site! Overall though, no significant changes over time (2001-2015).	—

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21	Horseshoe Creek: Merrill Road	Fair	39				10.3	3.0	0.3	No significant changes over time (1996-2015)	—
20	Honey Creek: Wagner Road	Fair	40	7	4	1	12.3	3.7	1.0	While this sample was the worst collected in years, there have been no significant changes over time (1993-2015).	—
47	Huron River: Commerce Road	Fair	41	11	6	0	10.0	3.0	0.0	Fall samples have significantly declined over time (1997-2015), with as many as 18 insect families found in the early years of sampling and only about 10 insect families found in recent years. Interestingly, spring EPT has statistically improved! The conflict results in the trend being marked as steady.	—
24	Huron River: Cross Street	Fair	42	12	5	0	11.5	5.0	0.5	Spring samples have significantly improved at this site since 1997 for total insect diversity. Fall samples have remained steady.	↑
91	Portage Creek: Stockbridge	Fair	43	7	2	0	10.0	4.0	1.0	This site has been sampled four times. The creek was dredged here over the summer and insect counts are down, but we can't accurately say how much because this is such a new site.	?

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18	Honey Creek: Jackson Road	Fair	44				12.0	3.0	0.0	No significant changes over time (1993-2014)	-
6	Davis Creek: Doane Road	Fair	45				9.0	4.5	0.5	Fall 2014 was the worst sample ever taken at this site, also there are clear significant declines here over time (1994-2014). 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.	↓
57	Mill Creek: Klinger Road	Fair	46	15	3	1	14.0	5.0	1.0	Significantly more EPT families have been found in fall samples here over time. (1999-2015).	↑
7	Davis Creek: Pontiac Trail	Fair	47				7.0	3.0	1.0	This site is similar to the site listed two above, Davis Creek at Doane Road. Insect families have been slowly disappearing since monitoring began in 1994. This past fall had the worst fall sample ever taken here.	↓

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23	Huron River: Flat Rock	Poor	48	7	5	0	8.7	6.7	1.3	Three metrics are declining significantly; the fall insect diversity and the spring insect diversity and EPT diversity. (1996-2015).	↓
92	Portage Creek: Williamsville	Poor	49				14.0	2.5	0.5	This site has been sampled for 3 years. Judging from this small amount of data, fall samples are holding steady, but spring samples do seem to be getting worse. This is tentative pending more data.	↓
50	South Ore Creek: Lake Ridge	Poor	50				4.0	2.0	0.0	This site has definitely declined over time (1998-2014), but these changes are not yet significant.	—
98	Horseshoe Creek: Barker Road	Poor	51				9.5	1.5	0.0	This site is too new to observe trends. It has been sampled three times.	?
89	Bancroft-Noles Drain: Lebo Park	Poor	52				4.5	0.5	0	No significant changes over time (2008-2014)	—
45	Chilson Creek: Brighton Road	Poor	53	10	2	0	9.0	4.0	0.0	There have been declines in all spring counts over time (1997-2015), but the change is not significant. Fall samples are holding steady.	—
8	Greenock Creek: Rushton Road	Poor	54				5.5	1.0	0.0	This site has gotten worse over time (1996-2014). Fall insect diversity and spring EPT diversity has significantly decreased.	↓

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42	Traver Creek: Broadway Avenue	Poor	55				5.5	1.5	0.0	No significant changes over time (1992-2015)	-
99	Horseshoe Creek: Brookside Drive	Poor	56	11	8	0	8.0	1.0	0.0	This is the first fall sample. There have been two spring samples. (2013-2015)	?
27	Malletts Creek: Chalmers Drive	Poor	57	6	2	0	8.7	3.0	0.0	Spring samples have shown improvement over time (1994-2015). There have been no significant changes in fall samples.	↑
60	Port Creek: Armstrong Road	Poor	58	5	0	0	No fall samples			There have been no significant changes over time (2000-2015)	-
65	Norton Creek: West Maple Road	Poor	59				3.5	0.5	0.0	This site shows significant decline in EPT metrics and total insects families (2000-2015). The last several years have had particularly poor counts.	↓

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41	Swift Run: Shetland Drive	Poor	60	1	0	0	6.3	2.0	0.0	Volunteers reported that the flow of the creek was extremely low. Only three creatures were even found, all of the same family. This is very unusual, even for the worst streams HRWC samples. In fact, this is the worst sample ever collected, anywhere, by HRWC. This sample is getting marked as a outlier because of the lack of water and will not be recorded in the long-term set. No significant changes over time (1992-2015)	-
35	Millers Creek: Glazier Way	Poor	61	9	0	0	9.0	0.7	0.0	No significant changes over time (1993-2015).	-
97	Norton Creek: Gibson Park	Not ranked (too new)		7	1	0	No other samples.			This is the first time this location has been sampled.	?

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

Site Location	Site #	Current Site Condition	Fall 2015 Samples			Fall averages since 2011 (not including 2015 sample)			Comments	Trend
			All Insects	EPT	Sensitive	All Insects	EPT	Sensitive		
Traver Creek: Dhu Varren Road	43	Good	4	2	1	12.0	4.0	0.0	This sample was quite poor, probably due to unseasonably low flows. No significant changes over time (1992-2015)	-
Woods Creek: Martinsville Road	87	Fair	21	3	2	11.5	2.0	1.0	This was the best sample ever taken here, but there are still no significant changes over time. (2008-2015)	-
Boyden Creek: Golf Course	3	Fair							No significant changes over time (1994-2014)	-
Boyden Creek: Huron River Drive	4	Fair							No significant changes over time (1993-2014)	-
Fleming Creek: Radrick Farms	12	Fair							No significant changes over time (1994-2013)	-
Davis Creek: 11 Mile Road	81								No significant changes over time (1993-2014).	-
Honey Creek: Pratt Road	19	Poor							No significant changes over time (1994-2013)	-

Malletts Creek: Main Street	56	Poor						Significant decreases in insect families (12-->6) since 2000.	↓
Malletts Creek: Near I-94	28	Poor						Spring insect family metrics have statistically improved over time. (1992-2011)	↑
Malletts Creek: Scheffler Road	29	Poor						No significant changes over time (1992-2011).	-
Narrow Gauge Creek: Green Road	75	Unique						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						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	Poor						This was the second time this site has been sampled in the spring.	?
Willow Run: VanBuren Park	90	Poor						This site is too new to recognize a trend.	?
Woods Creek: Renton Road	88	Fair						This was by far the best sample ever taken here. All three metrics are significantly increasing over time (2008-2014)	-

Woodruff Creek: Maxfield Road	44	Fair				No significant changes over time (1996-2012).	-
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