

Manistee River Watershed Survey (2014)

The Department of Environmental Quality (DEQ) has Aquatic Biologists that sample aquatic macroinvertebrates in the water, along with their habitat, to determine the health of our rivers and streams. **Aquatic macroinvertebrates are insects and other small organisms without backbones that live in our streams and rivers and are excellent indicators of water body health** because many live in the water all year. In addition, some macroinvertebrates are more tolerant to pollution than others. In general, healthy streams have a wider variety of macroinvertebrates than waters that are polluted.

“A watershed is all of the land that drains into a river, lake or stream.”

The DEQ is responsible for ensuring our waters meet water quality standards, safe for swimming, fishing, boating, agricultural and industrial uses, and protects aquatic life and wildlife communities. The DEQ collects samples, including macroinvertebrates, from Michigan waters to identify areas that need special attention.

Additional information can be found on the DEQ’s Assessment of Michigan Waters website at: www.Michigan.gov/waterquality



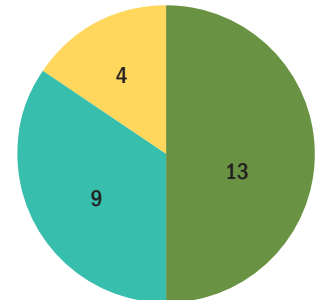
MDEQ employee sampling a Michigan stream

Routine sampling of the Manistee River occurs every five years to evaluate stream condition or health. Sampling occurred in 2004, 2009, and 2014 and will occur again in 2019. Overall aquatic macroinvertebrate community and habitat condition for sites sampled in 2014, are shown in the graphs to the right. A map on the last page depicts macroinvertebrate condition at specific stream locations.

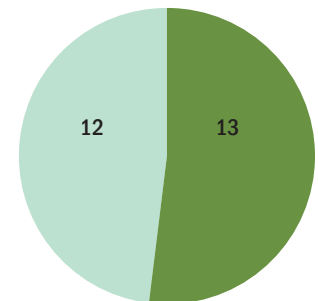
Overall, the aquatic macroinvertebrate community was scored excellent or at the high end of acceptable and stream habitat (including habitat in the stream and along the edge) was rated excellent, or good (see pie charts). In addition, two stations in the Manistee River and two stations in tributaries to the Manistee scored at the lower end of acceptable. Specific causes for these lower scores were not determined.

Aquatic Bug and Habitat Health at 26 stations in the Manistee River Watershed (2014)

Aquatic Bug Community



Habitat Rating



*one station does not include a habitat score

- Excellent
- High Acceptable
- Good
- Marginal
- Low Acceptable
- Poor

Watershed Land Use

Watershed	Wetlands	Forested	Developed	Cultivated Agriculture	Hay or Pasture	Water	Other
North Branch Manistee River-Manistee River	13%	55%	6%	2%	<1%	2%	22%
Silver Creek-Manistee River	13%	50%	6%	8%	2%	1%	20%
Peterson Creek-Manistee River	6%	60%	5%	10%	3%	1%	14%
Pine River	14%	61%	9%	3%	1%	3%	10%
Bear Creek	18%	40%	6%	12%	2%	2%	20%
Little Manistee River	9%	67%	5%	3%	1%	1%	14%
Lower Manistee River	14%	61%	9%	3%	1%	3%	10%





Manistee River (T. Lipsey MDEQ)

Land Use

The use of the land in the watershed that drains to waterbodies greatly influences the types of pollution that can enter the water. The Manistee River watershed is dominated by natural land cover, which includes wetlands, forests, shrubs, and other vegetated areas. Cultivated land ranges from 2-12% of the total land area, with the highest percentage being in Bear Creek and the lowest percentages being in the North Branch of the Manistee River. Developed land area is 6% on average.

Water Quality Data

Water chemistry data have been collected as part of the DEQ Water Quality Monitoring Program (www.michigan.gov/waterquality) and to a limited degree with biological surveys (*The link provided was broken and has been removed*). In general, nutrients and metals are at levels that would be expected in a northern Michigan river system.

Fish Consumption Data

Bear Lake, Big Twin Lake, Manistee Lake (Kalkaska County), Fife Lake (Grand Traverse County), the Manistee River (upstream of Tippy Dam), Pine Lake, and Portage Lake (Manistee County), as well as other water bodies, have fish consumption advisories due to mercury and PCB levels in fish tissue. The Eat Safe Fish link has more information. The DEQ is not responsible for fish stocking, please see the Michigan Department of Natural Resources for more information (www.michigandnr.com/fishstock/). **Fish Consumption Advisory Details: www.michigan.gov/eatsafefish**

Beach Monitoring Data

Public beaches in this watershed (including those on rivers or lakes) may at times be closed due to elevated levels of bacteria; especially after rain. **Although this is rare, beach closing information is available online through BeachCast: (link broken, removed)**

Watershed groups and Lake Associations

Greater Bear Watershed: www.greaterbearwatershed.com

Little Manistee Watershed Conservation Council: www.lmwcc.org

Manistee County Conservation District: www.manisteecd2.org

Upper Manistee River Association: www.umrasite.org

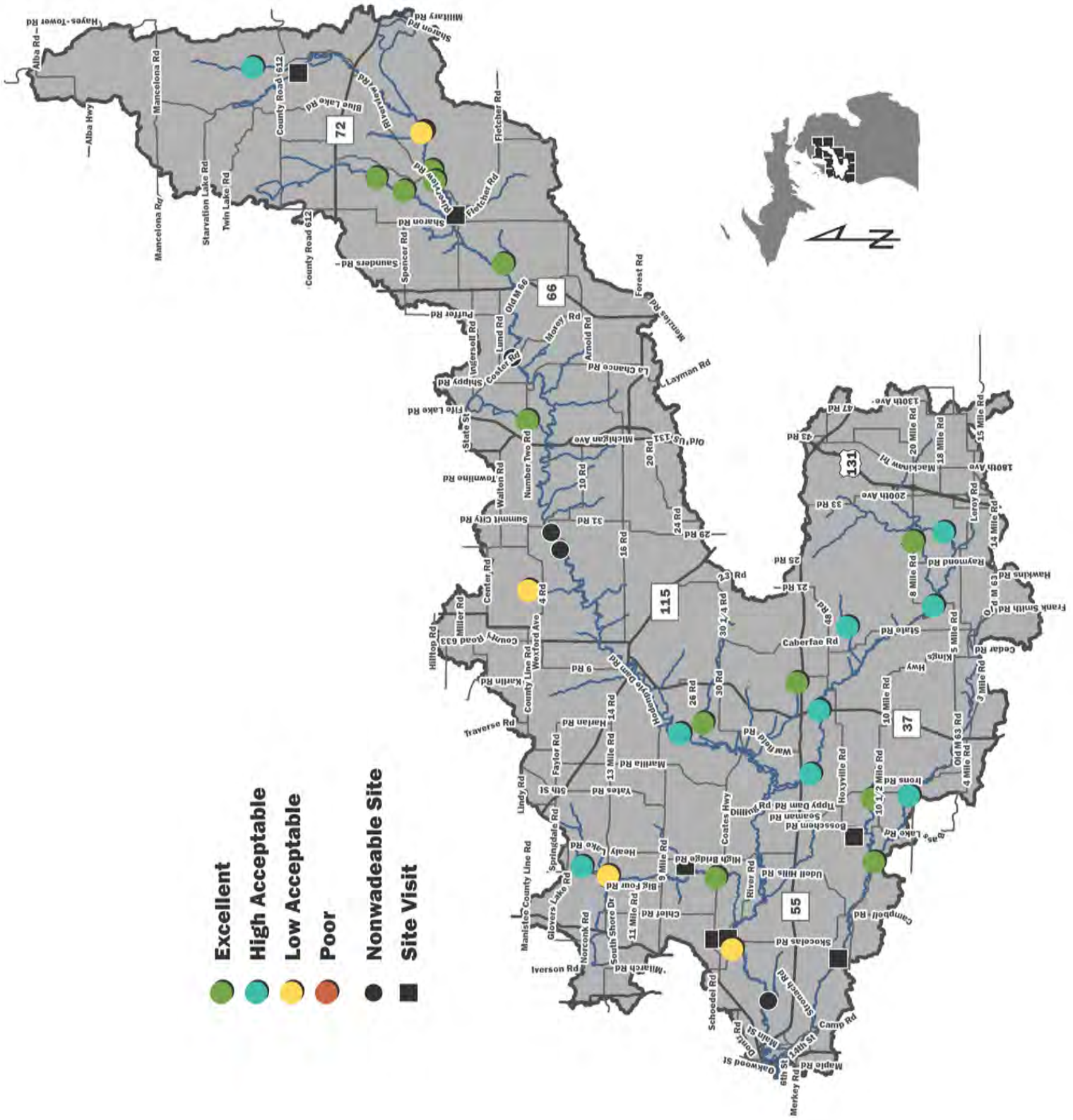
Au Sable Institute of Environmental Studies (Upper Manistee Volunteer Monitoring): www.ausable.org

Little River Band of Ottawa Indians

Sampling Requests

If you have a water body that you would like the DEQ to consider sampling, you can fill out a Monitoring Request Form (www.michigan.gov/waterquality). Requests are reviewed annually and completed based on staff availability, budget, and other monitoring needs.





- Excellent
- High Acceptable
- Low Acceptable
- Poor
- Nonwadeable Site
- Site Visit

