

THE GLQO WATERSHED JOURNAL

The Gull Lake Watershed includes Gull Lake, Little Long Lake, Grassy Lake, Little Gull Lake, Miller Lake, Bullhead Lake, Duck Lake, Backus Lake, Dake Lake, Elliston Lake, Mud Lake, Wintergreen Lake, and Prairieville Creek.



RAIN GARDENS AND THEIR BENEFITS

By: Jane Bruns, Master Rain Gardener Student

Not so long ago, before asphalt and concrete, when it rained, the rainfall remained where it fell and was taken up and filtered by plants, or soaked through and filtered by the soil, therefore replenishing the ground water. Today, when rain, snowmelt and irrigation flow from our roofs, yards, sidewalks, roads, parking lots and driveways, the resulting runoff is often muddy brown, hot and toxin-filled by the time it reaches our lakes and streams. The run-off water picks up pollutants along its journey: phosphorus and nitrogen from fertilizers; bacteria from animal waste; oil, grease and heavy metals from cars; and just plain old “dirt” called sediment. Much of the water is never returned to the ground water aquifer where it belongs and by some estimates, 70% of water pollution is carried by run-off.

The good news is that much of this run-off can be captured and filtered on-site by a beautiful, well-designed rain garden. Rain gardens (a.k.a. bioretention or bioswales basins) make it easier for property owners to manage storm water and protect the environment. Rain gardens are temporary reservoirs designed to contain, filter and absorb run-off back into the ground rather quickly, as a means of keeping it out of lakes, streams and sewers, ultimately replenishing the underlying aquifer. For example, a modest 1,500 square foot dwelling sheds 1,000 gallons of water during a 1-inch rain storm, often going into lakes and storm drains, untreated. That is a lot of water!

Studies have shown that rain gardens are effective at removing pollutants that are harmful to human health. Sunlight destroys bacteria and viruses, petroleum is eliminated by bacteria and heavy metals are absorbed by soil and mulch particles.

A simple, low-maintenance rain garden can capture much of

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SPRING 2017

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The Gull Lake Quality Organization is an all-volunteer organization. Our mission is to address concerns and provide education regarding the use of natural resources of the Gull Lake Watershed.

REMEMBER:

The GLQO Annual Meeting is
Tuesday, August 8th at the
Kellogg Manor House.
Meet and Greet at 6:30 pm
Meeting begins at 7:30 pm



GULL LAKE BOAT WASH Questions and Answers

By Mike Gallagher

Why is a boat wash being installed? It will protect Gull Lake from harmful, costly invasive weeds coming from other lakes that boaters have visited. It will also stop Gull Lake boaters from carrying microscopic zebra mussels to other lakes.

Do all boats get washed on the way into the lake? No, only boats that are not clean, drained and dry. The boat wash attendant will check your boat as you enter the park. If your boat or trailer has weeds on it or contains bilge water it will be washed by the attendant.

How long does it take to get washed? Usually 3-5 minutes. A high pressure hot water spray will be used to wash the outside of the boat. Low pressure warm water will be used to flush bilges and engines. No chemicals are used.

Do all boats get washed when they leave the park? Yes.

Won't there be traffic jams? Rarely. There are two wash stations that can be used to wash boats entering or exiting and a third station that can only be used for exiting boats. No other park in Michigan has this many wash stations. Last summer, the Prairieville Township surveys showed that only 18% of boats visiting Upper our lakes needed to be washed as they entered.

What's the fastest way for me to get my boat into the lake? Arrive clean, drained and dry.



What's the fastest way for me to get out of the park?

Make sure you are not carrying any weeds on your boat, trailer, anchor line or fishing gear. Empty your live wells. Pull your bilge plug. Help the attendant wash your boat.

How much did the boat wash cost? About \$60,000. The members of the Gull Lake Quality Organization paid \$50,000 and Prairieville Township paid \$10,000.

Will the boat wash be staffed? Yes. The attendants are employees of the township. **Labor costs will be funded by donations to GLQO and contributions from boating guests.**

What if staff are not present? Once appropriate signage is installed, the boat wash may be self-operated.

When will the parking lot be repaved? Hopefully by the end of June.

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Dennis Kleinbrink and his friend, Tony, made history on June 4! They were the first boaters to take advantage of the FREE boat wash after a day of fishing on Gull Lake.

RAIN GARDENS AND THEIR BENEFITS *continued*

that run-off, similar to how the natural environment would function. It fills with the rain that falls on it, plus the rain water that runs off a hard surface like a roof, road or driveway. Rain gardens are amazingly beautiful features of a property's landscape or lakescape and can be a source of pride, entertainment and diversion. They are also home to many species of butterflies, songbirds and other wildlife. Plants in rain gardens require less watering during the hot summer months.



As Riparians, we all have the opportunity to include rain gardens in our lakescaping concepts, in order to help keep unfiltered water from entering the Gull Lake Watershed. At the GLQO Annual Meeting on August 8th at KBS, representatives will be on hand to discuss the importance of rain gardens and to recommend appropriate native plants that can be the work horses of any natural, beautiful rain garden. Plan to attend this event and learn how you can install and maintain an important element of lake health.



A wonderful example of a rain garden on Gull Lake is found on the bay along South Gull Lake Drive. It was installed four years ago by property owners Ed and Nancy McCarty, to capture the run-off from M-89, which freely ran down the hill and into Gull Lake. (*Pictured on the right.*) It is located between Gull Lake Marine and The Ice House. Take a look at its beautiful simplicity and consider what you can do on your property to enhance and maintain the health of our wonderful watershed.

Be sure to join us at the GLQO Annual Meeting on August 8th at the Kellogg Manor House.

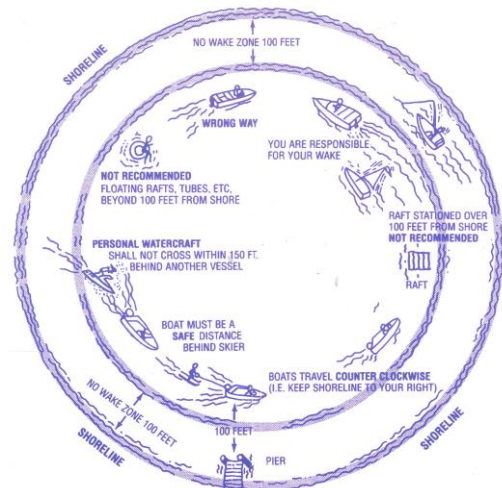
Anna Kornoelje, Ecological Restoration Director at Kalamazoo Nature Center, will be our featured speaker. Anna will discuss rain gardens, native plants and lakescaping as it pertains to the health of Gull Lake.

Board member, Mike Gallagher will discuss the Score the Shore results. You will be able to see how your shoreline scored. Anna's discussion will help provide hands-on solutions to improve the health of the shorelines.

Gull Lake Landscape Company will provide a Native Plant "Show and Tell."

Counterclockwise Boating. It's the Law.

According to the Michigan Boaters handbook, "Improper Direction is defined as the failure to operate in a counterclockwise direction except in areas marked by well-defined channels or rivers."



KBS Offers Natural Shorelines for Inland Lakes

Date: Tuesday August 15 & Tuesday August 22

Time: 6:00 p.m. to 9:00 p.m.

Location: Kellogg Biological Station 3700 E Gull Lake Dr, Hickory Corners, MI 49060

Natural Shoreline for Inland Lakes: A Lakescaping Workshop for Lakefront Property Owners is a workshop for anyone interested in creating, restoring and managing natural shorelines and is designed as a guide. We will learn about techniques for using natural landscaping along the shoreline for erosion control and habitat while maintaining the value of lakefront property. On August 15, there is an in-class session followed by investigating four different natural shoreline designs. On August 22, we will check out natural shorelines around Gull Lake from a boat.

Workshop registration is \$50/person and includes a copy of the Natural Shoreline Landscapes on Michigan's Inland Lakes: Guidebook for Property Owners and \$25 for a second registration (no book included). The Natural Shoreline Landscapes publication can also be purchased from the MSUE Bookstore.

Register today at: <http://www.kbs.msu.edu/events/natural-shorelines-for-inland-lakes>

MORE ABOUT THE GULL LAKE BOAT WASH

Did you know...

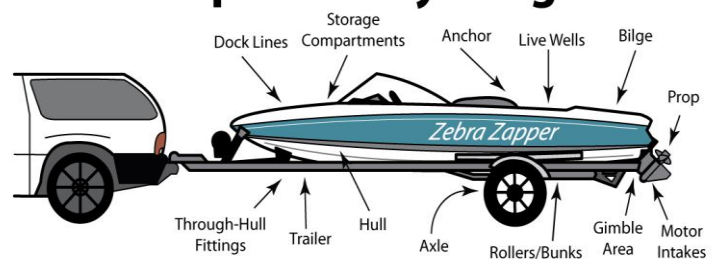
Gull Lake only has one very noticeable aquatic invasive species (AIS), the zebra mussel. It has two others that we are keeping a very close eye on, Starry Stonewort and Eurasian Water Milfoil.

Upper Crooked Lake residents pay around \$70,000/year to manage six AIS in that lake. That is a common expense for many lakes in Michigan.

Managing invasive lake weeds is a cost that is paid for by lake residents only. The State of Michigan, boat ramp fees or visiting boaters do not share any of this cost.

Only three townships in Michigan have an ordinance requiring mandatory boat washing. Prairieville Township is one of them.

Before Leaving & Before Launching... Inspect Everything!



A Very Special Note Of Thanks...

...To all the members of the Gull Lake Quality Organization for making this major investment in invasive species prevention possible!

...To Rick King, Architect for donating his services in the design process.

...To Dave Flook, Flook Construction Solutions, for his generosity and expertise that brought the project in as expected.

...To the GLQO board members who helped educate and inform boaters which made the implementation smooth.

LAKE TURNOVER—what is it?

By Don Winne

Lake turnover is also called lake stratification. Shallow lakes—less than 30 feet maximum depth—generally do not stratify. Lakes in Michigan—from 42 degrees north latitude (Detroit) to 46 degrees north latitude (Sault St. Marie) that have a depth of 30 feet or more usually stratify.

Lakes that stratify develop a warmer layer of water 20 to 30 feet in thickness called the EPILIMNION, and this layer is separated by a middle layer called the thermocline from the bottom layer called the HYPOLIMNION.

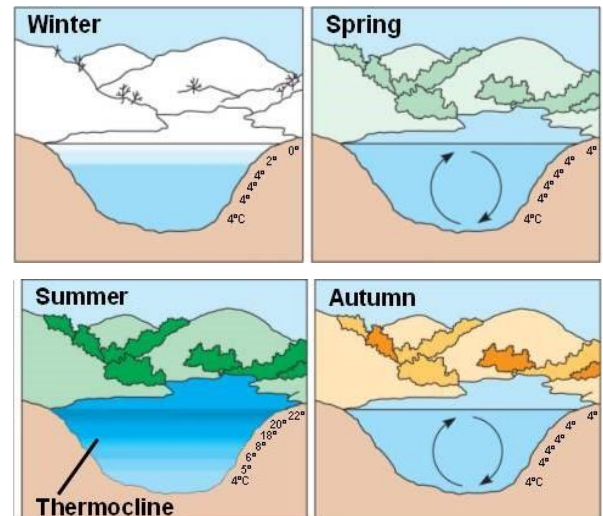
This stratification process is driven by changes in the water surface temperature. The two turnover or mixing periods occur in the spring and fall of each year. As the ice melts and the surface water reaches 39 degrees Fahrenheit—this is when water is most dense and heaviest—it sinks to the bottom and moves the warmer and less dense water to the surface until it becomes uniform in temperature from top to bottom. This same process occurs in the fall when the air temperature cools the surface water to 39 degrees.

This process begins around the middle of October in the upper part of the lower peninsula and the UP. This process occurs in early November in lakes below Lansing.

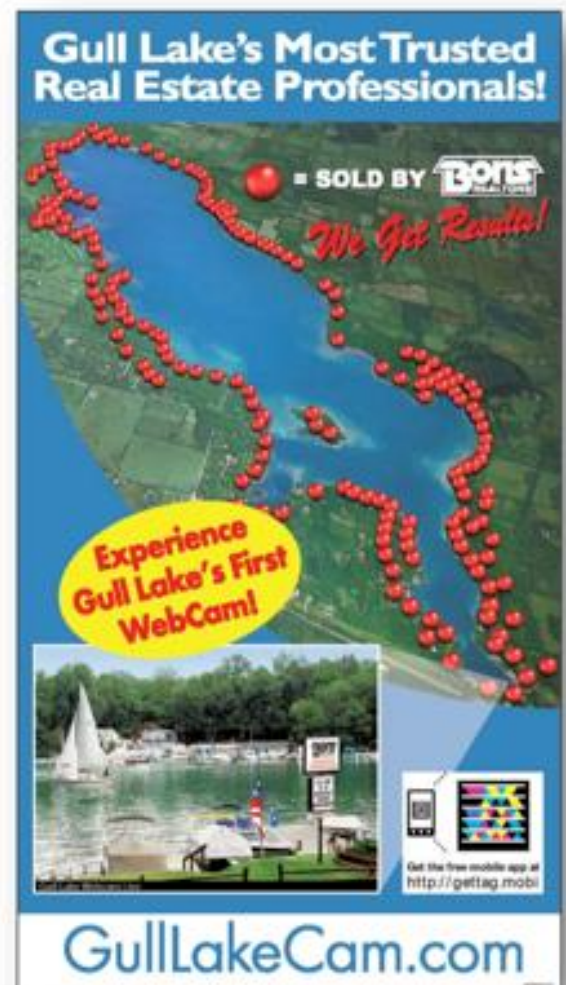
Factors that affect the turnover time for a specific lake include the lake size, maximum depth, whether the lake is exposed to the prevailing winds or sequestered by steep wooded hills that rise abruptly from its shores. Water clarity as revealed by Secchi depth measurements may also be a factor. Free floating algae and dissolved solids will increase the absorption of solar energy and thereby accelerate the turnover time.

Lakes in Michigan that stratify do so by early June. As a result of the failure of the EPILIMNION waters to mix with the HYPOLIMNION waters, the amount of dissolved oxygen in the hypolimnion decreases until the water just above the sediment will drop to zero dissolved oxygen. This condition will not change until the fall overturn occurs.

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*GLQO gratefully acknowledges
the Richland Area Community
Center for inviting us to hold our
regular board meetings there!*



*We thank the
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Gull Lake Country Club	Gull Lake Marine	Ice House, LLC
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Every effort is being made to report members' names as you have requested.

Some members have requested to remain anonymous. If you see an error, please e-mail info@glqo.net.

We appreciate the support that GLQO receives from the Michigan Lake and Stream Associations. If you don't already receive the Riparian Magazine – subscribe at MYLSA.org.



The Gull Lake Quality Organization

P.O. Box 34 / Hickory Corners, Michigan / 49060

Website: glqo.net

Contact: info@glqo.net



Upcoming Events

Tuesday, June 20th at 7:00 p.m.

GLQO Board Meeting

Richland Area Community Center

Tuesday, August 8th

Meet and Greet at 5:30 p.m.

GLQO Annual Meeting at 7:30 p.m.

Kellogg Manor House

Tuesday, August 15th at 6:00 p.m.

Tuesday, August 22nd at 6:00 p.m.

Natural Shorelines for Inland Lakes

Kellogg Biological Station

(Pre-registration required.)

PART-TIME HELP WANTED

BOAT WASH ATTENDANT

Visit: <http://glqo.net/2017/05/boat-wash-attendant-job-description-and-application/>

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*GLQO by-laws allow volunteers to serve as directors for two consecutive three-year terms. After each Director's name are two numbers: the **year** their current term expires, and the **number** of the current term.*

We welcome you to volunteer for committee work (of your choice) and to participate in our board meetings.

The Gull Lake Watershed includes Gull Lake, Little Long Lake, Grassy Lake, Little Gull Lake, Miller Lake, Bullhead Lake, Duck Lake, Backus Lake, Dake Lake, Elliston Lake, Mud Lake, Wintergreen Lake, and Prairieville Creek.
