

Upper and Lower St. Joseph River Watershed Survey (2015 and 2016)

The Department of Environment, Great Lakes, and Energy (EGLE) samples Michigan's lakes, streams, and rivers. Samples are taken to see if water quality standards are being met. Water quality standards help make sure rivers, streams, and lakes are safe for swimming, fishing, boating, farming, and industry. Water quality standards also protect aquatic and wildlife communities.

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

EGLE has Aquatic Biologists that sample aquatic animals in our rivers and streams. Aquatic macroinvertebrates are insects and other small animals that do not have backbones. They live in our streams and rivers and are excellent clues to how clean the water is. Many live in the water all year long. Some animals are more tolerant to pollution than others. In general, healthy streams have many different kinds of aquatic macroinvertebrates and more kinds that are sensitive to pollution. Biologists also sample the habitat of aquatic animals. Habitat includes the rocks, gravel, silt, and sand in the stream or river. It also includes the vegetation in the water or along the shore.

Additional information can be found on EGLE's Assessment of Michigan Waters website at: Michigan.gov/WaterQuality



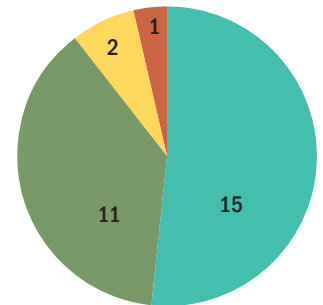
St. Joseph River

Routine sampling of the St. Joseph River occurs every five years to check stream condition or health. Sampling occurred in 2015 and 2016 and will occur again in 2020 and 2021. The aquatic macroinvertebrate community and habitat condition are shown in the graphs to the right. A map on the last page depicts macroinvertebrate condition at specific stream locations. To request a copy of the full report, please contact EGLE.

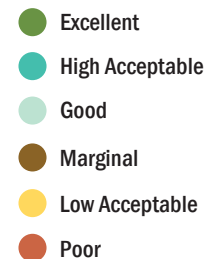
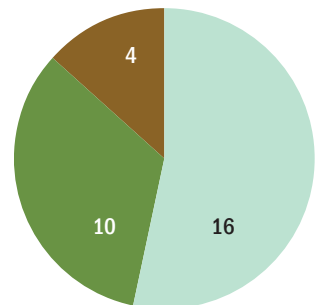
After sampling biologists identify the aquatic macroinvertebrates. They then score and rate the health of the biological community and the health of the habitat. In the St. Joseph River watershed most sampling sites were rated acceptable, good, or excellent (see pie charts). Hickory Creek in Berrien County had a poor macroinvertebrate score due to a lack of stable habitat caused in part by the stream being straightened and cleaned out for efficient water drainage.

Aquatic Bug and Habitat Health at 30 stations in the St. Joseph River watershed (2015-2016)

Aquatic Bug Community



Habitat Rating



Watershed	Natural	Developed	Cultivated Agriculture	Hay or Pasture	Other	Lost Wetlands
St. Joseph River	29%	11%	47%	10%	3%	23%



EGLE employee sampling a Michigan stream

Land Use

The use of the land in the watershed that drains to the St. Joseph River influences the types of pollution that can enter the water. The land use in the St. Joseph River watershed is dominated by agriculture. Because the soils are poorly drained, many fields in use have underground tile pipes for drainage. Wetlands and streams have been drained, dredged, and channelized (e.g. straightened) so that water moves quickly. This scours the stream banks and fills in stream bottoms with sediment, and can degrade habitat for aquatic insects and fish. The St. Joseph River has an average of 29% of natural forested and wetland areas which have less runoff because water has more time to soak into and be filtered by the soil.

Water Quality Data

Water chemistry data have been collected as part of EGLE's Water Quality Monitoring Program (Michigan.gov/WaterQuality) and, to a limited degree with biological surveys (MCGI.State.Mi.Us/MiSwims). Concentrations of metals found meet water quality standards with the exception of mercury and PCBs, which is addressed by the statewide mercury and PCB reduction plans (Michigan.gov/TMDL). Nutrient concentrations in the St. Joseph River watershed as measured

by total phosphorus are similar to the average concentration found in other water bodies in the same ecoregion. Additional information is available upon request.

Fish Consumption Data

The entire St. Joseph River watershed and several inland lakes in the watershed, have fish consumption advisories due to mercury and PCB levels in fish tissue. The St. Joseph River downstream of Berrien Springs Dam also has an advisory for PFOS levels. The Eat Safe Fish link has more information regarding these contaminants and safely eating fish from the St. Joseph watershed: Michigan.gov/EatSafeFish. EGLE is not responsible for fish stocking, please see the Michigan Department of Natural Resources for more information (Michigan.gov/DNRfishing).

E. coli Monitoring Data

Portions of the St. Joseph watershed are not meeting water quality standards due to high bacteria levels at times. More information can be found at Michigan.gov/EGLEecoli. Public beaches in this watershed (including those on rivers or lakes) may at times be closed due to elevated levels of bacteria (including E. coli), especially after rain. Beach closing information is available online through BeachCast: Glin.net/beachcast and through BeachGuard: EGLE.State.Mi.US/Beach.

Watershed Groups

Friends of the St. Joseph River Watershed: FOTSJR.org
Branch County Conservation District: BranchCD.org
Calhoun County Conservation District: CalhounCD.org

Cass County Conservation District: CassCountyMI.org
Hillsdale County Conservation District: HillsdaleCD.org
St. Joseph Conservation District: StJoeCountyCD.com

Sampling Requests

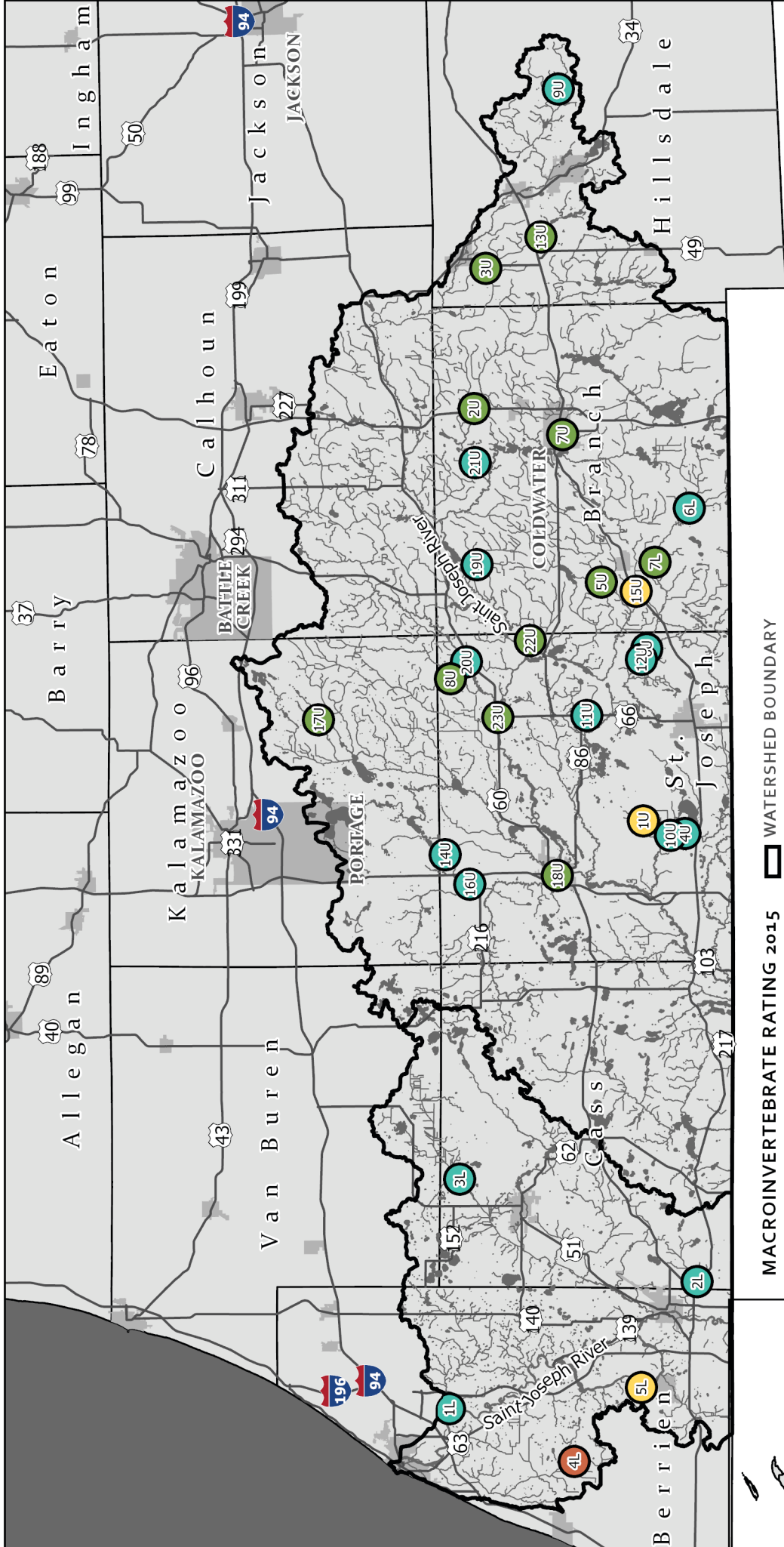
If you have a water body that you would like the DEQ to consider sampling, you can fill out a Monitoring Request Form (Michigan.gov/WaterQuality). Requests will be reviewed and completed based on staff availability, budget, and other monitoring needs.



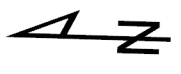
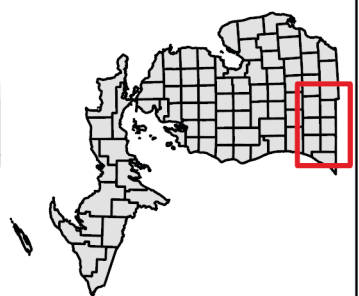
800-662-9278 | Michigan.gov/EGLE

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- MACROINVERTEBRATE RATING 2015**
- EXCELLENT
 - HIGH ACCEPTABLE
 - LOW ACCEPTABLE
 - POOR
- WATERSHED BOUNDARY**
- HIGHWAYS
 - HYDROLOGY
 - CITIES AND VILLAGES
 - COUNTIES



Aquatic Insect Health - St. Joseph Watershed

Water Resources Division

