

WATER'S EDGE

Gratiot Lake Conservancy News

Volume 5

Fall 2003

Aquatic Ecology Class at Gratiot

For a week in July, six high school students had a wonderful time studying the chemistry and life of the Lake, the Little Gratiot River, and an old beaver dam on the Conservancy preserve. The group camped at the Noblet Field Station and studied aquatic ecology under the guidance of teachers Jeff Crumbaugh and Brian Rajdl. The program was a collaborative effort between the Conservancy and Michigan Tech's Summer Youth Program. Kate Abbott, a senior at Houghton High School, received a scholarship to attend the program from the Jack Sandretto Memorial Scholarship Fund.

Next summer the *Aquatic Ecology Exploration at Gratiot Lake* will be offered again and scholarship funds will be available for a Copper Country student. Teens can obtain information about the *Exploration* and the scholarship by contacting:

Peter Larsen,
Associate Coordinator Youth Programs
Michigan Technological University
1400 Townsend Drive
Houghton, MI 49931
Website: youthprograms.mtu.edu

When asked what they liked most about the *Aquatic Ecology Exploration at Gratiot Lake*, students offered these answers:

"The wildlife we were studying."

"Living in the wilderness with no technology. So much to do, there was no time spent doing nothing."

"Being at the cabin at Gratiot Lake. We didn't have to be in the dorms. The teachers were awesome."

"Doing the hands-on experiments because I never did anything like that before."

"Doing dip nets, taking pH levels, catching plankton."

"Reading Aldo Leopold's Book (*Sand County Almanac*) and talking about what we thought about it."



Kate Abbott (center) and other Aquatic Ecology students view beaver dam insects, crustaceans, snails, and worms they netted under the guidance of teacher, Jeff Crumbaugh (far right).

The **Gratiot Lake Conservancy** is a Michigan Not-For-Profit Corporation formed in 1998 to preserve and protect Gratiot Lake and land within the Gratiot Lake watershed. Through educational programs and materials, the Conservancy encourages good stewardship of the watershed and an understanding of its history and ecology. We promote research to further understand the Lake and its watershed. The Noblet Field Station located in the SE corner of the Lake is the staging area for many of the Conservancy's educational and research activities.



Happy Trails...

Thanks to efforts of two groups of teens, the Bear Paw Path is now open again for walking for its mile and a quarter length. Landmark Volunteers (photo above) were invited by the Nature Conservancy to the Keweenaw in June to do service for local non-profits. Six teens from across the country spent a day clearing the trail of windfalls and obstructions for Gratiot Lake Conservancy. Later in the summer, William and Joe Lytle, Vicki Budynsky, Matthew and Andrew Burris, and Kyle Brill spent another half-day continuing the work. If you would like to assist with ongoing trail maintenance, please contact the Conservancy.

The Bear Paw path leads from the point marked with a sign where the road turns near the shoreline just beyond the Conservancy preserve gate and heads south on the ridge above the shoreline. The path passes through a beautiful stretch of mixed woodland with many nice viewpoints to the lake. Old cedars, pines, hemlocks, birch, and a few species of maple flank the trail. A fork takes hikers to a view of an old beaver dam. The main path leads to the shore then heads into the woods for a short time and reemerges on the shoreline. Return is by the

same route (or could be accomplished by lots of wading along the shore). In the summer, maps will be posted at the trailhead sign.

The Conservancy also plans to mark a beach access point to the trail where visitors could canoe or kayak in and hike to the the Noblet Field Station. Visitors are welcome to walk the trail at any time.

Fish Bones and Shotgun Shells

Over the years, many Gratiot Lake residents have picked up trash on the shores of the Lake. In the last few years, the Lake is seeing more and more visitors, and unfortunately, more and more trash. This summer, illegal and sloppy camping at the "sandy beach" exacerbated the problem. Seven fire pits were dug there. Trash pick up volunteers, Virginia and Dorothy Jamison, Bruce Wagner, and Bonnie Hay found a variety of trash including fish carcasses and spent shotgun shells (in a fire pit!).

An unoccupied tent was left at the site for over a week. Subsequently, the DNR gave permission for a "No Camping. Gratiot Lake Shoreline is private property" sign to be posted at the public access. "Sandy beach" now also has a "No Camping" sign posted. Camping and building multiple fire pits along this pristine section of shoreline ruins the beauty of the area for others who come to walk and play on the beach and destroys the fragile natural ecology there.

Thank you to *Water's Edge* proofreaders Judy Kroon and Jim Hay and to those who contributed photos to the newsletter including Dorothy Jamison, Gina Nicholas and Jim Hay.

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 watershed, and to suggest ways to improve stewardship of the Lake and its watershed.

Visit our website (updated in January 2004)
<http://www.mlswa.org/gratiot-lake-1508>

Please send questions, comments, or articles to:
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Mohawk, MI 49950
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phone: (July/August) 906-337-5476

Bats



Canoeing by moonlight on Gratiot Lake is a special treat made all the more interesting by bats skimming the water (and occasionally the canoeist's head) as they chase after low flying insects. Bats are not only an important part of the summer evening landscape at the lake, but also efficient mosquito eliminators. A little brown bat, *Myotis lucifugus*, the most common species in the Keweenaw, can consume up to 1,000 flying insects in an hour and over half its body weight in insects in a night.

Eight species of bats are native to the Upper Peninsula. These bats are only active in the area when insects are flying—for three to four months. Some bats migrate South for the winter but most species are true hibernators. Many Keweenaw bats hibernate in old mine shafts.



In hibernation, a bat's body temperature drops and heart beat and respiration slow. The breathing of a hibernating bat is imperceptible, and its body is cold to touch. Its heartbeat drops from roughly 400 beats per minute when awake, to about 25 in hibernation, and its body temperature drops to within a few tenths of one degree of the surrounding cave. The bat's fat stores are slowly metabolized during hibernation which can last eight months. Even a few moments of disturbance during this time can waste 30 to 60 days worth of fat reserves.

Reading the Landscape Summer Art and Natural History Field Trip Series for the summer of 2004 will include a field trip

focusing on bats. Look for more information in the Spring *Water's Edge*.

Although they seldom carry rabies or other diseases harmful to humans, bats sometimes become unwanted house guests.

If bats must be evicted from your home, please consider timing and method. Never relocate bats between early May and late August (in the Keweenaw) when their babies are nursing and unattended while the females hunt at night. Rather than trying to trap or poison bats, exclude them by patching holes when they have left your home for winter hibernation elsewhere. Bat Conservation International has information on constructing bat exclusion tubes and sheeting. These devices function as one way valves that allow bats to exit but not to reenter home roosts after the breeding season.

Some bat resources :

Bat Conservation International
512-327-9721
<http://www.batcon.org/>

Organization for Bat Conservation
800-276-7074
<http://www.batconservation.org/>

Photo courtesy of Gina Nicholas



No, Ron Sibbald is not holding a giant bat! He's holding an eaglet hatched this spring at the Gratiot Lake nest. See more on the eaglet on page 5.

Septic System Do's ...

Have your septic tank pumped out regularly by a licensed contractor. Keep a record of repairs, pumpings, inspections, and permits issued.
(See the table below for estimated pumping frequencies.)

Keep your septic tank cover accessible for inspections and pumpings. Install risers if necessary.

Call a professional whenever you experience problems with your system, or if there are any signs of system failure. Signs of system failure include persistent rotten egg smell, soggy soil, excessive grass growth over septic field, excessive algae growth in the water near shoreline, or bacterial contamination found in test of well water.

Conserve water to avoid overloading the system. Be sure to repair any leaky faucets or toilets. Install low-flow fixtures and water saving appliances when possible.

Divert other sources of water, like roof drains, house footing drains, and sump pumps, away from the septic system. Excessive water keeps the soil in the drainfield from naturally cleansing the wastewater.

Plant a greenbelt (strip of small, short rooted vegetation) between your soil absorption field and the shoreline of the lake.

Septic system charts and information are reprinted with permission from: Pipeline, Volume 6, No.4, 1995 published by the National Small Flows Clearinghouse, West Virginia U. P.O. Box 6064 Morgantown, WV 26506.

Tank size (gals.)	Household size (number of people)					
	1	2	3	4	5	6
500	5.8	2.6	1.5	1.0	0.7	0.4
750	9.1	4.2	2.6	1.8	1.3	1.0
900	11.0	5.2	3.3	2.3	1.7	1.3
1000	12.4	5.9	3.7	2.6	2.0	1.5
1250	15.6	7.5	4.8	3.4	2.6	2.0
1500	18.9	9.1	5.9	4.2	3.3	2.6
1750	22.1	10.7	6.9	5.0	3.9	3.1
2000	25.4	12.4	8.0	5.9	4.5	3.7
2250	28.6	14.0	9.1	6.7	5.2	4.2
2500	31.9	15.6	10.2	7.5	5.9	4.8

Estimated septic tank pumping frequencies in years. These figures assume there is no garbage disposal unit in use and homes are occupied year round. (Source Pennsylvania State University Cooperative Extension Service.)

Do not flush

coffee grinds
dental floss
disposable diapers
kitty litter
sanitary napkins
tampons
cigarette butts
condoms
fat, grease, or oil
paper towels



and hazardous chemicals, such as:
paints
varnishes
thinners
waste oils
photographic solutions
pesticides



These items can overtax or destroy the biological digestion taking place within your system.

...and Don'ts

Don't cover the drainfield with a hard surface such as concrete or asphalt. The area over the drainfield should have only a grass cover or wildflowers. The grass and other plants will not only prevent erosion, but will help remove excess water.

Don't use septic tank additives. These products usually do not help and may even be harmful to your system.

Don't use your toilet as a trash can or poison your septic system and the groundwater by pouring harmful chemicals and cleansers down the drain. Harsh chemicals can kill the beneficial bacteria that treat your wastewater.

Don't use a garbage disposal without checking with your local regulatory agency to make sure that your septic system can accommodate this additional waste.

Don't allow anyone to drive or park on the septic tank or field.



Nicholas Wilson and Isabella Villano enjoy Gratiot Lake's clean water.

Thank You, Ed!

After four years of faithfully testing the waters of Gratiot Lake, Ed Kaeding is passing the mantle on to Al Hochstein.

Thanks, Ed for many hours spent taking secchi readings of water transparency and measuring phosphorus levels. Through this monitoring we can better insure that problems affecting lake water quality will be detected in early stages.

Gratiot's results can be viewed on the Department of Environmental Quality website by going to <http://www.michigan.gov/deq/> Then plug in Inland Lakes Monitoring in the search window.

Illustration of a Secchi disk which is lowered into the water to gauge transparency



Photo courtesy of Gina Nicholas



Gratiot Lake eaglet talks back to bander Joe Papp. See more photos of the eaglet banding on the Conservancy website <http://www.mlswa.org/Gratiot-Lake-1508/>

Michigan eagle sightings from January 1-15 can be reported on the web at: http://www.dnr.state.mi.us/wildlife/pubs/eagle_obsreport.asp. Forms are also available at MDNR field offices and observations can be sent to: 2004 Winter Bald Eagle Survey, Natural Heritage Program, Wildlife Division, MDNR, PO Box 30180, Lansing, MI 48909-7680.

Photo courtesy of Gina Nicholas



This eagle egg which never hatched was taken from the Gratiot Lake nest for analysis. Analyses of unhatched eagle eggs give indications of amounts and types of pollution in neighboring waters.

Reading the Landscape of the Keweenaw



Reading the Landscape of the Keweenaw: Art and Natural History Field Trips for Adults was a series of six field trips held at various sites this past summer. A collaborative effort which was sponsored by several local Copper Country Audubon, Gratiot Lake Conservancy, Keweenaw Historical Society, Keweenaw Land Trust, North Woods Conservancy, and The Nature Conservancy, the series attracted forty-eight participants. Pictured in this column is the reception for the series which took place on August 9 at the Eagle Harbor Community Center.



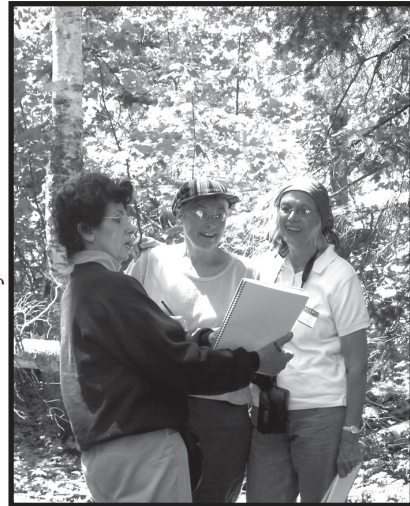
Photo courtesy of Gina Nicholas



Two photos in this column were taken at the July 12 program held at the Conservancy preserve. This session was led by pastel artist Jennifer Slack, botanist Janet Marr, and environmental educator Bonnie Hay.

Look for information on how to enroll in *Reading the Landscape of the Keweenaw 2004* in the spring issue of *Water's Edge*.

Photo courtesy of Gina Nicholas



Grebes

After observing Gratiot Lake wildlife in the summer, it's a treat to come to the Lake at a different season and discover something new. In late September grebes were at Gratiot. They look a lot like small loons (1/3 to 1/2 the size) in the way they float on the water and dive. Like loons they are powerful underwater swimmers and can stay submerged for several minutes. Grebes stop at Gratiot to fish on their way South. They are able to float at different levels or submerge by deflating air sacs and squeezing out air trapped in their feathers. Grebes are unique in that they consume great quantities of their own feathers. Adults even feed feathers to their chicks. Presumably the feathers help to cushion the birds digestive tract from sharp indigestible bones of the fish they devour.

There is always something interesting happening at the Lake. If you would like to share your observations with *Water's Edge* readers, our contact information is on page 2.

Open House 2003



How big was that fish?



Jessica and Daniel Jamison on rocks near the "big iron thing"



Open house group checks out microscopic view of lake life projected on computer screen.



Become a GLC Member

Gratiot Lake Conservancy appreciates your support. Memberships and donations help to fund educational and research programs. Contributions also help to defray the cost of this newsletter which is mailed to members and to all families in the Gratiot Lake community. In addition to receiving Water's Edge, members receive an invitation to the Conservancy's Annual Members Meeting in July and notice of special events.

Memberships due for renewal have a sticker affixed at the bottom of this box. Your envelope address label indicates when current membership is due to expire.

Look for more photos on the updated Conservancy website in January.

<http://www.mlswa.org/gratiot-lake-1508>

Photo Courtesy of Dorothy Jamison



Become a Member of the Gratiot Lake Conservancy!

One way to show your support for the Gratiot Lake Conservancy is to become a member. In addition to the biannual newsletter mailed to all Gratiot Lake residents, members receive invitations to special events, and an invitation to the Annual Members Meeting.

Membership Application

Please complete this form and mail with your check to:

- 1 year Membership \$10 contribution
- 3 year Membership \$25 and up
- Additional Donation _____

The Gratiot Lake Conservancy
P.O. Box 310
Mohawk, MI 49950

PLEASE PRINT

Name: _____

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City, State, Zip: _____

E-mail address: _____

Phone number: _____

Winter address if different from above: _____

The Gratiot Lake Conservancy is a 501(c)3 non-profit organization. Your contribution is tax deductible.