



River Roundup



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 61 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	April 2021 Samples			April averages since 2017 (not counting 2021)			Comments	Trend
		All Insects	EPT	Sensitive	All Insects	EPT	Sensitive		
1	Arms Creek: Walsh Road	6	2	0	11.5	6.0	1.5	Overall, fall EPT and sensitive families have increased significantly over time; spring total families have declined... It is a mixed result at this site. (1993-2021)	-
2	Boyden Creek: Delhi	9	6	1	13.7	6.0	2.0	Populations go up and down; but overall trend is stable. This location is one of the best in the watershed for spring caddisflies. (1994-2018)	-
5	Chilson Creek: Chilson Road	8	3	1	13.5	6.5	3.0	Sensitive families are declining here, in both the spring and the fall. (1995-2021).	↓
6	Davis Creek: Doane Road							Spring samples show that 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 from 1994-2000, from 2003-2014 we were finding 0-1 families. The last couple of samples have been better at 2 families. Fall diversity is declining slightly but it is not a significant change. (1994-2018)	↓
7	Davis Creek: Pontiac Trail							Samples have been slightly declining over many years, but these changes are not yet significant. (1994-2018)	-
8	Greenock Creek: Rushton Road							This site has gotten worse over time. Spring insect diversity has significantly decreased. (1996-2018)	↓

Site #	Site Location	April 2021 Samples			April averages since 2017 (not counting 2021)			Comments	Trend
		All Insects	EPT	Sensitive	All Insects	EPT	Sensitive		
9	Fleming Creek: Botanical Gardens				14.0	7.0	2.5	Since 2010, we have been finding 1-2 sensitive families here in the fall where there was once none. Starting in 2018, there was enough data to confirm this as statistically significant. Furthermore, EPT diversity has significantly improved in the Spring. (1993-2019).	↑
11	Fleming Creek: Geddes Road				12.3	4.0	1.0	Since 2009, we have been finding 1-2 sensitive families here in the fall where there was once none. Starting in 2018, there was enough data to confirm this as statistically significant. (1993-2019).	↑
13	Fleming Creek: Warren Road	17	11	4	14.5	8.0	2.5	Since 1994 this site has improved significantly in fall and spring collections. (1994-2021)	↑
14	Woods Creek: L Huron Metropark				11.5	5.5	1.5	Long term trends are heading slightly up, though are not statistically significant. (1997-2019).	-
15	Hay Creek: M-36	9	6	2	11.0	6.7	1.7	All metrics have decreased over time in fall samples and in spring spring samples (1996-2021)	↓
16	Honey Creek (N): Darwin Road	11	7	3	14.5	7.5	1.5	No significant changes over time (1997-2019). This is one of the healthiest places that we monitor.	-
18	Honey Creek: Jackson Road							Sensitive families have declined in spring samples, from approximately 2 in the early 2000s to 0 in recent years. (1993-2018) No sensitive families have been found in fall or spring since 2009.	↓
20	Honey Creek: Wagner Road	11	5	4	9.5	3.5	2.0	The fall sensitive families are significantly declining over time. Most of the other metrics are slightly and non-significantly declining (1993-2021).	↓

Site #	Site Location	April 2021 Samples			April averages since 2017 (not counting 2021)			Comments	Trend
		All Insects	EPT	Sensitive	All Insects	EPT	Sensitive		
21	Horseshoe Creek: Merrill Road	8	2	0	9.0	3.0	0.0	Long term, both spring total and EPT families are significantly declining (1996-2021).	↓
22	Huron Creek: Dexter-Pinckney Road	16	9	4	15.3	8.7	4.0	The site is showing significant long-term increases in fall EPT samples and spring total families and EPT samples. (1996-2021)	↑
23	Huron River: Flat Rock							Three metrics are declining significantly; the fall insect diversity and the spring insect diversity and EPT diversity. (1996-2018). As a deep site, it is difficult to get samples at this location as conditions usually are in deeper waters than collectors can safely operate.	↓
24	Huron River: Cross Street	6	3	0	8.0	3.0	0.0	No significant changes over time (1997-2018)	-
25	Huron River: White Lake Road	22	13	4	14.0	10.0	4.0	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 (1998-2021). The sample from this past collection was superb and very diverse	-
26	Huron River: Zeeb Road							Fall sensitive families are significantly increasing. This section of the Huron River is the most diverse in macroinvertebrate life of any that HRWC monitors. (1996-2018) (It's rating gets downgraded because the river is so big here, and we would hope to see even higher diversity than we do!) This site is hard to sample; it gets quite deep. It has been a number of	↑
27	Malletts Creek: Chalmers Drive	9	2	0	7.7	2.0	0.0	Long term, spring and fall samples have shown improvement over time (1994-2021).	↑
30	Mann Creek: VanAmberg Road	16	8	6	12.3	5.7	3.7	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 three or four families of stoneflies are regularly found (1995-2021).	↑
31	Mill Creek: Fletcher Road	12	6	3	14.0	4.0	2.0	Fall families have significantly increased over time (10->15) (1993-2020).	↑

Site #	Site Location	April 2021 Samples			April averages since 2017 (not counting 2021)			Comments	Trend
		All Insects	EPT	Sensitive	All Insects	EPT	Sensitive		
32	Mill Creek: Ivey Road							There have been no significant changes over time (1993-2018), although spring samples are trending downwards, a result that is not yet significant.	-
33	Mill Creek: Jackson Road	16	6	2	12.0	6.0	0.0	Spring families have significantly increased over time (1996-2021).	↑
34	Mill Creek: Letts Cr at M-52							This site is declining significantly in fall insect and EPT families. Spring samples are holding steady. (1993-2018)	↓
35	Millers Creek: Glazier Way				9.0	0.5	0.0	No significant changes over time (1993-2019).	-
37	Portage Creek: Dexter-Townhall Road	13	9	2	17.0	8.0	3.0	While fall samples are holding steady and are very diverse, there have been significant declines in the spring total families, EPT families, and sensitive families since 1996 (sensitive families 5-->1 or 2, normally). It is possible that high flows in the spring heavily affect the insect population.	↓
40	South Ore Creek: Hamburg Road	17	10	4	15.7	7.3	2.0	This creek is doing very well through this section. Following one of the best fall samples, we have one of the best spring samples. Spring insects and EPT are significantly increasing! (1994-2021).	↑
41	Swift Run: Shetland Drive	4	1	0	2.5	0.5	0.0	No significant changes over time (1992-2021)	-
42	Traver Creek: Broadway Avenue				5.7	1.7	0.0	No significant changes over time (1992-2018)	-

Site #	Site Location	April 2021 Samples			April averages since 2017 (not counting 2021)			Comments	Trend
		All Insects	EPT	Sensitive	All Insects	EPT	Sensitive		
45	Chilson Creek: Brighton Road	11	5	0	10.0	5.0	1.0	There have been declines in all spring EPT and sensitive families over time (1997-2021).	↓
46	Woodruff Creek: Buno Road	14	7	2	12.0	5.0	2.0	No significant changes over time (2000-2021).	↓
47	Huron River: Commerce Road	15	8	1	13.0	7.0	1.0	Fall samples have significantly declined over time (1997-2021), with as many as 18 insect families found in the early years of sampling and only about 5-10 insect families found in recent years. Interestingly, spring EPT has statistically improved! The conflict results in the trend being marked as steady.	-
49	Davis Creek: Silver Lake				18.2	8.3	3.5	All spring metrics are significantly declining, but fall sensitive families are staying about the same statistically. However, this particular fall sample was one of the worst at this location. (1998-2019).	↓
50	South Ore Creek: Lake Ridge							This site has declined over time, but these changes are not yet significant. (1998-2018)	-
51	Huron River: US-23 (Liv. Co)				13.0	4.3	1.0	Sensitive families have declined in the spring and fall samples over time (1998-2017). All of the other parameters, fall and spring, are declining but not yet statistically significant.	↓
52	South Ore Creek: Bauer Road							Total diversity and EPT taxa has significantly decreased over time (1998-2018).	↓

Site #	Site Location	April 2021 Samples			April averages since 2017 (not counting 2021)			Comments	Trend
		All Insects	EPT	Sensitive	All Insects	EPT	Sensitive		
55	Mill Creek: Manchester Road	10	5	2	14.0	7.0	2.0	There have been no significant changes over time (1999-2021).	-
57	Mill Creek: Klinger Road							EPT families and total insect families have significantly increased over time (1999-2017).	↑
58	Portage Creek: Unadilla				14.0	4.7	1.0	There have been no significant changes over time (1999-2018).	-
60	Port Creek: Armstrong Road	11	5	4	4.0	1.0	1.0	While in slight decline for many years, this particular sample was incredibly healthy, even holding 2 different families of stonefly, and many more insect families than normal . This is very strange to see such a dramatic change	-
61	Huron River: Island Park				13.3	5.6	1.5	There have been no significant changes over time (1996-2019)	-
62	Huron River: Bell Road							No significant changes over time (2000-2018).	-
63	Hummocky Lick: M-36	19	9	3	11.3	4.7	1.7	From 2000-2004, about 18 insect families were found in fall samples. Since 2007, it is more usual to find between 11-13, and then more recently, 8-10. That being said, the fall 2019 sample and this spring 2021 sample were great by comparison; two high diversity samples imply a recovery. However, there is still a statistically significant decrease. (2000-2021)	↓

Site #	Site Location	April 2021 Samples			April averages since 2017 (not counting 2021)			Comments	Trend
		All Insects	EPT	Sensitive	All Insects	EPT	Sensitive		
64	Huron River: Proud Lake Rec Area	16	9	1	8.0	6.0	1.0	Fall EPT families have declined slightly, yet significantly, over the last twenty years. (2001-2021).	↓
65	Norton Creek: West Maple Road							This site shows significant decline in EPT metrics and total insects families (2000-2015). The last several years have had particularly poor counts.	↓
67	Pettibone Creek: Commerce Road				13.3	5.0	0.0	There have been no significant changes over time. (2001-2019)	-
68	Pettibone Creek: Livingston Road				12.0	4.0	0.0	Strange results here. There still has been a significant decline in fall total insect families over time but a significant increase in spring total families over time. (2000-2019).	-
79	Mill Creek: Mill Creek Park	15	8	3	12.0	7.0	3.0	Samples have been getting better over time. The sensitive families in the spring have increased enough to show a statistically significant change. The other metrics are increasing as well, but not significant yet at this point. (2003-2021).	↑
80	Mill Creek: Shield Road							Total insect diversity (spring only) and EPT diversity (both spring and fall) are statistically increasing over time (2002-2018). This site has made these improvements since the dam downstream came out in 2008.	↑
82	Walker Creek: 8 Mile Road				19.0	7.0	1.0	No significant changes over time (2003-2019).	-
84	Fleming Creek: Galpin Road				12.0	4.5	1.0	No significant changes over time (2004-2019)	-
89	Bancroft-Noles Drain: Lebo Park							No significant changes over time (2008-2018)	-

Site #	Site Location	April 2021 Samples			April averages since 2017 (not counting 2021)			Comments	Trend
		All Insects	EPT	Sensitive	All Insects	EPT	Sensitive		
91	Portage Creek: Stockbridge	10	4	0	11.0	3.5	0.5	No significant changes over time (2013-2021)	-
92	Portage Creek: Williamsville							Site seems to be getting worse; no significant changes over time (2010-2018)	-
94	Portage Creek: Rockwell Road	10	3	0	16.0	4.7	0.7	No significant changes over time (2013-2021)	-
96	Mill Creek: Parker Road	11	6	2	9.5	4.5	1.0	No significant changes over time (2012-2021)	-
97	Norton Creek: Gibson Park	7	5	0	10.0	1.7	0.0	This site has been sampled seven times (4 fall, 3 spring). It appears to be a better location for sampling macros than the other Norton site (#65). The EPT and sensitive families are low and do indicate disturbed habitat or water pollution.	-
98	Horseshoe Creek: Barker Road							No significant changes over time (2012-2018)	-
99	Horseshoe Creek: Brookside Drive	5	3	0	4.0	0.6	0.2	This site is still quite new (5 spring samples, 2013-2021). As a preliminary analysis, the data appear to be steady with just a slight amount of variation over time.	-