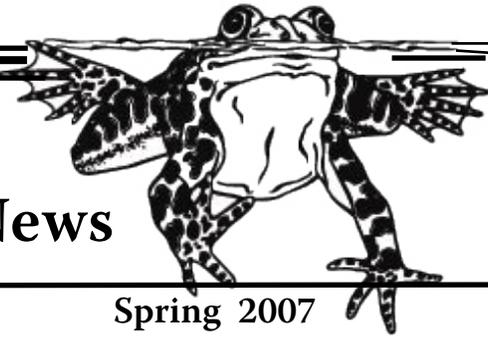


# Water's Edge

## Gratiot Lake Conservancy News



Volume 9

Spring 2007

### *All Aboard!*

#### *June 30 RTL: Shorelands Cruise*

The fifth year of *Reading the Landscape of the Keweenaw: Shorelands* begins with an evening cruise aboard the Isle Royale Queen IV along the easternmost coast of the Keweenaw. Limnologist Judith Budd will speak about the geology of the lake basin, cyclic lake levels, and lake shore ecology. Conditions permitting, some scientific sampling for water transparency, macro-invertebrates, and phytoplankton will be undertaken. This trip is suitable for adults and families with children 8 and older. Find registration information in the [Reading the Landscape: Shorelands brochure](#) or call 906-289-4514.

In addition to offering four field art and natural history sessions for adults, RTL will expand this season to include families with children 8 and up in three field trips. Environmental educator Brian Rajdl and artist Linden Dahlstrom will lead *Sand and Pebbles* on July 28 at 7 mile point. Brian has taught MTU's Summer Youth Program at Gratiot Lake and led the 2006 RTL *Forest Fruits* field trip at Bete Grise. GLC's director Bonnie Hay and artist Kayo Miwa will explore two *Lake's Edge* locations, Brunette Park and Gratiot Lake on August 11.

A \$2 discount for GLC members is available for RTL trips. Please request the discount when registering with RTL and also contact GLC to advise of the request.

The RTL series is a collaborative effort supported by many Keweenaw conservation organizations including GLC. Keweenaw Land Trust is the program's fiscal agent. GLC's Bonnie Hay assists in the planning and execution of the series. Many thanks go to Patricia Van Pelt and Marcia Raley for many volunteer hours spent attending to all the details that have made this series so successful.



Photo by Gary Kramer courtesy USFWS

### *GLC Members Meeting*

GLC's Annual Members Meeting will be held on Tuesday July 24 at the Eagle Harbor Community Building. Members are encouraged to arrive at 6:45 to sign in and socialize before the start of the business meeting at 7 PM. Light refreshments will be served.

Greg Wright's talk entitled "Wolf Ecology: Fact & Fiction" will follow at 8PM. The public is invited to attend.

Greg is a wildlife biologist and educator. He earned his master's degree researching and comparing the effects of wolf predation and human hunting on Yellowstone's northern elk herd. His current PhD research at MTU focuses on wolf/moose dynamics and population ecology at the Isle Royle National Park. As a field biologist Greg has worked with wolves, elk, moose, swift foxes, small mammals, and sharptail grouse.

## *HFR Asset Management, LLC Supports GLC*

HFR Asset Management, LLC Chairman Joe Nicholas presented a generous contribution to Gratiot Lake Conservancy in late December of 2006. GLC is grateful for this corporate donation which will help support programs, trail improvements, and the general operations this season.

## *Michigan Botanical Foundation and UPPCO Donate*

The Upper Peninsula Power Company (UPPCO) and the Michigan Botanical Foundation have contributed support for the aquatic plant survey and mapping at Gratiot Lake in 2007. This year's work will include the completion of a search for aquatic invasive species and a mapping of plant distribution. In 2008 a booklet and CD is planned which will be shared with others who want to assist in monitoring Gratiot and other Keweenaw lakes.

Michigan Botanical Foundation provides support for Michigan botanical research, education, publications, field trips, panels, lectures, and other related activities. The Michigan Botanical Club, with which it is associated, publishes *The Michigan Botanist*, a scientific peer-reviewed journal.

This is the second year of support from UPPCO which is headquartered in Houghton, MI. The Environment and Education are two of the six major areas UPPCO funds through its corporate giving program.



Photo by Jim Hay

On April 22, just before ice out on Gratiot Lake, Al Hochstein reported seeing 19 eagles gathered on an ice patch which still remained on the lake. This photo was taken in late May near the old nest at Gratiot. Although adults were active at the nest in May, by June it was abandoned.

## *Scholarship Available for Summer Youth Program at Gratiot Lake*

Thanks to generous donations by Rita Sandretto, the *Jack Sandretto Scholarship Endowment* will award a full scholarship to a deserving student. If you know of a 9th through 12th grade student who would like to apply for a scholarship to attend the *Aquatic Ecology Exploration at Gratiot Lake*, July 22nd to July 29, please contact Lynn Heil Michigan Tech Summer Youth Program Coordinator at llheil@mtu.edu or by phone at 906-487-2219. For more information about the program visit the SYP website at <http://youthprograms.mtu.edu/syp/>



Are you... A cookie baker, a litter picker-upper, a wild-life watcher, a weed puller? Have you always wanted to... write for a newsletter, see a photo you took in print, teach children, or help clear a trail? The Conservancy is seeking volunteers to share their talents and interests. There are opportunities to help with everything from trail opening to cookie baking. Please e-mail or call Bonnie at GLC.

## *About Water's Edge*

*Water's Edge* is the newsletter of the Gratiot Lake Conservancy. Its purpose is to report Conservancy news, to share information about the ecology and history of Gratiot Lake and its environs, and to 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**

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**Visit our web site: [www.mlswa.org/gratiot-lake-1508/](http://www.mlswa.org/gratiot-lake-1508/)**

## *"The Blob" at Central Pond*

Last Summer when Bonne Hay taught a class at Central Pond for the Keweenaw County Historical Society, the children discovered a mysterious "blob" in addition to a number of familiar aquatic animals and plants. The blob was a translucent jelly-like mass, reminiscent in texture to a bunch of frogs eggs but denser. The mystery mass was later identified as a Byrozoan colony called *Pectinatella magnifica*. With a magnifying lens, many small dark dots could be seen throughout the surface of the byrozoan mass. Each dot contained 12 to 18 microscopic animals called "zooids" with whorls of delicate, waving, feeding tentacles. The "blob" is reminiscent of a coral animal colony (although not closely related taxonomically) but in a gelatinous mass rather than a sturdy structure, and in fresh water rather than salt--a remarkable find! Because some relatives of the "blob" did form calciferous structures, Byrozoan colonies have a fossil record extending back 500 million years.



Photo courtesy of Jim Hay

Canadian Tiger Swallowtail butterfly snacks on lilacs near Bammert Farm on June 1. This species of butterfly lays its eggs on birch and aspen leaves which are abundant in the area.

### *KCHS "Beetles to Butterflies"*

On July 16, Bonnie will be leading another field trip for children under the auspices of the Keweenaw County Historical Society. The trip "Beetles to Butterflies" focuses on insects. Who knows what the children will discover this time! For registration information contact Ann Roche at 906-337-4666 or visit the KCHS website <http://www.keweenawhistory.org/>

## *See Stars on Brockway*

*August 11, 9:30 PM-?*

Bring your bug dope, blankets, beach chairs, binoculars, and telescopes to the Brockway star gathering around sunset. MTU's Robert Nemiroff and his astronomy students will be on hand to introduce us to the celestial highlights. We may cancel without notice if it's very cloudy or raining!

## *Guided Kayak Tour of Gratiot Lake*

GLC is sponsoring a six hour kayak trip on Gratiot Lake on Sunday, July 22 from 9AM to 3PM. Participants may bring their own kayaks, life jackets (pfd's), and equipment or may rent a single or tandem kayak and all equipment from Keweenaw Adventure Company, who will be outfitting and guiding the tour. Novices to kayaking will be given an introduction to the technique at 9:15. The trip around the lake will launch at 10 AM from the lake's public access.

Participants will picnic at the Noblet Field Station on the Conservancy Preserve and have an option to walk the Conservancy's Bear Paw Path.

Registration is necessary if you intend to reserve equipment. Limited equipment is available, so sign up early. Children under the age of 18 must be accompanied by an adult. Small children may have difficulty with this tour. Please consult Sam at Keweenaw Adventure Co. if you are considering bringing your small child or have questions about the kayaks. Phone: 906-289-4303; website: [www.keweenawadventure.com](http://www.keweenawadventure.com).

Participants should meet at the public boat access to Gratiot Lake at 9 AM if renting equipment, by 9:15 to participate in technique refresher. We'll begin the paddle at 10 AM. In addition to reserving or bringing a kayak, paddles, and pfd, bring a bag lunch and plenty of water, sunscreen, and insect repellent. If it's hot, you may want to wear a swimsuit. If you want to take a short hike after lunch, bring along a pair of walking shoes. In the event of inclement weather, the tour will be cancelled. Please call GLC at 337-5476 if in doubt.

### *Eagle Program Scheduled for Fort Wilkins*

On Monday, August 20, at 7:30 PM Bonnie and Jim Hay will present "Eagles of Gratiot Lake" under the auspices of Fort Wilkins Historic State Park. The Park's Summer Evening Programs are open to the public. Park admission will be charged.

### *Make a Donation from Your IRA in 2007*

According to the Pension Protection Act of 2006, persons 70 1/2 or older may be eligible to rollover a portion of their IRAs as a tax-free gift to one or more charitable organizations in 2007. If you have an excess of IRA funds or want to lower the amount of your required minimum IRA distribution, talk to your tax advisor about the possibility of making charitable contributions in this way. Amounts up to \$100,000 may be eligible.

## Gratiot Lake Floristic Quality Index

In last summer's aquatic plant survey at Gratiot Lake, botanist Janet Marr found 31 species of aquatic plants and two algal species that look like vascular plants. Janet noted that seven of the species found are excellent indicators of high quality lakes in Michigan.

According to her analysis Gratiot Lake ranks well in terms of its Floristic Quality Index (FQI). The FQI, described in (Herman et al. 2001), is one means of evaluating the natural quality of an area or lake based on the number of plant species present and values, called coefficients of conservatism (C).

C values have been assigned to every native plant species in Michigan. An example of an aquatic plant species with a very low C value is common waterweed (*Elodea canadensis*) that grows just about everywhere in Michigan in a variety of marshes, lakes, and streams. On the other hand, species such as water lobelia (*Lobelia dortmanna*) and various pondweed (*Potamogeton*) species, have very high C values and are indicative of high quality lakes that have minimal disturbance and pollution.

Gratiot Lake is home to seven aquatic species that have the highest possible C values. This lake's high FQI rating (37.5) indicates that Gratiot Lake is "floristically important from a statewide perspective" (Herman et al. 2001).

Janet will complete the baseline study of aquatic plants and a search for aquatic invasive species at Gratiot Lake this spring and summer.

*On August 18 and 19, Janet Marr will offer an Aquatic Plants Workshop geared towards professionals, students, and individuals interested in learning aquatic plant identification and survey techniques for use on other lakes. Contact GLC to register (form and more information on our website.)*



A group of researchers from Michigan State University with assistance from the MDEQ repeated a core sampling of the sediment at the lake's deepest point on June 11. The boat in the photo above was specially constructed for scientific research by the MDEQ. Details of a similar 1999 sediment sampling at Gratiot can be accessed at the GLC website. MSU Researchers are examining heavy metals such as mercury and lead and their history in lake sediment cores collected throughout the state, including at Gratiot, Emily, and Gogebic lakes in the U.P.

## How's the Water Quality at Gratiot Lake?

Volunteers throughout Michigan monitor inland lake water quality by measuring the transparency of the water and levels of the nutrient phosphorus. Gratiot Lake has participated in Michigan's *Cooperative Lakes Monitoring Program* (CLMP) for seven years.

Transparency is measured by lowering a black and white secchi disk into the lake and noting the depth at which it can no longer be seen. Transparency is affected by the amount of sediment suspended or by algae present. Phosphorus is the most essential nutrient and limiting factor in algae growth. It is the best predictor of the level of productivity in a lake. A very transparent lake with extremely low phosphorus levels (oligotrophic lake) could not support much life, since algae and plants, the base of the food chain, would be scarce. A lake with extremely high phosphorus levels and low transparency (eutrophic lake) would likely have a boom and bust cycle—lots of aquatic plant and algae growth in the summer which, when it dies and decays, robs all the oxygen from the water and kills most aquatic life. Most lakes are somewhere between these extremes—such lakes are called mesotrophic.

The Carlson Ratios rank a lake on the Trophic Index with 20 being extremely oligotrophic and 80 being hyper-eutrophic. The mean transparency Carlson Ratio in Michigan lakes (201 reporting) in 2006 was 42, Gratiot's was 33. Gratiot's overall mean for the seven years is 35.8. The mean phosphorus Carlson Ratio in Michigan lakes (213 reporting) in 2006 was 39, Gratiot's was 34 in 2006 and overall 34.6.

In other words, Gratiot Lake is an oligo-mesotrophic lake-- productive enough to support a diverse community of plants and animals. Lakes all have some fluctuation which can be caused by weather effects, lake level, temperature, and a variation in human activity on the lakeshore and watershed. The [CLMP Summary Reports](#) can be accessed online at the Michigan Lake and Stream website or contact GLC to borrow a copy.

The caveat is that the samplings in the CLMP program are all taken at the deepest point in the lake. More algal growth and murkiness may be noted in shallower waters. There appeared to be more lake bottom algal growth along the most developed shoreline of the lake, especially in shallow waters on the north shore of Gratiot in the last few years—in particular last year. We also noted several suspended mats of filamentous algae last year. These bursts of algal growth are called blooms. GLC hopes to gather more data on algae at the lake.

Lakeside landowners can contribute to the water quality and ecological health of the lake. The larger algae blooms were likely due to lower water levels and warmer lake temperatures, but runoff from fertilizer or leaky septic

systems could be contributing factors. Fertilizers applied to lawn areas can easily run off into the water. Information on cultivating a green shrubby buffer between lawn and lake is on the GLC website. Lakeside landowners should check their sewage and graywater disposal systems to make sure they aren't feeding the lake. Look below for less toxic, phosphate free, cleaning product ideas.

Thanks goes to Dorothy Jamison, Gratiot's primary lake monitor in 2006. If you would like to assist Dorothy in the CLMP monitoring in 2007 or sub for her on occasion, contact Bonnie. It's not difficult, and we'll be glad to train you!

There are many brands of phosphate free soaps, cleaners, and detergents available that contain less toxic chemicals. For laundry and dishwasher look for no phosphates on the ingredient list. Products labeled "Poison" or "Danger" are more toxic than those labeled "Warning" or "Caution."

If you are adventuresome, you can mix up many "greener" homemade cleaning concoctions. Most cleaner recipes are based on white vinegar, baking soda, lemon juice, or borax.

### Resources on the subject:

#### **National Geographic's Green Guide:**

<http://www.thegreenguide.com/doc/120/diy>

#### **Consumer Reports Greener Choices website:**

<http://www.greenerchoices.org/products.cfm?product=greencleaning&pcat=homegarden>

**Home Safe Home**, by D. L. Dadd

**Hints for a Healthy Planet**, by Heloise

**Green Clean**, by Linda Mason Hunter and Mikki Halpin

**The Little Book of Quick Fixes for Eco Conscious Cleaning**, by Bridget Bodoano

*Joann and Herb Marutz saw hundreds of Canada Geese stop over on the lake during migration. The Marutz's dog worked hard to keep them off the shoreline! Water-fowl droppings are a natural contributor to the nutrient enrichment of lakes. Another way to discourage geese from taking up residence is to have a buffer of plants which they cannot see over between the lawn and the lake.*

## Greener Cleaning Recipes:

### All Purpose Cleaner:

*1/2 cup borax and 1 gallon hot water*

**All Purpose Cleaner and Disinfectant (spray bottle):**  
*equal amounts white vinegar and water*

### Floor Cleaners:

*Linoleum, tile, brick, stone: 1 cup white vinegar OR borax in 1 Gallon warm water*

*Wood: castile soap*

### Mildew Cleaner:

*1 part white vinegar +1 part borax+ 1 part water.*

### Oven Cleaner:

*Mix paste of baking soda and hot water. Fine steel wool and pumice stone will remove some baked on spots.*

### Toilet cleaners:

*Soap and borax to disinfect. Baking soda and white vinegar to freshen. Remove stubborn stains with white vinegar and pumice stone.*

### Window/glass cleaner (spray bottle):

*1/4 cup white vinegar or 1 Tbsp lemon juice in 2+ cups water*

## Laundry Ideas:

*Consumer Reports has cleaning suggestions and ratings of commercial dish detergents on their Greener Choices website. A few of their clothes washing tips:*

### Laundry brightener:

*Add 1/2 cup of strained lemon juice during the rinse cycle.*

### Fabric rinse:

*Add 1/4 cup of white vinegar during the washing machine's rinse cycle to remove detergent completely from clothes, eliminating that scratchy feel. (Note: This will not leave your clothes smelling like vinegar.)*

### Detergent booster:

*To reduce the amount of laundry detergent you need to use (especially if you have hard water ) add baking soda or washing soda. These minerals soften the water, which increases the detergent's power. For liquid detergent, add 1/2 cup of soda at the beginning of the wash. For powdered detergent, add 1/2 cup of soda during the rinse cycle.*

### Bleach:

*Use hydrogen peroxide instead.*

## *Some Noblet Field Station History Courtesy of Rick Noblet*

In 2005 Rick Noblet, grandson of UJ Bert and Gladys Noblet, original owners of the Noblet Field Station, shared some of his memories and parts of his family's log book from their wonderful camp at Gratiot Lake. The Noblet camp is now part of GLC's Gratiot Lake Preserve. Below are some excerpts from Rick's notes and from a camp journal.

The family lived in Houghton where UJ Bert Noblet served as the first head of the Forestry School at Michigan Technological University. The excerpt below is Gladys Noblet's entry on the first page of the camp log begun in 1947.

"2,000 feet frontage—65 acres of virgin timber. Acquired through co-operation of Atty. D.L. Robinson, Mrs. Robinson and Howard Palmquist. Bert made inquiries about good summer home sites and became aware of the liquidation of properties belonging to Charles Hebard estate. This seemed to answer all requirements: beautiful lake, tree clad hills, sand-beach, and marvelous view across and down the lake,

the Little Gratiot River, good fishing, interesting wild-life, good soil, and excellent setting for camp... Chose site for camp because of excellent white birch growth on a point jutting out into the lake. Bert, Jack and Peter (see photo) helped to fell the trees for camp logs. Bert and I spent many pleasurable hours that winter with plans for the camp... It was a memorable moment when the first truck load of lumber left for Gratiot Lake."

Rick, son of Dick Noblet (the eldest of Bert and Gladys's three sons), was born in 1948 when the Noblet camp was under construction. From Rick Noblet's notes:

"My grandmother was a gifted teacher and writer. You could see by the opening sheet in our log how their expectations were high in searching for a place to buy, build, and share as something really special... the majority of time we owned the... camp there was no way to get there except by boat... Believe it or not the majority of that wonderful fire place stone was trucked to our boat house (on the other side of Gratiot) and carried across the lake in a boat with a 10 HP motor... While we managed to get to camp on foot from logging trails when we needed to, the first time vehicles could drive right to it was in 1961 when Bob Codere made it all the way up the beach to the camp and all around it with his Bull Dozer."



L to R: Jack, UJ Bert, Dick, and Peter Noblet at Noblet Camp 1962

Photo Courtesy of Rick Noblet

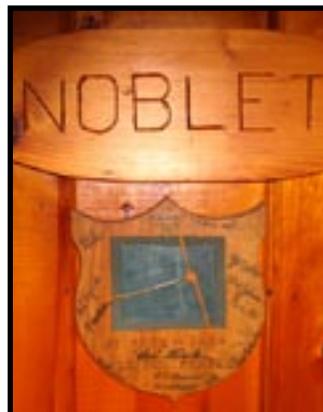


Photo Courtesy of Rick Noblet

Rick Noblet at the Noblet Camp 1950

### *Tell the story of Your Family's arrival at Gratiot Lake*

Virginia Jamison is archiving information about Gratiot Lake history. Family ownership of some land at the lake goes back to the 1800's. Some family stories began in the last 10 years. Please call Virginia at 337-2244 if you would like to contribute stories, journal entries, or copies of old photos to the archive.



Detail from gun rack at the Noblet Field Station

## 2007 GRATIOT LAKE CONSERVANCY CALENDAR

### Reading the Landscape of the Keweenaw: Shorelands

7 Saturdays, June 30 through August 11

June 30 Evening Boat Tour

Two sessions for families July 28 (7 Mile PT) and August 11 (Gratiot Lake.)

Fee. Registration required. Call 906-289-4514 for information.

### Kayak Tour of Gratiot Lake

Sunday, July 22 9 AM to 3 PM

Meet at the Gratiot Lake public access and bring equipment and a bag lunch,  
Or to rent equipment call Keweenaw Adventure Company at 906-289-4303.

Review of Kayaking technique at 9:15. Tour begins at 10:00 AM.

### GLC Annual Members Meeting

Tuesday, July 24 Eagle Harbor Community Building

7 PM Members Business Meeting

8 PM Talk by *Greg Wright* "Wolves Fact or Fiction" (all are invited to attend)

### Astronomy Gathering On Brockway Mountain

*with Robert Nemiroff*

and MTU Astronomy Students

Top of Brockway Mountain

Saturday, August 11 9:30 PM to ?

### Aquatic Plants Workshop

*With Janet Marr*

Saturday, August 18 and Sunday, August 19 from 9 AM to 4 PM

Fee. Registration required. This class is geared towards professionals and students.

Space limited. Enrollment info on GLC website or call 337-5476.

### Journaling the Keweenaw

*with Marilyn Brandenburger*

Friday, August 24, Saturday, August 25, and Sunday, August 26 from 10 AM to 3 PM

Eagle Harbor Community Building, GLC Preserve and various Keweenaw locations. Fee.

Registration required. Enrollment info on GLC website or call 337-5476.

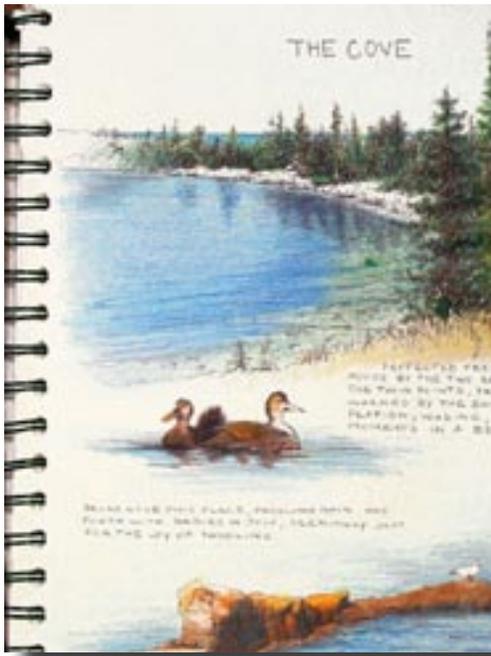
### Coastal Cleanup at Gratiot Lake

Saturday, September 15

Help clean up debris from the shoreline!

Meet at Public Access at 9:00 AM or contact GLC to begin at other location.

Questions? Call 337-5476 or e-mail [BELH@VERIZON.NET](mailto:BELH@VERIZON.NET)  
Updates? Visit the GLC website at [www.MLSWA.org/Gratiot-Lake-1508/](http://www.MLSWA.org/Gratiot-Lake-1508/)



***JOURNALING THE KEWEENAW  
with Marilynn Brandenburger  
GLC 2004 Artist in Residence***

Friday - Sunday, August 24 - 26, 2007

Eagle Harbor Community Building

10:00 AM - 3:00 PM each day

\$150 (GLC members \$130) + materials fee (\$30 to 40 or bring your own--see website)

[Click here](#) to download enrollment form or call 906-337-5476.

Wild waters and ancient rocks, glorious wildflowers, and succulent berries – the Keweenaw Peninsula is rich in natural wonders! Journaling with both words and pictures is a way to record your experiences in this beautiful place, and this workshop will show you how to do it.

You will learn to write and draw quick sketches that capture the essence of a scene, working in ink, colored pencil, and watercolor in loose-leaf journals.

The workshop will include demonstrations, hands-on exercises, examples from naturalists' journals, and outdoor excursions, including a visit to Gratiot Lake. All levels are welcome. Instructor will provide most supplies; see supply list at [www.brandenburgerstudios.com/classes.html](http://www.brandenburgerstudios.com/classes.html)

Marilynn Brandenburger is a professional artist who has kept illustrated journals for 16 years. She honed her writing skills on the job as a college grant writer. She has studied non-fiction writing at the U. of Minnesota's Split Rock Arts Program and at the Iowa Summer Writing Festival.

She is an award-winning watercolorist and has been happily teaching adults to draw and paint for more than 25 years. In 2004, Marilynn was GLC's Artist in Residence at the Noblet Field Station. See Marilynn's work, including some reflecting on her Keweenaw experiences, on her website: [www.brandenburgerstudios.com](http://www.brandenburgerstudios.com)

***Support GLC!***

**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. Donations to GLC are also welcome.**

**[Click here](#) for a downloadable and printable membership/donation form. The membership year is from January 1 to December 31st.**

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

Click below to view this hummingbird and other Gratiot Lake notecard photos in full color!

[www.mlswa.org/Gratiot-Lake-1508/](http://www.mlswa.org/Gratiot-Lake-1508/)

