

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.

PHOSPHORUS INPUTS DECLINING

By Gary Mittelbach, Kellogg Biological Station

Phosphorus Inputs to Gull Lake decline...good news!

Phosphorus is a key nutrient in lakes. While plants and animals need phosphorus to grow, too much phosphorus is a bad thing. Last year, residents of Toledo, Ohio experienced first-hand the disastrous impacts of too much phosphorus getting into Lake Erie, when fertilizer runoff from agricultural fields fueled a bloom on noxious algae, forcing the city of Toledo to shut down their water supply for many days. Because phosphorus is the main nutrient limiting algal and plant growth in our lakes, the Gull Lake Quality Organization routinely monitors phosphorus levels in Gull Lake and other lakes in the Gull Lake watershed, as part of our water quality program. This work is conducted in cooperation with the scientists at MSU's Kellogg Biological Station, and with the help of local volunteers participating in Michigan's Cooperative Lakes Monitoring Program.

In 2014, Dr. Steve Hamilton of KBS compiled a phosphorus "budget" for Gull Lake by measuring the amount of phosphorus coming into the lake for the entire year from its three major inflows: Prairieville Creek, Wintergreen Lake, and the creek from Little Long Lake (see map on the right). Dr. Hamilton also measured the amount of phosphorus leaving Gull Lake via Gull Creek. The results of his work are crucial, not only because they provide a measure of current phosphorus inputs and outputs from Gull Lake, but more importantly, we can compare these results to phosphorus budgets developed by KBS researchers in 1974 and 1994. These three studies, conducted now at 20-year intervals, provide an invaluable long-term record of the "health" of Gull Lake.

Continued on page 2

SPRING 2015

In This Issue:

Phosphorus Inputs Declining	1
GLQO Monitoring Our Lakes	3
Starry Stonewort Presentation.....	4
GLQO Committee Notes	5
Appreciating our Members	6
Join Us	7

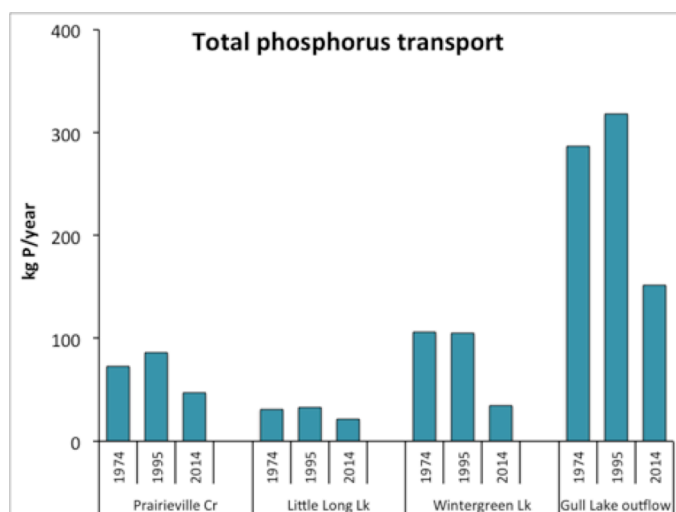
The Gull Lake Quality Organization is an All-Volunteer Organization. Our mission is to address concerns and provide education regarding the use of natural resources of the Gull Lake Watershed.



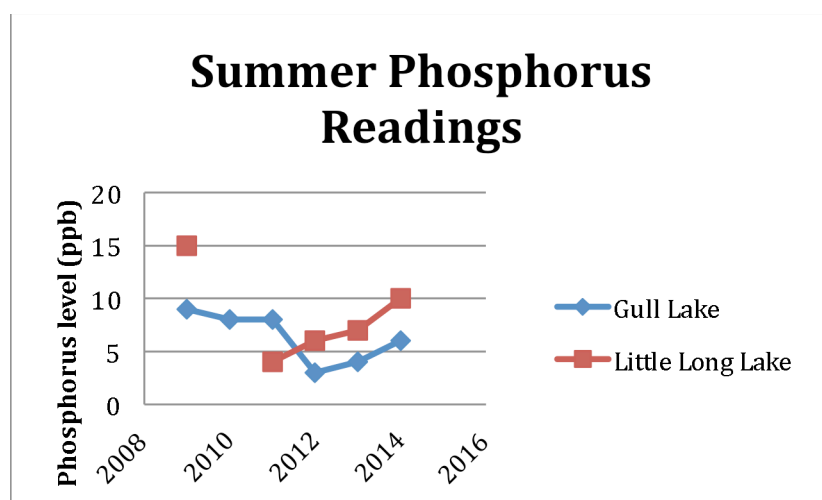
PHOSPHORUS INPUTS DECLINING (continued)

So, what did Dr. Hamilton's 2014 study show? As a medical doctor might say, "your test results are in and they look good."

As this chart shows, the yearly phosphorus input from each of the three main inflows to Gull Lake was lower in 2014 than in 1974 and 1994. The input from Wintergreen Lake showed the most dramatic decline. You will also notice that the amount of phosphorus leaving Gull Lake via the outflow was lower in 2014 than in previous years. This suggests that the lake system is "in balance". The amount of water moving into and out of Gull Lake in 2014 was essentially the same as in previous years, and "standing" levels (concentrations) of phosphorus in the lake have been stable or declining slightly in recent years (see results from water quality monitoring through the CLMP program in this newsletter).



Dr. Hamilton notes that there is still work to be done to complete the 2014 phosphorus budget for Gull Lake. If you look carefully at the chart, you will notice that phosphorus inputs from the three main inflows don't add up to the total amount of phosphorus leaving the lake. Thus, some phosphorus sources remain to be measured (e.g., groundwater, precipitation). Dr. Hamilton is conducting further analyses to estimate groundwater and precipitation inputs. But, the bottom line regarding phosphorus inputs and levels in Gull Lake is unlikely to change significantly—with regard to the nutrient most limiting algal growth, the "health" of Gull Lake is excellent and the inputs of phosphorus from the three major inflows to Gull Lake have declined since 1995.



These graphs show the results of phosphorus testing in Gull Lake and Little Long Lake from 2009 through 2014. An increase in phosphorus levels can be associated with increased aquatic plant and algae growth. Phosphorus samples were taken in late summer by GLQO volunteers, and testing was done through the state's Cooperative Lakes Monitoring Program. Although phosphorus levels have varied from year to year, there has been no clear trend in either lake. (2010 data are missing for Little Long because of an error in the lab.)

GLQO Teams Up With Michigan Cooperative Lakes Program

By Susan Houseman

Our 7th Year Monitoring Water Quality

Following an exceptionally cold winter, the ice finally melted on our lakes at the end of March, docks went in, and another boating season began. For GLQO, “ice out” also marked the start of our seventh year monitoring water quality in Gull and Little Long Lakes through Michigan’s Cooperative Lakes Monitoring Program (CLMP).

Within two weeks of ice out, GLQO volunteers were on Gull and Little Long taking the first phosphorus samples of the season. From May through September, volunteers will be on the lakes each week doing visual checks of water clarity, testing oxygen and temperature levels at various depths, or sampling water for chlorophyll and phosphorus. All of these measures are designed to detect changes in a lake’s productivity—the amount of plant and animal life the lake can support. An increase in lake productivity is most commonly caused by an increase in nutrients from plants and can be associated with problems such as excessive weed growth, algae blooms, and muck on the lake bottom.

CLMP uses a common classification scheme to categorize the productivity or “trophic” state of a lake. Oligotrophic lakes are typically deep and clear and have little aquatic plant growth. At the other end of the spectrum, eutrophic lakes have abundant aquatic plant growth, while mesotrophic lakes support a moderate amount of aquatic plant growth.

Using data collected by GLQO from 2009 through 2014, CLMP recently issued reports on Gull Lake and Little Long Lake. And the news is good! Gull Lake is classified as oligotrophic. In its deepest basin (110 feet), Gull Lake has some oxygen in its bottom waters through early summer, though the deep waters are largely devoid of oxygen by mid-summer. Little Long Lake falls between an oligotrophic and mesotrophic lake. In its deepest basin (32 feet), oxygen is present throughout the water column until late summer. You can find links to these reports, along with reports for other Michigan lakes participating in CLMP, at our website, www.glqo.net and at www.micorps.net/lakereports.

Are you interested in helping with GLQO’s water quality monitoring program? Contact us at info@glqo.net.

Generally, a lake’s productivity is slow to change. But certain factors, such as the introduction of an aquatic invasive species, can cause plant nutrients in a lake to rapidly increase. The recent discovery of starry stonewort in Gull Lake and the presence of other problem aquatic weeds in many nearby lakes are cause for concern. Continuing our monitoring and testing program will help GLQO gauge whether invasive species (or other factors) are having a significant adverse effect on water quality in our lakes and whether interventions are needed.



Soldiers from the Fort Custer Training Center participated in a building a floating bridge exercise on Gull Lake on May 4th.



Starry Stonewort: An In-Depth Look At One Of Michigan's Most Invasive Species

*Presented by Scott Brown, Executive Director
Michigan Lakes and Streams Association*

***Please join GLQO as we welcome Scott Brown on
Wednesday, May 20 at the Richland Area Community
Center at 7:00 p.m.***

During his presentation, Scott will discuss his research of the past four years that focused on the ecological and environmental factors that make many of Michigan inland lakes such an attractive habitat for starry stonewort. Starry stonewort is an invasive macroalgae that is spreading rapidly throughout Michigan.

Scott will explain why Gull Lake is a near ideal candidate for a successful invasion of the species. He will also talk about the importance of light, temperature and high calcium carbonate levels in relation to the biological requirements of starry stonewort and its potential impact on native aquatic plants and fish populations.

Discovered in Gull Lake in late summer 2014, starry stonewort is a serious threat. In other lakes, it has covered the bottoms with a dense mat and has grown up to seven feet tall. In Gull Lake, most starry stonewort has been found at depths of 30 feet, but it also has been discovered at two shallow shoreline locations in the bay north of the country club.

About Scott Brown

Scott holds a Bachelor of Science degree from Wayne State University and will be completing the requirements for a Masters of Science in Natural Resources and Environmental Sciences from the University of Illinois Urbana-Champaign in the spring. He is an early graduate of the Michigan State University Institute of Water Research Professional Watershed Management program and is a Certified Natural Shoreline Professional. Scott holds several advanced diving certifications and is an avid underwater photographer. He plans to dive Gull Lake on May 20th.

Additional Property on Prairieville Creek Conserved

Prairieville Creek supplies over 20 percent of the water for Gull Lake and is the only spawning tributary for Gull Lake's coldwater fishery. The Southwest Michigan Land Conservancy recently announced that Craig Shumaker is conserving six acres with 500 feet of frontage along the southern portion of Prairieville Creek, adding to the 40 acres of property Shumaker conserved in 2010. To date, SWMLC has protected 316 acres along Prairieville Creek through conservation easements with land owners. These conservation easements preclude development along the creek and help ensure the future health of Gull Lake and its fishery.



Section of Prairieville Creek protected by a new conservation easement



Burn at Woodlawn Preserve: On April 15, the Southwest Michigan Land Conservancy conducted a prescribed burn at Woodlawn Preserve on East Gull Lake Drive, which was donated to the Conservancy by Katie Miller. The fire helps to control invasive species, promote the growth of native plants for wildlife, and enhance the preserve's natural beauty.

GLQO Board Committee Notes

There are five standing committees represented on the Gull Lake Quality Organization. They are the Communications Committee, Water Quality Committee, Membership Committee, Boating Safety Committee and the Fisheries Committee. Look for updates from our committees in the GLQO quarterly newsletter.

Membership Committee Memo:

The Membership Committee and GLQO implemented a new membership process and dues structure. A membership drive was launched in January 2015 and will take place each year. Residents in the Gull Lake Watershed received information about the mission and work of the Gull Lake Quality Organization, along with an invitation to join. If you missed this opportunity and wish to become a member, please mail in the form found on page 7 or visit our website at glqo.net to download a membership form.

Boating Safety Committee Reminder:

It is every boater's responsibility to know the laws regulating boating and watercraft. Two regulations, the 100-foot rule and counterclockwise operations, are defined in the Natural Resources and Environmental Protection Act, Section 324.80149. "A person operating a vessel on the waters of this state in areas not marked by well defined channels, canals, rivers, or stream courses shall **operate the vessels in a counterclockwise fashion** to the extent that it is reasonably possible. These persons and persons being towed on water skis or on a water sled, kite, surfboard, or similar contrivance shall **maintain a distance of 100 feet from any dock, raft, buoyed or occupied bathing area, or vessel** moored or at anchor, except when the vessel is proceeding at a slow—no wake speed or when water skiers are being picked up or dropped off, if that operation is otherwise conducted with due regard to the safety of persons and property and in accordance with the laws of this state."

The Michigan Boating Safety Study Guide is found online at:
www.boat-ed.com/michigan/studyGuide/10102301

Water Quality Committee Advisory:

Your actions help stop the spread of aquatic invasive species. Follow these precautions:

1. Remove aquatic plants from your boat. Clean, drain and dry off your boat before trailering to other lakes.
2. Dispose of unused bait in the trash.
3. Never transfer fish to water bodies other than where they were caught.
4. Drain lives wells, bilges and all water before leaving the access site.



Thank you to the members of the Gull Lake Quality Organization who have signed up so far for 2015! Your support helps to preserve the beauty of the Gull Lake Watershed!

Mike and Louann Ambro	John and Ann Gallagher	Vicki and Mike Marcinek	Esther M. Shaw
Bud and Judy Baldwin	Joni and Roger Ganger	Ed and Nancy McCarty	Richard and Johanna Shields
David and Margaret Battjes	Frank Garratt Trust	Elizabeth McCarty	Linda Shierlaw
Mark and Jeanette Baynes	John and Sharon Garside	Russ and Connie McFee	Nick and Abby Skwiat
Bryan and Courtney Beck	Chip and Amanda Garside	Margaret McKenzie Trust	Gregory and Michele Smith
Bob and Margie Berres	Karen Geib	Ike and Bonnie Mellema	Doug and Deidre Smith
Margaret Black	Jay Gesmundo	Bob Mellema	Don and Joyce Snow
Dick Boris	Shahriar and Dhoky Ghoddousi	Joyce and Bill Melvin	June and Charles Spelman
Sherwood and Kate Boudeman	Susan Gilmore	Robert Millard	Carole Stevens
Sherwood and	Don and Janet Gladstone	Kevin and Elizabeth Miller	Charles and Janet Stoddard
Sharon Boudeman	Joni Green	Dave Mitchell	Harry and Tineka Stolt
Dr. Ronald Reisman and	Don and Mary Grimes	Gary Mittelbach and Katherine Gross	Peter Taft
Dr. Sue Ellen Braunlin	Frاند and Diane Guarisco	Ron and Joan Molitor	Carol Tedrow
Brenda Brenner	David and Michelle Halley	Toni Mueller	Bruce and Ann Thompson
Robert Britigan	Pete and Margaret Hamlett	John Mulholland	Ron and Edna Thompson
Nancy L. Brookins	Pete and Jo Hawk	James and Kristin Nolin	David and Carol Ticknor
Cleve Brown	Henry B. Hawk	James O. Nordlie	William and Carolyn Ticknor
Nick and Jane Bruns	James and Patricia Heilenbach	Kim and Valerie Nuyen	Chris and Michelle Tracy
Laurie Hanson and Tracy Buck	Mal Hickok	Mr. and Mrs. Robert O'Boyle	Elizabeth Travis
Thomas Buell	George and Arla Hillebrand	Valerie O'Brien	Jerry and Margaret Trepanier
Randy and Karen Byrd	Janeth Hinchman	Jeff and Amy O'Brien	Daniel and Gail Turluck
Gary and Marianne Caron	Byron Hodgson	Sean and Nicol O'Brien	Gail Turner
Richard and Joanne Chamberlin	Margaret Hogan	TJ and Charlene O'Neill	The Tyler Family
Gary Cirulli	Fred Holt	Jerry and Max Orum	Bill and RuthAnn Uggen
James Clark	Dennis Hoorn	Carla and Jerry Orwin	Tom and Olga Van Dis
Wanda Clawson	Susan Houseman and Curtis Hall	Craig Osborn	Dan and Carol Vogt
Edwin Cohen	Bruce Hutchinson	Dr. and Mrs. Nick Owings	Mary and Henry Von Schreiner
Jim Collier and Stuart Verseman	Ed and Ann Ihling	William and Barbara Parfet	Don and Louise Walbridge
Bob and Paula Cook	Nikki Jacobs	Don and Ann Parfet	Jack and Jane Wallner
Anne Couture and Bob Solt	Fred James	Preston and Barbara Parish	Dana Walters
Randy and Sally Crockett	John and Judith Jereck	Karol Peterson	Dan and Donna Weaver
Jerry and Sharon Cross	Steve Johnson	David and Julia Powell	James Westcott
Robert L. Dahnke	Randy Johnson	Jeff Price	William Weston
Jim and Diann Danhoff	William D. Johnston	Allison Pruitt	David and Cindy Wiedemer
Philip Dawson	John Kelly	Kay Rackiewicz	Bruce Williams
Jim and Barb Dekruyter	Richard Krebser	Gerry Rapp and Alison Thor	Brian and Teri Winne
Pamela Dewey	Shirley Kruger	Eric and Martha Reid	Drew and Rachel Worgess
John and Susan Doster	John and Martha Kuch	Robert and Mary Jo Rial	Marilyn Zheutlin
Jeree and Donald Drake	Paul and Kathleen Kuchenbuch	Brian and Jackie Rice	Anonymous (18)
Dr. David Dvorak	Richard and Ruth Laninga	Mark and Marymarie Rice	
Claire and Kris Eager	Stephanie Larson	William and Nancy Richardson	
Ron Elenbaas	Charles and Phyllis Lavene	James and Julie Richter	
James Elsener	Jack and Camille Lawrence	Robert and Mary Lou Ringemann	
George Elsener Family	John and Joanne Lawrence	Jim Ritz	
T.P. Emerson	Patricia Lawrence	Robert and Lori Rowe Paradise	
Tom and Carol English	Carol Lesiow	William Ryan	
John and Janis Etcorn	Christopher Light	Brad and Rene Saar	
Wendy Field	John and Rita Light	Tom and Judy Schau	
John and Lorelee Fisher	Howard and Leatha Linders	Gregory and Charlene Schofield	
Ron and Judy Flachs	Eric and Charlene Longman	Robert Schuder	
Rick and Pam Foster	Judy Maier	Ken and Pat Schultz	
Mike and Kathy Gallagher	Thomas Mansager	Jon and Carolyn Schutte	

Corporate Members

Banner Beachfront Equipment
Design for the Mind
Franklin Beach LLC
Gull Lake Marine
Gull Lake Ministries
Mac's Garage LLC

This list of members is of April 1, 2015. Memberships received after that date will be reflected in the Summer GLQO Newsletter. 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.



GULL LAKE QUALITY ORGANIZATION WELCOME TO SUMMER PARTY

A fundraising/party to help GLQO protect and enhance the Gull Lake Watershed. Join us at the Gull Lake Country Club Pavilion on **Sunday, June 7th from 5:30 to 8:30 pm** for fellowship, fun and food!

Tickets are \$20 per person (\$15 for kids, ages 12 and under) and include a freshly prepared chicken fajita bar with all the fixings and delicious chocolate covered strawberries to top the dinner off.

Tickets are available from GLQO board members, at Beer & Skittles, Kolligs Korner Market, Serafino's or at glqo.net.

Join GLQO ... Join In Our Continued Vigilance



Name: _____

(Please indicate how you wish your name to appear in the GLQO Membership List.)

Address: _____

City: _____ State: _____ Zip Code: _____

Phone: _____ E-Mail: _____

Individual/Family Membership

___ Regular (\$35) \$ _____

___ Supporting (\$50 to \$249) \$ _____

___ Sponsor (\$250 & Over) \$ _____

Corporate Membership

___ Silver (\$100) \$ _____

___ Gold (\$200 to \$499) \$ _____

___ Platinum (\$500 & Over) \$ _____

- ☐ I wish to receive the GLQO newsletter via email (to the email noted above)
- ☐ I wish to have my membership level kept confidential
- ☐ I do not wish to have my name published on the GLQO website or in GLQO publications

Mail to: GLQO, PO Box 34, Hickory Corners, MI 49060

The Gull Lake Quality Organization

P.O. Box 34 / Hickory Corners, Michigan / 49060
Website: glqo.net
Contact: info@glqo.net



Upcoming Events

Wednesday, May 13th at 9:00 a.m.
Birds and Coffee
Kellogg Bird Sanctuary

Wednesday, May 20th at 7:00 p.m.
Scott Brown Presentation
Richland Area Community Center

Sunday, June 7th at 5:30 p.m.
Welcome to Summer Party
Gull Lake Country Club

Tuesday, June 16th at 7:00 p.m.
GLQO Board Meeting
Richland Area Community Center

August 1st Weekend...In action...at
Prairieville Township Park
Portable Boat Wash

2014-2015 Board of Directors

Susan Houseman **(15-2)**
President

Jim Collier **(16-1)**
Vice-President

Jane Bruns **(17-2)**
Secretary

Chip Garside **(17-2)**
Treasurer

Kathy Gallagher **(17-1)**

Mike Gallagher **(17-1)**

Vicki Gesmundo Marcinek **(17-1)**

David Halley **(16-2)**

Pete Hawk **(16-1)**

Noah Livingston **(17-1)**

Ed McCarty **(17-2)**

Gary Mittelbach **(16-2)**

Tim Richardson **(16-1)**

Drew Worgess **(15-1)**

*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.