

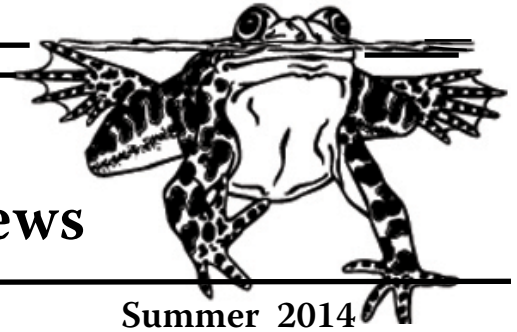
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# Water's Edge

## Gratiot Lake Conservancy News

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Volume 16

Summer 2014

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### *Donation of Gratiot Lake Shoreline and Wetlands*



Bonnie Hay

We are happy to announce the addition of 18.75 acres with approximately 2075 feet of shoreline on the western end of Gratiot Lake to conservation land at the lake. Lizzadro Farms Inc. donated the land to GLC in December of 2013.

This conservation area includes some upland forest but mainly cedar swamp and other wetlands. It can be accessed by canoe, kayak or other small watercraft. Wildlife observed in recent years on this lakeshore include river otter, beaver, bobcat, black bear, deer, bald eagles, loon, and great blue heron.

A boat tour including a stop at this new GLC nature sanctuary is planned (see details on page 7). A botanical survey of GLC's land at Gratiot Lake, including this new conservation area began in May.

[Click Here to view GLC Calendar!](#)

### *GLC's Annual Members Meeting*

**Eagle Harbor Community Building**

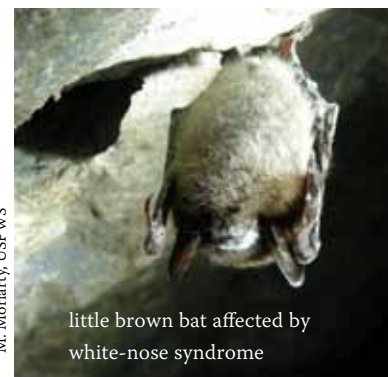
**Thursday, July 24**

**Reception 6:45 PM**

**Business meeting 7 PM**

**Refreshments 7:30 PM**

***U.P. Bats* slide-talk by Bill Scullon at 8 PM**



M. Moriarty, USFWS

little brown bat affected by white-nose syndrome

As a wildlife biologist living in the Upper Peninsula, Bill Scullon has been fortunate to work with a wide array of wildlife including moose, deer, bear, waterfowl, and wolves to name a few. However, for the past 18 years he has become actively involved with bat conservation efforts statewide. Bill's interest in bats has grown into a unique role where he has become the Michigan Department of Natural Resources bats and mines specialist. He is field coordinator for statewide bat conservation efforts.

Bill will speak about the basic biology of Michigan bat species, the impressive ecological role these diminutive mammals have in the Great Lakes region and the importance of abandoned U.P. mines as critical habitat for bats during hibernation. He will explain the implications of *white-nose syndrome* which has finally made its way into the Keweenaw, and how we can help to protect these avid little mosquito and black fly consumers!

We miss these Gratiot Lake friends and neighbors who recently passed away:

*Bud Avery lived year round at Gratiot Lake for over twenty five years. Bud and his wife Janet founded A.W.A.K.E. - a grassroots group which educated about the potential environmental impacts of the resumption of mining near Gratiot Lake and advocated for stringent monitoring to protect waterways and air quality two decades ago. They were members of Gratiot Lake Conservancy from its beginning in 1999.*

*Howard Hosking also was a member of GLC since its beginning. Howard and his wife Marilyn lived at Gratiot Lake for several months each year. He no doubt fell in love with the lake when he worked as a civil engineer in the 1950's at the Air Force base that was then on Mt. Houghton overlooking the lake. Howard called his Gratiot Lake home his "heaven on earth."*

**GLC is grateful for all donations received. Your generosity sustains us!**

In the last seven months GLC has received Major Gifts from

*William Bingham and Laura Cison*

*HFRX Foundation*

*Bonnie and Jim Hay*

*Joseph Lizzadro*

*Lizzadro Farms, Inc.*

*Carmen Sandretto (in memory of Louis Sandretto)*

Consider becoming a Life Member. Contact GLC for details.

Despite efforts to publicize the program and make the *Janet Avery Scholarship* available, Michigan Tech's *Summer Youth Program Exploration: Aquatic Ecology at Gratiot Lake* has been cancelled for this year due to low enrollment. According to Summer Youth Program administrator Steve Patchin, students this year opted primarily for engineering and computer related *Explorations*. GLC has partnered with Tech for a decade in offering this program for high school students and plans to offer the program again in 2015.

## About *Water's Edge*

*Water's Edge* is the newsletter of the Gratiot Lake Conservancy. Its purpose is to report Conservancy news, share information about the ecology and history of Gratiot Lake and its environs, and suggest ways to improve stewardship of the lake and its watershed. View *Water's Edge* in color on the GLC website.

**Please send questions, comments, or articles to**

**Bonnie Hay**

**Gratiot Lake Conservancy**

**P.O. Box 310**

**Mohawk, MI 49950**

**email: [belh@verizon.net](mailto:belh@verizon.net) phone: 906-337-5476**

**[www.gratiotlakeconservancy.org](http://www.gratiotlakeconservancy.org)**

# Freshwater Mussels Workshop

with

Environmental scientist, Joe Rathbun  
Mussel biologist, Renee Sherman-Mulcrone

Saturday, August 16, 9 a.m. to 3 p.m.

This workshop will cover the identification of mussels (also known as clams) found in inland lakes and rivers in the Keweenaw Peninsula and nearby counties. There will be a slide talk and short mussel identification practice session at the conservancy's Noblet Field Station in the morning followed by a hands-on mini-survey at Gratiot Lake after lunch. Topics that will be discussed are the importance of mussels to the ecology of lakes and streams, tips on identifying mussels, and the usefulness of mussel surveys in helping to determine the health of aquatic systems. Participants will receive a key to identifying mussels found in the Upper Peninsula. The afternoon survey will provide data on Gratiot Lake clams which will be submitted to the Michigan Natural Features Inventory.



Photo by Joe Rathbun

The Giant floater, *Pyganodon grandis*, is found in Gratiot Lake.

Cost of the workshop is \$35 (\$25 GLC members). This workshop is suitable for anyone with an interest in biology and ecology including professionals and students in the fields of biology and ecology as well as lay people interested in learning about life in Keweenaw lakes and how to protect aquatic ecosystems.

Class size is limited and advance enrollment is required. For an enrollment form call GLC at 906-337-5476 or download the form at [www.gratiotlakeconservancy.org/MusselsWorkshop2014.htm](http://www.gratiotlakeconservancy.org/MusselsWorkshop2014.htm)

To apply for a *Janet Avery Scholarship* to attend a workshop, please [email GLC](#) with the name of workshop in the subject line. Include your complete contact information and describe how you plan to use what you learn in your job, studies, or volunteer work.



Photo by Gina Nicholas

Joe Rathbun (pictured above clamming at Gratiot Lake) is an environmental scientist with the Michigan Department of Environmental Quality's Water Division in Lansing. He has worked for 35 years in both the private and public sectors, and his research interests include water quality monitoring, stream restoration projects, geomorphic and ecological aspects of dam removals and whitewater parks, and mussel surveys and relocations. He is currently working on a long-term project to remediate stamp sand impacted streams, including the Eagle River, and is starting a multi-year survey of the mussels of the Keweenaw Peninsula.

Renee Sherman-Mulcrone is a mussel biologist who has completed mussel surveys and mussel restoration work in various areas in Michigan. Her PhD is from the University of Michigan. She has co-taught many workshops on freshwater mussels with Joe Rathbun.

**Mark the date!**  
**Michigan Coastal Clean-up**  
**Pitch in at Gratiot Lake shoreline on**  
**Saturday, September 20th**  
**9:30 to Noon**

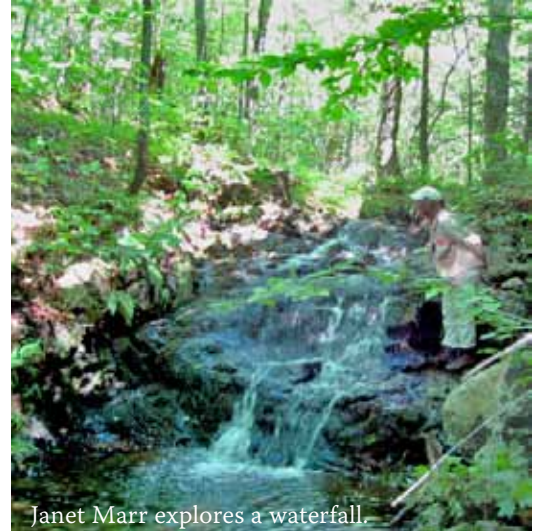
***Go digital and save paper and postage!***  
**Email GLC** to receive a color digital copy  
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instead of a paper copy.



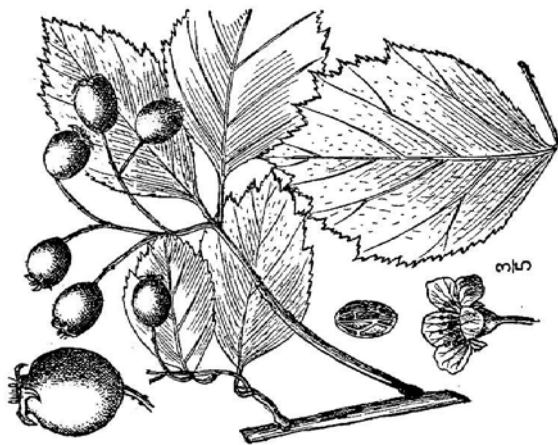
# Bammert Farm Botanical Inventory

In 2013, a [botanical inventory survey at Gratiot Lake Conservancy's Bammert Farm](#) was completed by botanist Janet Marr. Over a two year span, Janet surveyed a variety of habitats throughout a 309-acre conservation area within the 466 acre parcel that is located about 1 ½ miles as-the-crow-flies west of Gratiot Lake. In the 1800's, Bammert Farm had grown food and fodder to support the Central mine community.

The goal of the survey was to establish a baseline of the plant communities and species present and to identify rare species as well as invasive species of concern. This survey will help GLC in planning for the management of the area by locating special and unusual plant species, non-native /invasive plants, and sensitive habitats. Nine natural plant communities were explored including conifer and hardwood swamps, wet meadows, shrub thickets, and mesic forestland.



Janet Marr explores a waterfall.



Among the 204 plant species documented, one of the highlights was the discovery of Black hawthorn, *Crataegus douglasii*, along the old Phoenix Farm Road which transverse the area. Black hawthorn (illustrated at left) is designated a Michigan Special Concern plant. This spiny-stemmed native shrub is the only hawthorn in Michigan with black fruits. Three species found in Bammert Farm were new to Keweenaw County records and a fourth species had been reported on Isle Royale, but not on the Keweenaw mainland. [To view the plant list click here.](#)

USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. *An illustrated flora of the northern United States, Canada and the British Possessions*

*Carex utriculata* is one of the twenty species of sedge that were identified in some of the open wet areas at Bammert Farm. Photo at right shows the sedge seed heads.



Photo by Janet Marr

## The nine native orchids observed:

Spotted coral-root, *Corallorhiza maculata*

Spotted coral-root flava form, *Corallorhiza maculata* var *occidentalis* forma *flavida* (photo at left)

Pink ladyslipper, *Cypripedium acaule*

Rattlesnake plantains, two species *Goodyera oblongifolia* and *Goodyera* sp

Broad-leaved orchid, *Neottia convallarioides*

Northern green orchid, *Platanthera aquilonis*

Round leaved orchid, *Platanthera orbiculata*

Purple fringed orchid, *Platanthera psycodes* (photo at right)



Photo by Janet Marr



Photo by Tome Bates, University of Kentucky

Ten percent of the species identified at the Bammert Farm conservation area are non-natives. Of that group most are not considered to be invasive. Removal of spotted knapweed is recommended.



Photo by Laura J. Herman

European marsh thistle first year plants overwinter in rosette stage (above). Illustrated at right the flowering stems are 4-5' tall, erect, thick, sometimes reddish in color, branched at the top and bristling with spiny wings aligned with the stem. Even the flower head is spiny. Much of plant covered in long, sticky hairs.



Photo by Janet Marr

Invasive European marsh thistle, *Cirsium palustre* (pictured above) should also be removed. This thistle is not to be confused with a desirable native relative, Swamp thistle, *Cirsium muticum* (pictured below) that is also present! "Muticum" means "blunt." Swamp thistle has smooth stems without wings and softly spiny leaves. It does not have hard spines on the flower head.



Photo by Janet Marr

Native Swamp thistle at Bammert Farm with Atlantis fritillary butterflies. There were three species of fritillary butterfly observed by Jim Bess at Bammert Farm last July: Great spangled fritillary, Silver-bordered fritillary, and Atlantis fritillary.

## Explore Bammert Farm

With Botanist Janet Marr  
and GLC Director Bonnie Hay

Saturday August 30, 9 a.m.. to Noon

We will visit a red pine plantation, mixed hardwood forest, and wetlands in this 466 acre parcel which is not often open to the public. There is a forestry management plan in place and it is a site for sustainable forestry education, so we will pass through a red pine plantation which has been recently logged. We will see a few remnants of the Farm's history and look for plants, animals, and fungi along the way.

The walk will be easy to moderate. Much of the walk will be on a footpath that follows what remains of the old Phoenix Farm Road. Bring a brown bag lunch, water, and optional wading shoes or boots to explore wet areas. There is no charge for this field trip but reservations are requested. [Click here for more on this walk.](#) For details, directions to meeting location, and to reserve call Bonnie at 337-5476 or email [BELH@verizon.net](mailto:BELH@verizon.net)

## Your help is needed

to remove invasive species

at Bammert Farm and Gratiot Lake.

Contact Bonnie at

337-5476 or [belh@verizon.net](mailto:belh@verizon.net)

Janet Marr's Wetland Plant Workshop scheduled for August 23 and 24 is already full! [Contact GLC](#) to be added to waitlist.

## Last Minute Events?

Field trips may added to the GLC calendar.

[Contact GLC](#) to be added to the

"spur of the moment" notification list!

Visit the Gratiot Lake Conservancy web site to view current and archived issues of *Water's Edge Newsletter* (in full color), articles, calendar, photos, video clips, and links to more !

[www.gratiotlakeconservancy.org](http://www.gratiotlakeconservancy.org)



## This pretty invader spells trouble!



Leslie J. Mehrhoff, University of Connecticut, Bugwood.org



Illustration by  
Cindy Roche, Bugwood.org

Purple Loosestrife, *Lythrum salicaria*, is a lovely-to-look-at but unwelcome interloper at Gratiot Lake. This showy plant with bright pinkish-purple flower spikes is damaging to wetland ecology. It was identified in the swale next to the lake's public access site last August when the Aquatic Plant Workshop group came to look at vegetation there. The loosestrife plants were removed before they went to seed, but please be on the look out for its recurrence.

Purple loosestrife was introduced from Europe in the 1800's - most likely as a hitchhiker in ship ballast. It was used as a herbal medicinal. In the 1900's it was propagated and sold as an ornamental for the garden. Unfortunately, it spreads easily and thrives in wetlands. There this plant outcompetes native plants. It is now found in wetlands throughout Canada and in all of the lower 48 states except for Florida. This leads to wetlands which are less supportive of a diversity of native wildlife. Loosestrife is very difficult to eradicate from a wetland once it establishes there. Be on the lookout for it, so that it can be removed before spreading. If you see purple loosestrife at Gratiot Lake please call or [email GLC](mailto:GLC). Thanks!

### ***Information about local mining and impacts of mining:***

The Lake Superior Binational Forum's Michigan pages  
[www.superiorforum.org/mining/mining-in-the-state-of-michigan](http://www.superiorforum.org/mining/mining-in-the-state-of-michigan)

FOLK Mining Education and Empowerment Campaign  
[www.folkminingeducation.info](http://www.folkminingeducation.info)

## ***Highland Copper Company Information Update***

In 2012 Highland Copper Co. HCC (local subsidiary Keweenaw Copper Co.) began exploratory drilling in Keweenaw County. Two chalcocite copper deposits have been the primary focus: 543S near Gratiot Lake and G2 near Bete Grise. Last November HCC reported the discovery of a promising deposit 700 yards southwest of 543S. According to comments by Ross Grunwald recently as reported in the Daily Mining Gazette, it is uncertain if 543S moves to the extraction phase whether it would be an open pit or a deep shaft mine.

Concurrent with this exploration, HCC announced a closing by the end of 2015 on the White Pine Mine in Ontonagon. HCC states that they are currently re-evaluating the historic resource at White Pine to see if a new copper mine there could be profitable and they have identified White Pine as a potential processing facility for ore. According to HCC vice-president of exploration Ross Grunwald as quoted in the Daily Mining Gazette, ore would likely be transported to White Pine from other mine sites by truck or barge.

HCC has reportedly also entered into an agreement with Orvana Resources to acquire Copperwood mining project in Gogebic County. Additionally, on May 29 HCC announced that it had signed a non-binding letter of intent with the AMCI Group, an international resource investment company, to form a joint venture to develop HCC's projects in the U.P. AMCI, if it decides to go through with the joint venture, will be able to provide HCC with additional funds for research and development.

Although the purchases of White Pine and Copperwood are not completed and the alliance with AMCI is not consummated yet, it does appear that HCC is putting plans in place to move from exploration to mining in the Western U.P.

GLC land at Gratiot Lake is about a mile east of 543S and GLC's Bammert Farm is partially within the chalcocite band that HCC is exploring and about one mile west of the original 543S deposit. If mining exploration and possibly extraction moves forward in the Keweenaw there is bound to be an environmental impact. The questions remain as to how that impact will be contained, monitored, lessened, and remediated... and who will bear those costs.

More information about Highland Copper Company and their mining exploration in the western U.P. can be found on their website: [www.highlandcopper.com](http://www.highlandcopper.com)

## *Bete Grise Preserve Celebration*

by Gina Nicholas

Since the original Bete Grise Preserve was created in 2004, the Houghton Keweenaw Conservation District (HKCD) and partners have been working to protect more of this unique and largely pristine Lake Superior coastal dune-swale wetland system. Through federal grants, private foundations and countless hours of pro bono effort, Bete Grise Preserve now encompasses about 4,000 acres including Pt. Isabelle and Oliver Bay.

Preserve additions made in the last year alone protect over two miles of Lake Superior shoreline, 3,500+ feet of Lac La Belle sloughs frontage, and 1800 acres of dune swale coastal wetland and forest habitats. Like Brockway Mountain, many people have thought these areas were already public parks, when in fact they were private investment properties. Now these areas are truly protected for posterity and for all of the native and migratory species that depend on them.

Please come to celebrate this Keweenaw conservation success on Sunday afternoon, August 17, 2014. There will be a short dedication ceremony at 2 PM at Pt. Isabelle followed by a Beach Party at the Bete Grise South Beach with catered food and music. Hope to see you there!



## *2-Day Keweenaw Geoheritage Tours*

At last summer's GLC Members Meeting, geologist Bill Rose gave a wonderful talk on Keweenaw geology and introduced us to the concept of "geoheritage." From July 21<sup>st</sup> to July 31<sup>st</sup> the *Center for Science & Environmental Outreach Western U.P. Center for Science* is sponsoring a series of field trips which will certainly satisfy interest piqued by Bill's presentation.

The Copper Country's geoheritage is comprised of five major events in Earth's history. Each of the five 2-day field trips led by Bill Rose and other geology experts will address one of these themes: "Lavas," "Keweenaw Fault," "Jacobsville Sandstone," "Keweenaw Glacial Geology," and "Lake Superior Today." The groups will travel by boat, van, and short walks. For details and registration information visit Bill Rose's Geoheritage website:

[http://www.geo.mtu.edu/~raman/SilverI/KeweenawGeoheritage/July\\_2014\\_Geotours.html](http://www.geo.mtu.edu/~raman/SilverI/KeweenawGeoheritage/July_2014_Geotours.html)

## *Kayak Tour of Gratiot Lake*

Sunday, August 3\*

Led by nature educator Brian Rajdl

Bring your own equipment or rent equipment from Keweenaw Adventure Co. (see below). Also bring a bag lunch, drinking water, wading shoes and hiking boots, towel, hat, insect repellent, and whatever makes you comfortable out-of-doors.

9:30 meet at public boat launch for review of kayaking technique. Review is optional for those bringing their own kayak. Those who are renting equipment must be present for this refresher and to pick up rental equipment.

9:50 all kayakers meet at the boat launch to begin paddle along shoreline.

Group will make a stop at Noblet Field Station for lunch (bring a bag lunch and water—there will be additional water and light refreshments) and optional walk on the trails.

1:00 continue paddling from the Noblet Field Station past the Gratiot Lake Preserve on the south shore and on to visit the new GLC sanctuary on the west end of the lake.

3:30 arrive back at public boat launch.

**Rental equipment** is available from Keweenaw Adventure Co. Kayaks rent for \$50 + tax per single kayak or \$70 + tax per tandem kayak, this includes a paddle, sprayskirt and PFD. They will deliver all the rentals to Gratiot Lake for \$80. The \$80 delivery fee to the lake would be split accordingly between those renting, e.g. if there are six kayaks delivered, each kayak would be an additional \$13.33 for delivery. Contact Sam at 906-289-4303 to reserve. Rental must be made in advance of the date. Reserve early as supply is limited.

\*This event is **weather dependent**. High winds or rain may cause cancellation. Call 337-5476 for latest info if weather looks questionable.

[Click here to go to August 3rd Event Page!](#)

**Prefer not to paddle but would like to join GLC fun on August 3<sup>rd</sup>?**

Here are more some options:

1. Come by small motor boat to the new wood dock (not old stone pier) for the mini open house from 11-1.
2. Take a pontoon boat ride tour of GLC Preserve lands. 1:30 to 2:30. **Email Bonnie BELH@Verizon.net to reserve. Very limited space!**
3. Drive to mini open house from 11-1 by land. Access via old logging roads. Drive 4 wheel drive high carriage vehicle to GLC Preserve via Iron Gate Road and Conservancy Road. Call Bonnie for latest on condition of the access roads. Entry from Gay-Lac La Belle Road onto Iron Gate Road is likely to be more reliable and safer than entry from the Gratiot Lake Road.



## Nature Notes

The long U.P. winter is history, but its effects will be felt this summer. It was well into May before ice was out at Gratiot Lake. The official snowfall total in Keweenaw County was 340.50 inches - not a record, but enough to produce heavy flooding and extremely high lake levels during the melt in May. The ice which covered Lake Superior helped to lessen the amount of evaporation. That coupled with copious snow melt has replenished the big lake. It has also cooled Superior surface waters. Ice was still floating in Keweenaw Bay in early June. So a cooler summer is expected.

The cool, wet spring has produced a bumper crop of biting insects. Did you know that there are 50 species of mosquito in Michigan? Thankfully for us, not all of them dine on human blood! In addition, the abundance of mosquitoes and black flies is a delicious buffet to many birds and amphibians. Except of course when tables turn and the insects are plaguing the predators.

Unfortunately, populations of bats, other natural "pest" control experts, are likely to be in decline this year.

White-nose syndrome which is usually fatal to these mosquito and gnat consumers was recently discovered in bats hibernating in an area mine (come to the talk by bat expert Bill Scullon following GLC Members Meeting on July 24<sup>th</sup> to learn more).

Bald eagles normally lay eggs by mid-April in the Keweenaw. This year conditions were challenging for them. When a survey fly-over of Keweenaw eagle nests was done in June, it was reported that eaglets seen were not as developed as in recent survey years. It is likely that egg laying was delayed. The old eagle nest on the northwest shore of Gratiot is badly deteriorated. Although eagles have been seen and heard at Gratiot Lake, it is not certain yet whether they have had success breeding in here this year.



## We know you have talent! We hope you have the time.

Enjoy feeding a crowd? Bring refreshments to the Members Meeting on July 24<sup>th</sup> or the Mini Open House on August 3. Let Bonnie know what you plan to bring.

Enjoy carpentry? Mount trail signs on the Bear Paw Path, re-mount a bat house, or make and mount bee or bird houses.

Enjoy gardening? Plant native species in your yard. Pull invasive plants such as knapweed and marsh thistle from the perimeter of Gratiot Lake and Bammert Farm. Contact GLC to be notified about pulling opportunities.

Enjoy writing? Contribute an article to *Water's Edge*.

Enjoy watching wildlife? Keep a diary of nature happenings you and others observe at Gratiot Lake. Share Gratiot Lake photos on the Gratiot Lake Conservancy [Facebook](#) page.

Enjoy boating? Assist Dorothy Jamison with water monitoring and testing. Be on the lookout for invasive aquatic species.

Enjoy walking on the shoreline? Help by picking up trash on the beach during the *Alliance for the Great Lakes Coastal Clean-up* on September 20<sup>th</sup> or whenever you have time!

## Join the 150 families who donate to Gratiot Lake Conservancy!

Gratiot Lake Conservancy members receive a biannual newsletter, notice of special events, and an invitation to the Annual Members Meeting. Some GLC programs that have fees are discounted for members. Family/individual membership is \$15 per year. Membership renewals due Dec. 31.

**Your support is always welcome!**

**[Click here to download a membership/donation form.](#)**

Donors of \$100 or more will receive a gift of notecards with photos taken at Gratiot Lake.

[Click here to view sample Gratiot Lake notecard photos in full color!](#)

