

Adopt-a-Stream

River Round 2011 Data and Trends



The Huron River Watershed Council holds two full benthic macroinvertebrate collections per year, during which volunteers visit river and creek 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: <u>http://www.imrivers.org/hrwc/</u>

All other inquiries, email psteen@hrwc.org

WANT LESS DETAIL?

To see a general summary of these results go to: http://www.hrwc.org/2011/05/river-roundup-april-2011/

SITE LOCATION	SITE	Overall	April	2011 Sam	ples	Ave	erages since	e 2008	Translation 1.0 million
	#	2010-2011 Condition	All Insects	EPT	Sensitive	Insects	EPT	Sensitive	Trends and Comments
Boyden Creek: Golf Course	3	Good	14	7	2	13.5	6.5	1.5	No significant changes over time (1994-2011)
Chilson Creek: Brighton Road	45	Fair	8	4	0	11.3	5.0	0.5	No significant changes over time (1997-2011)
Fleming Creek: Botanical Gardens	9	Good	10	4	1	14.0	5.0	1.0	No significant changes over time (1993-2011)
Fleming Creek: Geddes Road	11	Fair	8	4	1	10.2	4.0	0.8	No significant changes over time (1992-2011)
Fleming Creek: Warren Road	13	Excellent	16	9	4	16.0	7.8	3.0	Fall samples have been significantly improving since 1993. Spring samples have also been improving, though the changes are not yet statistically significant.
Honey Creek: Darwin Road	16	Excellent	15	7	0	18.8	10.5	3.8	No significant changes over time (1996-2011)
Honey Creek: Pratt Road	19	Poor	9	3	1	9.3	3.0	0.5	No significant changes over time (1993-2011)
Honey Creek: Wagner Road	20	Fair	10	4	2	10.3	3.8	1.8	No significant changes over time (1993-2011)
Hummocky Lick: M-36	63	Good	11	5	2	13.8	7.0	2.6	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. Spring samples have remained steady.
Huron Creek: Near the mouth	22	Excellent	12	7	4	13.0	5.8	2.5	No significant changes over time (1996-2011)
Huron River: White Lake Road	25	Excellent	15	9	4	19.6	8.4	5.2	No significant changes over time (1994-2011). This is the most diverse site that we sample.
Malletts Creek: Main Street	56	Poor	6	1	0	6.0	0.7	0.0	No significant changes over time (1999-2011)
Mann: VanAmberg Road	30	Excellent	13	7	4	12.7	8	3.3	This site has been showing significant increases in the EPT metric since monitoring began in 1995. Stoneflies seem to be very abundant in this creek.

SITE LOCATION	SITE	Overall 2010-2011	April	2011 Sam	ples	Averages since 2008			Trends and Comments
	#	Condition	All Insects	EPT	Sensitive	Insects	EPT	Sensitive	
Mill Creek: Ivey Road	32	Good	13	6	2	12.8	6	1.6	No significant changes over time (1994-2011). Following a very bad winter stonefly sample, we were worried about this creek, but this spring sample has numbers that we would normally expect to see.
Millers Creek: Glazier Way	35	Poor	5	1	0	8.0	1.0	0.0	No significant changes over time (1993-2011). However, the past two fall samples have had insects numbers not seen since 2001, which is an excellent sign of possible creek improvement.
Millers Creek: Green Road	75	Unique	5	2	1	5.0	1.5	1.0	No significant changes over time (2002-2011)
Millers Creek: Plymouth Road	72	Poor	4	2	1	4.4	0.6	0.0	The past two spring samples have caused a significant increase of EPT families. The 2011 spring sample is the best on record for this site (that being said, the diversity is still terrible compared to most other streams outside the city of Ann Arbor)
Norton Creek: West Maple Road	65	Poor	5	1	0	7.0	0.7	0.0	No significant changes over time (2000-2010)
Pettibone Creek: Commerce Road	67	Fair	9	5	0	12.7	5.3	0.3	No significant changes over time (2001-2010)
Pettibone Creek: Livingston Road	68	Good	15	5	0	9.8	4.0	0.8	Since 2001, the insect population has been significantly declining in fall samples. The spring samples have remained unchanged.
Portage Creek: Williamsville	92	Unranked	14	7	2	-	-	-	This is the first spring sample at this site.

SITE LOCATION	SITE	Overall April 2011 Samples				Av	erages since	e 2008	Trends and Comments
	#	Condition	All Insects	EPT	Sensitive	Insects	EPT	Sensitive	
South Ore Creek: Bauer Road	52	Fair	11	5	1	12.2	4.6	1.0	Since 1998, the insect population has been significantly declining in fall samples. The spring samples have remained unchanged.
South Ore Creek: Hamburg Road	40	Good	15	6	4	10.8	4.0	1.3	The fall samples have been slightly declining since 1994, but this change is not statistically significant. The spring samples have remained steady over time.
Swift Run: Shetland Drive	41	Poor	4	1	0	8.5	1.5		The spring samples here remain unchanged since 1992, but the fall samples have been getting significantly better (4 insect families in 1992> 11 insect families in 2010)
Traver Creek: Dhu Varren	43	Good	11	5	1	13.3	5.8	0.5	No significant changes over time (1992-2011)
Walker Creek: 8 Mile Road	82	Fair	11	6	1	14.5	7.0	1.5	No significant changes over time (2002-2011)
Willow Run	90	Unranked	6	1	0	-	-	-	This is the first spring sample at this site.
Woodruff Creek: Buno Road	46	Good	14	6	1	15.5	6.0	1.8	This site has been showing significant increases in sensitive families since monitoring began in 2002.

Samples from the following sites were not used to determine trend information or overall condition. Due to high water they were not sampled according to HRWC protocols.

SITE LOCATION	SITE	Overall 2010-2011	April	April 2011 Samples			erages since	e 2008	Trends and Comments (not including this 2011
	#	Condition	All Insects	EPT	Sensitive	Insects	EPT	Sensitive	sample)
Arms Creek: Walsh Road	1	Fair	6	3	0	10.5	4.5	0.5	No significant changes over time (1994-2010)
Davis Creek: 11 Mile Road	81	Poor	3	0	0	9.2	2.0	0.5	No significant changes over time (2003-2010)
Davis Creek: Doane Road	6	Fair	6	3	1	11.4	5.0	0.6	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 more normal to find 0-1 families.
Davis Creek: Pontiac Trail	7	Fair	8	2	0	13.3	4.5	1.8	No significant changes have been detected, but there have been slight decreases, especially in sensitive families, since monitoring began in 1994.
Davis Creek: Silver Lake Road	49	Good	5	2	0	14.0	7.3	2.3	The EPT and Sensitive metrics have significantly decreased here since sampling started in 1998. The decline is not dramatic but it has been consistent.
Fleming Creek: Galpin Road	84	Fair	10	4	1	14.5	5.0	0.5	We have detected a significant decrease of spring sensitive families here since 2004. The fall samples are declining as well, although the change is not significant.
Fleming Creek: Radrick Farms	12	Good	7	3	0	13.3	5.5	1.5	Since 2006, we have been finding significantly more sensitive families here in fall samples.
Greenoak Creek: Rushton Road	8	Poor	14	5	0	4.5	1.5	0.0	Interestingly, the high water in April 2011 resulted in the best sample, by far, that has ever been taken at this site. It is possible that the additional water opened up new habitats to the insects.

SITE LOCATION	SITE	Overall 2010-2011	April 2011 Samples				erages sinc	e 2008	Trends and Comments (not including this 2011
	#	Condition	All Insects	EPT	Sensitive	Insects	EPT	Sensitive	sample)
Malletts Creek: Chalmers	27	Poor	5	1	0	6.3	1.3	0.0	No significant changes over time (1993-2010)
Mill Creek: Fletcher Road	31	Fair	6	1	0	12.5	4	0.8	No significant changes over time (1993-2010)
Portage Creek: Dexter-Townhall	37	Good	3	1	0	14.3	7.3	2.3	Sensitive families have decreased here since sampling started in 1996. In the late 90's we would find 3-5 families; now we usually only find 2- 3. This is a slight decline but is statistically significant.
Woods Creek: L Huron Metropark	14	Good	11	7	3	12.0	4.6	1.2	The insect numbers in this creek have significantly improved since monitoring began in 1996.
Portage Creek: Unadilla	58	Fair	9	3	0	7.7	3.7	0.3	There have been slight decreases in the insect population at this site since sampling began in 1999, but the changes are not statistically significant.

The following sites were not sampled in April 2011

Bancroft-Noles Drain: Lebo Park Boyden Creek: Delhi Boyden Creek: Huron River Drive Chilson Creek: Chilson Road Hay Creek: M-36 Honey Creek: Jackson Road Huron River: Bell Road Huron River: Commerce Road Huron River: Cross Street Huron River: Flat Rock Huron River: Flat Rock Huron River: Island Park Huron River: Proud Lake Rec Area Huron River: US-23 (Liv. Co) Horseshoe Creek: Huron River: Zeeb Road Malletts Creek: I-94 Malletts Creek: Scheffler Mill Creek: Jackson Road Mill Creek: Jackson Road Mill Creek: Klinger Road Mill Creek: Letts at M-52 Mill Creek: Letts at M-52 Mill Creek: Manchester Road Mill Creek: Shield Road Mill Creek: Shield Road Mill Creek: Warrior Park Port Creek: Armstrong Road South Ore Creek: Lake Ridge Traver Creek: Broadway

Woodruff Creek: Maxfield Road Woods Creek: Martinsville Road Woods Creek: Renton Road