
WATER'S EDGE

Gratiot Lake Conservancy News



Volume 6

Fall 2004

Key Southwest Access Point to GLC Preserve

Through a generous donation made by Joseph Lizzadro, Gratiot Lake Conservancy (GLC) acquired a key parcel of land from Paula Theiler in July. This 1.1 acre Gratiot Lake parcel provides an additional 70 feet of lakeshore to the preserve. The parcel affords public access via dirt road, provides a parking area, and establishes the southwesterly anchor for the Bear Paw Path. The land rises sharply from the sandy beach to a high ridge running parallel to the beach. Large white pines and hemlocks flank the clearing where an old trailer has been removed. The view of the Lake and opposing mountain from this point is spectacular.

Photo by Gina Nicholas



Autumn View of Gratiot Lake from the high ridge on the Theiler parcel GLC recently acquired through Joseph Lizzadro donation.

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Photo by Gina Nicholas



Dick Crane of the Natural Resources Conservation Service surveys Third Dam area of Bammert Farm

Bammert Farm

Gratiot Lake Conservancy (GLC) is pleased to report that the children of Mary and Joseph Lizzadro recently donated 466 acres of land to the Conservancy. Before Joseph and Mary Lizzadro purchased this property in 1934, it had been known as Bammert Farm and was a major food producer for Phoenix and Central mines. GLC has several projects planned for the Bammert Farm. Many old remnants of the Bammert orchard and farming operation remain on the property and GLC is arranging for

Continued on page 3

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.

Donations in Memory of Mary Ann Foster

Gratiot Lake friends and neighbors have made a generous donation to the Gratiot Lake Conservancy in memory of Mary Ann, daughter of Carole Kaeding. Mary Ann enjoyed visiting Ed and Carole at Gratiot Lake. The Conservancy is grateful for this memorial gift in Mary Ann's name. The funds will further Conservancy education and research programs.

The Kaeding family would like to express their deep appreciation to all the Gratiot Lake friends who contributed to the Conservancy in memory of Mary Ann.

Donation in Memory of Charles R. Ahlstrom

The Conservancy gratefully acknowledges a gift by Orin J. Ahlstrom in memory of his brother, Charles R. Ahlstrom. The Conservancy appreciates this memorial donation in Charles's name. The funds will further GLC's conservation programs.

Membership dues help to support GLC activities and this newsletter. New memberships are always welcome. If you are already a member, your membership renewal date is next to your name on the newsletter envelope. Members are requested to update their mailing addresses. Thanks!

Gratiot Lake Water Monitoring

Below is a summary of five years of volunteer water quality monitoring at Gratiot Lake. Some variation from year to year is expected due to factors such as lake level and weather. Gratiot Lake transparency readings indicate that there is not an overabundance of algae or a lot of suspended solids such as silt in the water tested. The 2004 phosphorus reading is lower than previous readings. Since phosphorus can be an indicator of polluted runoff from failing septic systems or fertilizer runoff, lower levels are considered better. Taken with other data collected from time to time by the Michigan Department of Environmental Quality (MDEQ) this data indicates that Gratiot is a healthy lake capable of supporting a broad spectrum of aquatic life. This data gives a picture of the lake's status from year to year and the Carlson Ratio can be used to compare it to other lakes. To find out more about water monitoring visit the MDEQ's Inland Lakes & Streams website at http://www.michigan.gov/deq/0,1607,7-135-3313_3686_3731---,00.html

YEAR	Average Transparency Depth in feet	Carlson Ratio Transparency	Phosphorus ug/liter	Carlson Ratio Phosphorus
2004	19.97	35	5	28
2003	18.2	35	-	-
2002	18.9	35	15	43
2001	13	40	10	37
2000	14.2	39	-	-

Al Hochstein did transparency testing from May through September. Thanks to Al and Carol Hochstein who have helped GLC in many ways in addition to water monitoring—from trail map box building to gutter installation for the rain barrel!

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.

**Please send questions, comments, or articles to
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Visit our web site: <http://www.mlswa.org/gratiot-lake-1508/>**

Sandretto Scholarship Awarded to Calumet Resident

Zach Anderson Bromley was awarded a 2004 Sandretto Scholarship to attend Michigan Tech's Summer Youth Program *Exploration at Gratiot Lake*. Bromley who is a senior at Calumet High attended the Aquatic Ecology Exploration at the Conservancy's Noblet Field Station along with eight other high school students from outside the area. In the photo at right, Zach, top center, is collecting invertebrates from an old beaver dam. The Conservancy co-sponsors this ecology education program.

Rebecca (Rita) Sandretto continues to contribute generously to the Conservancy's endowed education scholarship fund established in memory of her husband, Jack Sandretto. The scholarship enables more local students to take part in the Conservancy's educational programs.



MTU Summer Youth Program Photo

More information about next year's Aquatic Ecology at Gratiot Lake will be available at MTU's Summer Youth Program web site < <http://youthprograms.mtu.edu/> > in February or call their office at 906-487-2210.

Keweenaw Trail Running Festival Donates Microscope

Thanks to a \$1000 donation from the proceeds of July's Keweenaw Trail Running Festival < www.keweenawtrails.com >, Gratiot Lake Conservancy will be able to purchase a microscope for use in educational programs. Jeff Crumbaugh, a science teacher and dedicated low impact sports enthusiast, deserves the credit for arranging this wonderful donation.



Key Southwest Access Point continued from page 1



Isaac Brown stands next to a very old yellow birch in the southwest portion of the Gratiot Lake Preserve.

With the assistance of Isaac Brown and Jack Halehauser, the path from this end of the preserve has been started. Doug Boose, a former trail building supervisor on Isle Royale, has offered advice on how to route the footpath near wet areas and has suggested designs for boardwalk or foot bridges needed to transverse the old beaver dam areas. The biggest challenge in continuing the Bear Paw Path through the length of the preserve will be constructing these wetland crossings.

Bammert Farm continued from page 1

research to more fully understand the cultural history of Bammert Farm and to establish a historical site and trail for visitors.

Sustainable forestry and ecological projects are also underway. During 2003, forester Jim Sweeting examined the property and developed a management plan for the next ten years. The Conservancy, along with Keweenaw Community Forest Company and a team of students from Michigan Technological University, has started the first forest management project which involves a harvest plan and tree marking for approximately 45 acres of Red Pine. This program will not only provide income to support other Conservancy programs, but also will provide a practical venue for sustainable forestry education.

GLC is pursuing grant funding to restore the wetland and install a water control device for an area known as the Third Dam. This project would improve wildlife habitat and will be particularly beneficial to breeding and migrating waterfowl. Jim Sweeting was instrumental in the design of this wetland restoration and has arranged for his colleagues at the National Resources Conservation Service (NRCS) to provide the technical engineering design.

Land Acquisition Fund Planned

The Gratiot Lake Conservancy has been fortunate in acquiring much of its land through outright donation. From time to time though, opportunities arise to provide additional buffer to the lake which is only available through purchase. With this in mind, the Conservancy is mounting a campaign in the Spring to solicit funds for this purpose. Look for details early in 2005.



Photo courtesy of Jim Hay

Ann Locatelli, Mary Lizzadro's sister and Gina Nicholas, a Lizzadro granddaughter, at the Joseph and Mary Lizzadro Lakeshore Preserve Dedication on August 7, 2004.

Joseph and Mary Lizzadro Lakeshore Preserve

A beautiful 643 foot stretch of Lake Superior Shoreline (formerly known as Dan's Point) was acquired through the combined efforts of Houghton Keweenaw Conservation District, the Keweenaw Land Trust, the Michigan Coastal Management Program, The Michigan Department of Environmental Quality, the National Oceanic and Atmospheric Administration, and the US Department of Commerce. The Conservation District now owns the land and the Keweenaw Land Trust holds a conservation easement for the purpose of low impact public access, education, and conservation. Lizzadro granddaughter, Gina Nicholas (who is also an officer of GLC) pursued her dream and donated matching funds to make the acquisition possible. This is a wonderful example of how dedicated individuals and groups can work together towards important conservation goals in the Keweenaw.

On August 7, the new preserve's dedication day, the *Reading the Landscape* field trip focusing on invasive plants removed spotted knapweed from adjacent property (see box on this page). GLC and other Keweenaw conservation groups co-sponsor the *Reading the Landscape* series —another good example of collaboration.

Photo by Gina Nicholas



Lisken Van Pelt Dus and Walt Summers, leaders of the *Reading the Landscape* field trip "Discover Bats," stand in front of a mine enclosure designed to allow bat access. Find out more about how bats use mines on page 7.

Spotted Knapweed

Spotted Knapweed, *Centaurea maculosa*, was the focus of this summer's *Reading the Landscape* August field trip on Invasive Plants. Botanist Marcia Raley led the group in identifying and removing spotted knapweed plants near the Joseph and Mary Lizzadro Lakeshore Preserve.

Knapweed which resembles a thistle without thorns, will outcompete many species of plants which are native to the area. Most likely knapweed seeds came to North America as a weed seed mixed with alfalfa in the late 1800's. The seeds have rapidly spread by clinging to wildlife, shoes, and vehicle tires.

Knapweed is now found in nearly every state. The plant can be controlled by pulling plants before they go to seed. Knapweed has been spotted around Gratiot Lake as well. If you see it, dig it out, bag it, and dispose of flowers and buds before the plant goes to seed. More information about spotted Knapweed and other invasive plants can be found at:

Wisconsin Department of Natural Resources
<http://www.dnr.state.wi.us/org/land/er/invasive/index.htm>
 USDA Plants Database
http://plants.usda.gov/cgi_bin/topics.cgi?earl=noxious.cgi

Illustration printed with permission from USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. Illustrated flora of the northern states and Canada. Vol. 3: 558.





William Lytle (l.) and Dan Berk (r.) help clear the Bear Paw Path in August.

GLC's Wonderful Volunteers!

Over 35 volunteers have donated more than 400 hours of their time this year to help GLC carry out its mission. Our wonderful volunteers are the lifeblood of GLC. Your assistance with trail maintenance, field station upkeep, and website design is appreciated. Thanks for all your help with program planning, sharing food at at

GLC gatherings, contributing photos, opening your homes for events, cleaning up the shoreline, water monitoring, assisting with programs, reporting on wildlife, and just being there when we needed you!



Photo by Jim Hay

Above, participants in the *Reading the Landscape* "Water Reflections" field trip to Gratiot Lake work with watercolor. Water Reflections was part of a 6 field trip series focusing on art and natural history.



GLC Artist in Residence, Marilynn Brandenburger (fourth from left, top row) is pictured with most of the students who attended the *Wildflowers in Watercolor* class in August. Thanks to Marilynn for bringing her art and teaching skills to GLC, and thanks to Eagle Harbor Township and Doug Sherk (top left) for making the Community Center available on short notice!



Beach rock painting and viewing small aquatic plants and animals were two activities the kids in the above photo enjoyed at GLC's Annual Open House in August.

Visit the Gratiot Lake Conservancy web site to view this issue of *Water's Edge News* in full color, past newsletters archive, articles, photos, video clips, and links to more information. The Web site will be updated by late December.
<http://www.MLSWA.org/Gratiot-Lake-1508/>

Scholarships and discounts to attend GLC's classes are available for Gratiot Lake residents and Gratiot Lake Conservancy members. To apply, contact GLC at e-mail belh@verizon.net or P.O. Box 310, Mohawk, MI 49950



Photo courtesy of Gina Nicholas

This wood frog has some amazing adaptations which help it survive the U.P.'s cold, snowy winter. See if you can find them on page 7's Winter Wildlife Match Up!

Answers to Winter Wildlife Matchup

- A.Little Brown Bat #6 ; B.Chipmunk #7 ; C.Beaver #8;
- D.Woodchuck #1; E. White Tailed Deer #2; F.Loon #12;
- G.Mosquito #10; H.River Otter #11; I.Ruffed Grouse #4;
- J.Wood Frog #3; K.Short Tailed Weasel #9; L.Black Bear #5.

Wildlife Tree Ornaments

(It's for the birds and the squirrels, too!)

Cranberry Wreath

1. Using medium gauge florist wire (12" length), bend one inch of one end into an "L."
2. At the other end, begin stringing fresh cranberries. Use only firm berries. Run the wire through the bottom and top of the berry, not through the sides.
3. String fruit until there is about one inch of wire left and twist both ends of the wire together to form a wreath. Refrigerate until ready to hang.



Suet Bags

1. Cut onion or bulb mesh bags into 12" X 12" squares.
2. Fill with chunks of raw suet.
3. Tie with raffia or colorful ribbon to hang. Freeze until ready to use.

Citrus Cups

1. Halve an orange or grapefruit and enjoy the fruit yourself!
2. Make three holes spaced equally around and near the cut edge of the fruit. Make a small hole in the bottom center of the cup for drainage.
3. Thread a 12 inch piece of raffia or twine through each of the three holes at the rim hole and secure with a knot. Tie the loose ends of the raffia or twine together no more than six inches above the fruit cup.
4. Fill with birdseed or nuts. Store in a cool, dry place for up to two days before hanging.

Pine Cone Feeder

1. Tie raffia or twine around the pointed end of the pine cone about 2 or three scales from the tip.
2. Melt 1 to 2 C suet in a pot over low heat.
3. Strain suet through cheesecloth to remove any tissues that might spoil.
4. Add 1 C peanut butter to suet and stir until melted and blended.
5. Add 3 to 4 C cornmeal to the mixture and blend until doughy.
6. Cool mixture and then pack into the pine cone openings. Leave the ends of the scales exposed to make it easier for birds to grasp and hang on the cone.
7. Roll suet covered cone in bird seed.
8. Tie on tree.



Raisin Icicle

1. Start by knotting the end of a 1 1/2 foot length of waxed dental floss around a raisin.
2. Using a needle, thread raisins on to the dental floss.
3. Tie the top end with raffia or colorful ribbon to hang. Store in cool, dry place.

Santa's Seed Cakes (from National Wildlife Federation website)

1. Combine one ounce of unflavored gelatin and 1/4 C of water in a sauce pan over low heat. Stir until the gelatin is completely dissolved.
2. Then add 1 1/4 C of any combination of seeds. Mix well, until all seeds are coated with gelatin.
3. Pack the mixture firmly into a plastic container or shaped mold and chill. A loop of twine or wire for hanging can be inserted into the mixture as it chills.
4. Hang when solid.

More ideas for Wildlife Tree ornaments can be found on the National Wildlife Federation's Backyard Wildlife Habitat web pages
<http://www.nwf.org/backyardwildlifehabitat/>

In August, John Lizzadro, Sr. took this photo of a friendly chipmunk nicknamed "Half-Tail" at Gratiot Lake.

Find out why Half-Tail has stuffed his cheeks so full on the next page!





Photo by Mac Kelly

Little Brown Bat held by Walt Summers at Reading the Landscape's Discover Bats field trip.

Winter Wildlife Match-up

This winter cuddle up by the fire under a cozy down blanket, with a warm cup of cocoa in hand, and solve the puzzle below by matching up some of your animal neighbors with their methods of adapting to the rigors of a U.P. winter. Answers are on page 5.

1. This animal puts on a half-inch layer of brown fat before curling up in its underground burrow for the winter. It plugs all the entrances to its burrow with leaves and grass before settling in. During hibernation it breathes once every three minutes and its body temperature drops to 40°. In early spring, it will emerge weighing half of what they did in the fall.	A Little Brown Bat
2. This animal's winter hair is hollow which makes it an effective insulator. In winter the animal gathers with others of its kind in lower elevation conifer (cedar is a favorite) "yards" which provide more browse and protection from predators and deep snow.	B Chipmunk
3. This animal and some of its cousins hibernate under the leaf litter in forests. They survive partial freezing through the use of antifreeze compounds, including the same ethylene glycol we put in our motorized vehicles, which are converted in its liver. This lowers the freezing point of its blood, and the animal's heart temporarily stops beating. Also, excess water is removed from tissues so that cells won't burst if they do freeze. A better understanding of these mechanisms might be used to preserve human organs for transplants.	C Beaver
4. As winter approaches, comblike projections grow on this animal's toes, effectively doubling the surface area of its feet. These natural "snow shoes" enable the creature to be better supported on soft snow. This animal also takes advantage of the insulating barrier snow provides against severe weather. Its snow burrows can be clearly recognized by narrow one inch long scattered droppings composed of plant fibers. The animal sometimes startles cross country skiers when it explodes out of its under-snow roost.	D Woodchuck
5. This animal fattens up in fall by eating apples, berries, hazelnuts, acorns, ants, tubers, and garbage when available. It dens in mid-fall and goes into a semi-hibernation, only rousing from time to time in winter. The creature's heart rate slows to eight beats per minute. It doesn't urinate all winter, but instead converts urea into muscle tissue. Babies are born in mid January, and they nurse while their mother is in a torpid state.	E White tailed deer
6. This creature, along with hundreds of thousands of its friends, hibernates in old Michigan mines. It prefers hibernation temperatures of 40° to 45° with high humidity. The animal hangs in clusters with friends. Recently special mine shaft safety gates have been installed to allow this creature to enter while barring access to larger animals and humans.	F Loon
7. Cheek pouches enable this animal to easily carry large quantities of nuts and seeds to its underground cache. Its 20 to 30 foot long burrow includes various side pockets and storage chambers. It builds a bark, fur, grass, and feather nest on top of its food cache and semi-hibernates for the winter. Every now and then this animal wakes to nibble at its snack pile.	G Mosquito
8. This animal stores high energy brown fat in its tail. In the exposed extremities of its tail and feet, surface veins constrict, shunting blood toward its body's center. The warmth of arterial blood is transferred to the cooler blood in adjacent veins and thus core body heat is maintained. In Fall, this animal also stores food near its lodge by jabbing branches into the bottom of the pond. The animal exits its lodge underwater and retrieves these branches for snacks when the pond's surface is frozen.	H River Otter
9. This animal's fur color changes from brown to white for winter. It is believed that this color is not only great winter camouflage for this small predator, but the lack of the color pigment in the winter fur allows more air inside each hair which increases the insulation value.	I Ruffed Grouse
10. This animal, like many of its relatives, has a short life span of only two or three months. Before it is killed by the frost in early fall, it lays eggs in pools of water. As the snow and ice melts in spring, the sun incubates literally billions of eggs. These eggs hatch into larval wigglers.	J Wood Frog
11. This animal's fur coat has up to 160,000 hairs per square inch and a thick layer of insulating fat underneath. The creature seems to enjoy sliding down snowbanks on its belly. During the winter, this animal hunts for fish near falls or rapids where moving water prevents freezing. It lives in a den in the riverbank with one entrance below the waterline and another entrance above the waterline which permits air circulation.	K Short Tailed Weasel
12. Like many of its cousins, this animal migrates great distances in winter to find food. It leaves behind freezing lakes for the open water in the Atlantic Ocean and Gulf. There it eats cod, herring, flounder, and sea trout. This animal which wails and yodels in the spring and summer is totally silent in wintertime.	L Black Bear



Newest Conservancy Members?

This photo of the two Gratiot Lake eaglets in the nest was taken by Joe Papp when he banded the birds on June 17. Notice the unhatched egg in the foreground. These eaglets had fledged and were flying by the third week in July at approximately 11 weeks of age.

Become a GLC member!

- Donate to GLC.
- Help the Conservancy to...
 - Protect wildlife and native plant habitat.
 - Conserve wetlands and woods.
 - Maintain the Noblet Field Station.
 - Monitor water quality.
 - Construct walking trails.
 - Inform and educate about the natural and human history of the area.

CHECK BELOW!

Green dot = current GLC member.
Thanks!

Yellow dot = membership is expiring.
Please renew.

No dot = not yet a member.

You are welcome to join.

Membership is also indicated on the envelope mailing label with an expiration date.

Members receive the bi-annual GLC newsletter, notice of events, and an invitation to the Annual Meeting.

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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Phone number: _____

Winter address if different from above: _____