



River Roundup

October 2021 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 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	Current Site Condition (excellent, good, fair, poor)	Site ranking (1= Best, 61= Worst)	April 2021 Samples			April averages since 2017 (not counting 2021)			Comments	Trend
				All Insects	EPT	Sensitive	All Insects	EPT	Sensitive		
25	Huron River: White Lake Road	Excellent	1							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.	-
30	Mann Creek: VanAmberg Road	Excellent	2							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).	↑
22	Huron Creek: Dexter-Pinckney Road	Excellent	3	10	5	3	17.5	8.0	2.5	While this particular sample was lower than average, the site is showing significant long-term increases in fall EPT samples and spring total families and EPT samples. (1996-2021)	↑
40	South Ore Creek: Hamburg Road	Excellent	4	17	10	4	15.7	7.3	2.0	This creek is doing very well through this section. Spring insects and EPT are significantly increasing! Insect abundance is very high. (1994-2021).	↑
26	Huron River: Zeeb Road	Excellent	5							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 years since we have successfully gotten a properly sized sample.	↑
37	Portage Creek: Dexter-Townhall Road	Good	6							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.	↓
13	Fleming Creek: Warren Road	Good	7	10	4	2	11.0	4.5	2.0	Since 1994 this site has improved significantly in fall and spring collections. (1994-2021)	↑

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16	Honey Creek (N): Darwin Road	Good	8	11	7	3	18.5	7.5	3.5	No significant changes over time (1997-2021).	-
79	Mill Creek: Mill Creek Park	Good	9	14	6	2	16.5	8.3	3.0	Samples have been getting better over time. The sensitive families in the spring and fall 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).	↑
84	Fleming Creek: Galpin Road	Good	10							No significant changes over time (2004-2019)	-
9	Fleming Creek: Botanical Gardens	Good	11	11	5	2	13.7	4.7	1.3	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. (1993-2021).	↑
49	Davis Creek: Silver Lake	Good	12	18	8	5	14.0	6.5	2.5	All spring metrics are significantly declining, but fall sensitive families are staying about the same statistically. This fall sample was particularly healthy. (1998-2021).	↓
5	Chilson Creek: Chilson Road	Good	13	14	6	1	11.0	3.5	1.0	Sensitive families are declining here, in both the spring and the fall. (1995-2021).	↓
46	Woodruff Creek: Buno Road	Good	14							No significant changes over time (2000-2021).	↓
96	Mill Creek: Parker Road	Good	15	18	3	0	17.0	3.0	0.0	No significant changes over time (2012-2021)	-
94	Portage Creek: Rockwell Road	Good	16	16	3	0	16.0	4.7	0.7	No significant changes over time (2013-2021)	-

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2	Boyden Creek: Delhi	Good	18	13	5	1	17.0	6.0	1.0	Individual samples vary a good amount at this site; the overall trend for most of the parameters is stable; fall sensitive families are significantly improving (we regularly find at least 1). This location is one of the best in the watershed for spring caddisflies. (1994-2021)	↑
14	Woods Creek: L Huron Metropark	Good	19	13	4	0	9.5	3.5	0.0	Woods Creek is unchanging, statistically. Several teams have pulled poor sample from here recently though, so HRWC is watching the site carefully to be sure it isn't declining. (1997-2021).	-
63	Hummocky Lick: M-36	Good	20	12	3	3	12.0	3.3	1.0	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 last three samples here have been getting more diverse, implying a recovery. However, there is still a statistically significant decrease. (2000-2021)	↓
21	Horseshoe Creek: Merrill Road	Good	21	16	5	0	15.0	5.0	1.3	Spring total and EPT families are significantly declining. Fall families are holding steady. (1996-2021).	↓
67	Pettibone Creek: Commerce Road	Good	22							There have been no significant changes over time. (2001-2019)	-
61	Huron River: Island Park	Fair	23				13.3	5.6	1.5	There have been no significant changes over time (1996-2019)	-
62	Huron River: Bell Road	Good	23							No significant changes over time (2000-2018).	-

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24	Huron River: Cross Street	Fair	24							No significant changes over time (1997-2018)	-
80	Mill Creek: Shield Road	Fair	24	16	6	3	10.0	5.0	2.0	Total insect diversity (spring only) and EPT diversity (both spring and fall) are statistically increasing over time (2002-2021). This site has made these improvements since the dam downstream came out in 2008.	↑
68	Pettibone Creek: Livingston Road	Fair	25							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).	-
11	Fleming Creek: Geddes Road	Fair	26	13	5	2	13.3	4.0	0.7	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. (1993-2021).	↑
33	Mill Creek: Jackson Road	Fair	27							Spring families have significantly increased over time (1996-2021).	↑
15	Hay Creek: M-36	Fair	28	12	4	2	12.3	4.5	1.8	All metrics have decreased over time in fall samples and in spring spring samples (1996-2021)	↓
31	Mill Creek: Fletcher Road	Fair	29	17	4	0	14.0	3.0	0.5	Fall families have significantly increased over time (10-> approx 15) (1993-2021). This sample was one of the best taken at this site	↑
6	Davis Creek: Doane Road	Fair	30	12	5	1	10.5	5.5	1.0	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. Fall diversity is declining slightly but it is not a significant change. (1994-2021)	↓

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55	Mill Creek: Manchester Road	Fair	31	11	3	1	8.0	4.0	1.0	There have been no significant changes over time (1999-2021).	-
58	Portage Creek: Unadilla	Fair	32							There have been no significant changes over time (1999-2018).	-
51	Huron River: US-23 (Liv. Co)	Fair	33							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	Fair	34							Total diversity and EPT taxa has significantly decreased over time (1998-2018).	↓
57	Mill Creek: Klinger Road	Fair	35	13	3	0	18.0	7.0	1.0	EPT families and total insect families have significantly increased over time (1999-2017).	↑
82	Walker Creek: 8 Mile Road	Fair	36							No significant changes over time (2003-2019).	-
64	Huron River: Proud Lake Rec Area	Fair	37							Fall EPT families have declined slightly, yet significantly, over the last twenty years. (2001-2021).	↓
20	Honey Creek: Wagner Road	Fair	38	10	4	1	11.0	2.7	0.3	The fall sensitive families are significantly declining over time. Most of the other metrics are slightly and non-significantly declining (1993-2021).	↓
47	Huron River: Commerce Road	Fair	39	12	6	1	6.5	3.5	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 5-12 insect families found in recent years. Interestingly, spring EPT has statistically improved! The conflict results in the trend being marked as steady.	-

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1	Arms Creek: Walsh Road	Fair	40							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)	-
34	Mill Creek: Letts Cr at M-52	Fair	41	14	3	0	12.0	5.0	0.0	This site is declining significantly in fall EPT families. Spring samples are holding steady. (1993-2021)	↓
45	Chilson Creek: Brighton Road	Fair	42	11	1	0	10.0	5.0	1.0	There have been declines in all spring EPT and sensitive families over time; fall EPT families are significantly declining (1997-2021).	↓
91	Portage Creek: Stockbridge	Fair	43	8	2	0	9.5	2.5	0.0	No significant changes over time (2013-2021)	-
7	Davis Creek: Pontiac Trail	Fair	44	10	3	0	11.0	3.0	2.0	Samples have been slightly declining over many years, but these changes are not yet significant. (1994-2018)	-
32	Mill Creek: Ivey Road	Poor	46	13	5	2	9.0	3.0	0.0	There have been no significant changes over time (1993-2021), although spring and fall samples are trending downwards, a result that is not yet significant. This fall's sample was quite a bit better than other recent samples.	-
92	Portage Creek: Williamsville	Poor	47							Site seems to be getting worse; no significant changes over time (2010-2018)	-
18	Honey Creek: Jackson Road	Poor	48							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.	↓

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8	Greenock Creek: Rushton Road	Poor	49	6	2	0	6.0	1.0	0.0	This site has gotten worse over time. Spring insect diversity has significantly decreased. (1996-2021)	↓
60	Port Creek: Armstrong Road	Poor	50	9	2	0	4.0	0.5	1.0	This site is consistently poor and unchanged through time.	-
42	Traver Creek: Broadway Avenue	Poor	51							No significant changes over time (1992-2018)	-
50	South Ore Creek: Lake Ridge	Poor	52	8	2	0	7.0	2.0	0.0	This site has declined over time, but these changes are not yet significant. (1998-2021)	-
23	Huron River: Flat Rock	Poor	53							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.	↓
27	Malletts Creek: Chalmers Drive	Poor	54							Long term, spring and fall samples have shown improvement over time (1994-2021).	↑
99	Horseshoe Creek: Brookside Drive	Poor	55							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.	-
97	Norton Creek: Gibson Park	Poor	56							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), but is still an site with low biological diversity.	-
98	Horseshoe Creek: Barker Road	Poor	57							No significant changes over time (2012-2018)	-

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41	Swift Run: Shetland Drive	Poor	58							No significant changes over time (1992-2021)	-
65	Norton Creek: West Maple Road	Poor	59	1	0	0	0.0	0.0	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. There are a mess of scuds here and barely anything else.	↓
35	Millers Creek: Glazier Way	Poor	60	9	1	0	9.5	0.5	0.0	No significant changes over time (1993-2021).	-