



# Did You Know?

The M&M Area Community Foundation is helping lead the effort for the Great Lakes One Water Partnership in water resiliency. Follow our progress by visiting our website or contacting the Foundation for more information and to get involved.

The forecasted lake levels for end of June were above the monthly record highs for all 5 of the Great Lakes. The Lake Michigan level is forecast to be 33 inches higher than the long-term monthly average.

As recently as 2013, Great Lakes water levels were near historic lows with Lake Michigan and Lake Huron reaching their lowest level since record keeping. These lakes were 29 inches below their long-term average and had declined 17 inches in a year.

Lower lake levels affect the ability of ships to safely navigate shallow portions of the Great Lakes. The ships need to carry lighter loads which increases shipping cost.

According to the Great Lakes Integrated Sciences and Assessments Program, since 1951, total annual precipitation in the Great Lakes region has increased by 14%.

Wisconsin has more than 15,000 lakes and 13,500 miles of navigable streams and rivers. Almost 3 percent of Wisconsin's area—nearly a million acres—is lakes. And, Wisconsin has more than 800 miles of Great Lakes coastline and nearly 200 miles of Mississippi River shoreline.

Michigan has more than 11,000 lakes, 76,000 miles of rivers, 6.5 million acres of wetlands and more than 3,200 miles of freshwater coastline - the longest in the world.

Storm water runoff is rain that falls on streets, parking areas, sports fields, rooftops or other developed land and flows directly into rivers and lakes. As storm water moves across developed areas, it picks up debris, automotive fluids, fertilizers, and other pollutants which can enter our waterways.

When communities have a large amount of hard surfaces, they have more storm water run-off. This storm water can overwhelm storm sewers and cause flooding, create erosion and severely damage property and infrastructure.

Reducing the amount of hard surfaces reduces our storm water runoff. Changing pavement to gravel and part of your lawn to native plants or grasses will absorb storm water.

According to the Great Lakes Integrated Sciences and Assessments Program the amount of precipitation falling in the heaviest 1% of storms increased by 35% in the Great Lakes region from 1951 through 2017.

Blue-green algae is becoming more common in lakes and rivers across the Midwest, including in parts of the Great Lakes. Warming lake temperatures, combined with storm water that contains nutrients like phosphorus and nitrogen, are the culprits.

The first algae bloom was detected in Lake Superior in 2012. Another was detected in 2016 following storms that flooded Lake Superior tributaries in northern Wisconsin. A 3<sup>rd</sup> algae bloom formed in 2018 after storms dumped nearly a foot of rain. In all three events, infrastructure was severely damaged and Great Lakes water quality severely degraded.

Homeowners and business owners can reduce storm water runoff by planting native grasses, landscaping plants, bushes, and trees. Native plants used for landscaping look great and help reduce flooding and erosion that can worsen the quality of our water.

Michigan has 80 recreational harbors that help support a \$4 billion boating industry. Taking steps to make our coastal communities more resilient means integrating harbors into community and economic development planning and investing resources to ensure that capital infrastructure is maintained and protected along the shoreline.

Green Infrastructure uses vegetation, soils, and other practices to restore some of the natural processes to manage storm water. For cities, green infrastructure can be a patchwork of natural areas that provide habitat, flood protection, and cleaner air and water.

We have had a significant reduction in the average winter ice cover on Lake Superior and Lake Michigan for the period between 1973 – 2010. Less ice cover means more damage to beaches.

Green Infrastructure uses vegetation, soils, and other elements and practices to restore some of the natural processes required to manage storm water. In our neighborhoods, green infrastructure can be rain gardens or permeable planter boxes which soak-up and store water.

Pet waste that is improperly disposed of can be picked up by storm water causing pollution and health risks. As pet owners, we all have a responsibility to properly dispose of our pet's waste.

The Great Lakes region has a high number of federal action level exceedances for E. coli bacteria compared to other US coastal regions. This is a result of sewer system overflows during intense rain events when large amounts of rain fall on areas with a high percentage of impervious surface.

Researchers specializing in hydrology and climate science believe rapid transitions between extreme high and low water levels in the Great Lakes represent the “new normal.”

Just one inch of rain falling on a one-acre parking lot can fill a backyard swimming pool with 27,000 gallons of water. And, one inch of rain running off a 1,000 square foot roof results in more than 600 gallons of water. All that water has to go somewhere and in cities 55% or more of it becomes storm water runoff.

Rain gardens are shallow, planted depressions that collect and absorb runoff from rooftops, sidewalks, and streets. They can be installed in almost any unpaved space and can cut down on the amount of pollution reaching creeks and streams by up to 30%.

Whenever you wash your vehicle in the driveway or street, untreated, detergent-rich water flows down the street and into the storm drain. This water may contain high amounts of chemicals, nutrients, metals, and hydrocarbons.

How we care for our lawns affects water quality. Consider choosing natural alternatives when possible. Don't overuse chemicals—read the labels carefully and measure your yard. Check the weather forecast to avoid applying them before a storm and always sweep extra fertilizer off hard surfaces and back onto your lawn.

