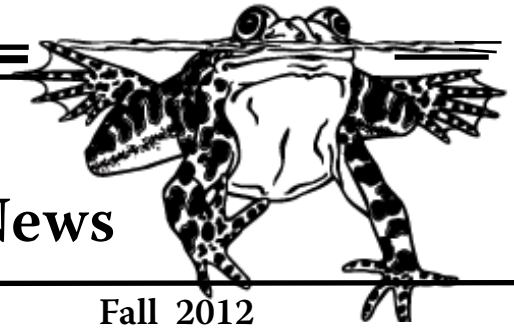

Water's Edge

Gratiot Lake Conservancy News



Volume 14

Fall 2012

Gratiot Eagles Featured at Two Members Meetings

There was standing room only with over 65 people in attendance at the GLC Members Meeting in July. Featured were updates on GLC's education and monitoring programs, the Gratiot Lake Preserve, Noblet Field Station, and Bammert Farm. Issues such as invasive species, mining exploration, and lake level were touched upon. A presentation of wildlife photos and bald eagle videos followed the business meeting. A special thanks goes to all who helped with the program and brought snacks! Video clips of eagles at Gratiot Lake can be viewed on the GLC website:

<http://www.gratiotlakeconservancy.org/EagleUpdate2012.htm>

In September, Bonnie and Jim Hay presented a bald eagle slide show at the Keweenaw County Historical Society Annual Members Meeting. In addition to presenting Jim's photos and videos of eaglet development and

behavior, Bonnie touched on the importance of the bald eagle culturally and as a national symbol. She noted the love/hate relationship we have had with the bald eagle for the last few centuries both locally



and nationally. In the lower 48 states the bald eagle population had sunk to historically low levels by the early 1960's due to hunting, loss of habitat, and the effect of pesticides.

This September also happened to mark the 50th anniversary of the publication of Rachel Carson's book, Silent Spring. This publication brought to the attention of the public the impact that massive spraying of DDT was having on wildlife- especially bald eagles. Carson detailed the weakening of eagle eggs due to DDT's interference with calcium deposition in the shells. The fragile eggs could not be brooded and as a result the bald eagle population plummeted. Soon, with the creation of the EPA, DDT was outlawed for use in the US. Conditions improved further with the implementation of the Endangered Species Act, and the bald eagle rose from its endangered status to make a historic comeback.

Board Member Gina Nicholas Receives Heart and Hands Award



The Heart and Hands Award is given to a member of the local community who has performed outstanding volunteer service for peace, justice, or the environment. The Martha & Floyd Kinzel estate which grants the award, provides a cash amount that is donated to a non-profit organization chosen by the awardee. Gina Nicholas received the 2012 award in recognition of her conservation work in the Keweenaw. She directed a portion of her award to go to GLC.

Gina has served as an officer on the GLC board since 1998 and has overseen sustainable forestry and archeological projects on GLC's Bammert Farm. She also has served on the board of the Houghton Keweenaw Conservation District since 2003, and as its chairperson since 2008. Her dedication to the Keweenaw, skill with collaborative work, and grant writing expertise have helped in such projects as the creation of the Bete Grise Preserve, the Lizzadro Preserve, the Pilgrim River Watershed Management Plan, and the Brockway Mountain Overlook.

GLC gratefully acknowledges donors from Nov. 2011 - Nov. 2012

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Adrienne Bozic received a *Janet Avery Scholarship* to attend GLC's *Wetland Plant Workshop* held in August. Adrienne is the Upper Peninsula Stewardship Organizer for the Michigan Nature Association (MNA). In this capacity she leads field trips and monitors rare and invasive species on MNA properties. The workshop served as a refresher course to aid in her work which includes nature sanctuaries in the Keweenaw. She is pictured above examining bog plants at the Bete Grise Preserve. Thirteen participants attended this popular field class taught by botanist Janet Marr.

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Hancock High School student Ian Hyslop (middle row, second from left) received the *Jack and Rita Sandretto Scholarship* to attend the Michigan Tech Summer Youth Program Exploration: Aquatic Ecology at Gratiot Lake. Nine students attended the residential ecology program at the Noblet Field Station in July. The group is pictured here with instructors Brian Rajdl (seated, far right) and Jenn Wyman (top row, far left). Teacher salary for this program is subsidized by GLC's Education Fund.

Beneficial Bats Need Our Help

The Keweenaw is home to seven bat species. Three Keweenaw bat species are seasonal residents who migrate: the red bat, the hoary bat, and the silver bat. Four species hibernate in caves and old mine shafts: the little brown bat, the big brown bat, the northern long-eared bat, and the tri-colored bat (formerly pipistrelle). About 90% of Michigan's hibernating bats winter in the UP, mostly in old mines in the western UP. Some of these hibernation locations - called hibernacula - house just a few bats, some house tens of thousands.

Although some folks fear that bats will swoop down and become entangled in their hair (which is folklore) or can transmit disease, the really alarming fact concerning bats is that hibernating bats are rapidly being wiped out by an aggressive fungal parasite, *Geomyces destructans*. This cold loving fungus is dubbed "White Nose" because it grows on bat skin membranes and forms a fuzzy white growth on their muzzles. White Nose fungus is a constant irritant that causes bats to be repeatedly roused from their hibernating torpor. Since hibernating bats don't eat for many months, any disturbance depletes precious stored fat resources. Starving, infected bats may even leave hibernacula in mid-winter in search of food which is non-existent at that time.

Ultimately, more than 90% of bats infected by the fungus starve to death. Along the East Coast of the U.S. whole bat populations are being wiped out. Michigan now holds the distinction of being one of the last Midwest outposts with hibernacula free of the deadly White Nose fungus as it continues to spread west from the east coast. Experts fear this fungus may push the little brown bat, now the most common bat in the Keweenaw, to extinction in the lower 48 states in 15 years!

Because bats are very social creatures, the fungus is easily transmitted from bat to bat. White Nose fungus is a disease specific to bats and not harmful to people or other animals. However, the fungus can travel on the clothing, shoes, and equipment of people who visit or work in caves and mines, and can also be transmitted to bats in this way. So there is an effort nationally to find and implement ways to stem the transmission of the disease by people to these extremely beneficial bats.



Bill Scullon, MDNR wildlife biologist, Dr. Allen Kurta of Eastern Michigan University, and caver Steve Smith are surveying Michigan hibernacula. Currently, they monitor about 60 sites in the western U.P. Scullon indicated that the MDNR is educating cave enthusiasts, rockhounds, and owners of caves and mines open to tourism on methods to help protect bats from exposure to the fungus. Some caves and mines have already been gated to allow entry to bats but to exclude entry to people either year round or during hibernation times. There are a number of these gates in Houghton and Keweenaw Counties. Seneca #3 shaft in Mohawk (pictured at right) and the Pewabic shaft associated with Quincy mine are examples of bat enclosures or bat gates. Cavers and rockhounds are being informed about decontamination procedures to use when going from site to site, and about the importance of not entering hibernacula in fall and winter. The DNR works with owners of sites which are open to tourism, such as Quincy and Delaware Mines,



to help reduce the likelihood that the fungus could be brought in by visitors.

Many thanks to Bill Scullon, the MDNR wildlife biologist in charge of bat monitoring, for providing some of the information in this article! If you find large numbers of dead/dying bats (especially near mine entrances) or flying bats out-of-doors during hibernation times, or find bats with white fuzz on their muzzles, please report this to Bill Scullon at 906-563-9727 or scullonh@michigan.gov

For more on bats...

Organization for Bat Conservation: www.batconservation.org

Bat Conservation International: www.batcon.org

U.S. Fish and Wildlife Service website www.whitenosesyndrome.org

A first hand account of a visit to a hibernaculum with bat monitoring team Allen Kurta and Steve Smith is featured in the October 2012 edition of *Traverse, Northern Michigan's Magazine*. The informative article, "Michigan Bat Doctor Fights for the Hibernacula's Future," by Finlandia professor Suzanne Van Dam describes her visit to the iron mine in Vulcan, MI. Also available on the MyNorth website: <http://www.mynorth.com/My-North/October-2012/A-Northern-Michigan-Bat-Doctor-Fights-for-the-Hibernaculas-Future/>

Another great article on U.P. bats by Van Dam is in the Summer 2012 edition of the *UIP Environment Newsletter*.

Reasons to be Grateful for Bats

A little brown bat can consume over 1000 mosquitoes and blackflies a night! That means a lot less swatting for us.

Bats are considered major predators of agricultural and forest insect pests. A bat eats nearly its body weight in insects every night during its active season. Because of the insect control services that bats offer, both crop damage and the need for pesticides are reduced, saving Michigan farmers an estimated \$5,000,000. per year! Using less pesticide is also an environmental benefit.

The acrobatics of these graceful and mysterious nighttime creatures is fun to watch.

What would Halloween be without bats?

Don't bats transmit diseases to humans?

The incidence of rabies in bats tested in the wild is only 1%, much less than raccoons for instance. However, among animals found dead (or killed after biting humans), bats top the list of those testing positive for rabies. That said, it is a rare occurrence for people to contract rabies from a bat. Experts I spoke to could not recall any such cases reported in the U.P. However, persons have received prophylactic treatment for rabies after exposure to bats testing positive for rabies.

If a bat enters your home, the best policy is to open windows and doors to allow its exit. Never pick up a bat with your bare hands. Instructions for safe bat removal are available on the web at the bat conservation organization websites. If a dead bat is lying on the ground, wear gloves or scoop it up in a container for disposal. Never handle a bat with bare hands.

When not hibernating, females seek sheltered environments to raise their young. They can enter homes through holes in the soffit, eaves, or chimney. If you can put your thumb in the hole, it is large enough for a bat to enter! If bats have moved into your attic or inside your walls to raise their young and have become a nuisance, you can block their re-entry after they have vacated for the winter. According to Bill Scullon, bats have moved into hibernacula in the U.P. by early November. When removing old bat droppings from inside buildings, experts advise the use a respirator and wetting down the droppings prior to removal in order to eliminate the possibility of contracting a respiratory infection called histoplasmosis. The old droppings of birds and bats may contain histoplasmosis spores which if stirred up and inhaled can lead to infection.

After blocking bat entry to your home, consider erecting a bat house nearby as a substitute accommodation. These can be mounted on poles, tree trunks, or the sides of buildings. Bat houses are available locally at hardware stores. Free bat house plans are on the Organization for Bat Conservation website.



On June 17, the six to seven week old eaglets at Gratiot Lake had a visitor in their nest. Kendall Simon, a doctoral student at Clemson University, climbed 80 feet up in an old pine and took this bird's-eye picture from the nest rim. Kendall and Pete Datema a grad student at the University of Maryland were in the Keweenaw as part of an ongoing study of eagles in the Great Lakes area. The two brothers pictured above were banded and blood and feather samples were taken. The eaglets took their first flights from the nest about five weeks later. [Learn more about the eagle banding and see entertaining videos of eaglet development on the GLC website.](#)

Just Give.org

As a convenience to donors, GLC is enrolled in an online site where contributions can be made by credit card. This is a quick and easy way to make last minute donations to the Conservancy.

Note: Just Give deducts 4.5% of your donation as a service fee.

Seen at Gratiot Lake

In late August, Jack Meyer spotted five river otters playing in the lake.

Many noticed floating algal "blooms" and algae on rocks this year.

Dave Mitchell, Ed Stonemann, and Al Hochstein were among those who saw turkeys near Gratiot Lake Road this past summer.

Jim Hay photographed a snipe walking along shoreline in September. A snipe has a long, flexible bill. Sensory pits at the end of the bill help the bird to detect prey in the mud.

A flock of Bonaparte's gulls stopped by while on migration south to their winter home. This graceful gull breeds in boreal forests of Canada and Alaska and is the only gull to nest in trees.

To donate to *the Gratiot Lake Conservancy Fund* at the Keweenaw Community Foundation contact:

**Barbara Rose, Executive Director
Keweenaw Community Foundation
236 Quincy Street
Hancock, MI 49930.**

906-482-9673 mail@k-c-f.org www.k-c-f.org

Earmark donations "for *Gratiot Lake Conservancy Fund*".

Learn more about mining in the U.P.

FOLK (Friends of the Land of Keweenaw) recently launched a Mining Education and Empowerment Campaign. Scott Rutherford, a coordinating committee member of FOLK's campaign, came to the GLC Members Meeting in July to introduce this education initiative. The Campaign's website is www.folkminingeducation.info

The website offers mining information that is very specific to the Western Upper Peninsula. Laws impacting mining oversight are detailed, including, for example, a discussion of split estate. Property owners hold a "bundle of rights" to their land, but not all rights in this bundle are always held by the same owner. In many cases in the U.P. mineral rights have been severed from surface rights, and in Michigan mineral rights take precedence over surface rights. Surface rights owners can be adversely affected by the exploration involving the severed mineral rights under their land. The website also details potential ecological impacts, such as water pollution, which arise from metallic sulfide mining. There are links to many resources relating to metallic sulfide mining in the region and elsewhere.

The National Wildlife Federation (NWF) is also focusing on education and advocacy related to the environmental oversight of mining in the Great Lakes basin. In March 2012 they published a report "Sulfide Mining Regulation in the Great Lakes Region: A comparative analysis of sulfide mining regulation in Michigan, Minnesota, Wisconsin, and Ontario" edited by Michelle Halley, attorney and senior manager for NWF. The report details:

1. state and federal mining regulations,
2. reporting requirements on mine issues in each state,
3. the funds each state has available for monitoring compliance with existing mining regulations,
4. whether or not a state has requirements that mine owners share information with the public and surface rights owners,
5. and each state's track record of enforcement of existing regulations.

Among the states examined in the report, Michigan is rated fair to poor in this comparison of mining laws and enforcement. [To view the report on the NWF website click here.](#)

Halley recently spoke at the October FOLK members meeting and at the Lake Superior Bi-National Forum on non-ferrous mining held in Marquette in September. Video clips of this meeting including Halley's presentation can be viewed at www.superiorforum.org

Update on the Keweenaw Copper Project

Highland Copper Company, Inc. (formerly Highland Resources) is moving along with exploratory drilling of about 100 test holes on the 543S deposit site approximately a mile (as the crow flies) from Gratiot Lake. They are drilling and assaying ore to ascertain the quality and composition of the chalcocite copper, native copper and silver resources in this deposit. The holes, which are currently being diamond drilled up to one thousand feet deep are spaced about 50 to 100 feet apart. The deposit was explored in the mid-1970's and again in the early 1990's. Mine officials hope to confirm that this deposit contains the 4.5 million short tons of 2.27% copper that was estimated in past explorations.

Highland's most recent report, which was posted in late October on the company website, states that those assays that have been completed confirm the former findings. They have run transects across Section 12 all the way to the boundary with Section 11. They plan to drill at 543S all winter and will begin drilling soon at a location they identify as G-2 that is just South of Mount Houghton.

The 543S deposit is only a portion of the 13,000 acres that the Highland's Keweenaw Copper Project encompasses. A map available on the company website shows exploration blocks following the arc of the Keweenaw from the Calumet/Allouez area to the ridges north and east of Gratiot Lake to areas north of Lac La Belle and Bete Grise.

Information on this exploration can be viewed on the Highland website at www.highlandcopper.com



Visit our web site to view full color digital *Water's Edge Newsletters*, articles, program information, photos, video clips, and links to more.
www.gratiotlakeconservancy.org

HKCD Seeks Funding for Watershed Management Plans

In order to establish a baseline for the Bete Grise Bay and Tobacco River Watersheds, the Houghton Keweenaw Conservation District (HKCD) has started collecting stream data. Through funds donated this summer, HKCD bought 10 Hobo devices that measure flow and temperature. The Hobos were programmed by George Madison from the DNR Fisheries Division. Tom Rozich of Copper Country Trout Unlimited and Gina Nicholas placed the Hobos in 10 locations in both watersheds in the early summer.

Most of the Hobos were retrieved at the end of October. The devices will be returned to George Madison for data retrieval and analysis.

HKCD is planning to apply for a grant(s) to do watershed management plans for both the Bete Grise Bay and Tobacco River watersheds. G-2 is a Bete Grise Bay watershed location and 543S is on the border of both the Bete Grise Bay and the Tobacco River Watersheds. Gratiot Lake is part of the Bete Grise Bay watershed. A watershed management plan provides a good baseline picture. HKCD follows a rigorous format acceptable to the DEQ for watershed management plans. HKCD anticipates a grant opportunity to fund watershed studies in 2013. Donations will be used as match for this grant or to continue monitoring next spring if no grant is available. Contributions may be mailed to HKCD, 600 E. Lakeshore Drive Suite #2, Houghton, MI 49931. Please make the check out to "Houghton Keweenaw Conservation District" and note on it "donation for watersheds management plan and monitoring."

Go digital and save paper and postage!

Email GLC if you would prefer to receive only a digital copy of the *Water's Edge* and no paper copy.



Teachers Explore Gratiot Ecology from Algae to Mink Frogs

On June 28, fourteen elementary and high school teachers came to Gratiot Lake for a day long "immersion" in inland lake ecology. It was part of a five-day Great Lakes Teacher Institute organized by the Western Upper Peninsula Center for Science and Environmental Outreach (WUP Center) at Michigan Tech. Co-sponsors were the Michigan Tech Center for Water and Society, the Michigan Space Grant Consortium, and GLC.

Teachers toured the lake on the Hay's pontoon boat, where they received a hands on (or perhaps all hands on deck) introduction to lake ecology. Martin Auer, Professor of Environmental Engineering at Michigan Tech, introduced techniques for collecting plankton and measuring water chemistry. Later, using a sophisticated microscope with a video screen attached, the group observed the numerous species of microorganisms gleaned from the water. Video clips of the plankton in action can be viewed on the GLC website.

The group lunched at the Noblet Field Station. Then Joan Chadde, WUP Center Educational Outreach Coordinator, conducted a frog survey with the teachers at the old beaver pond on the Bear Paw Path at the GLC preserve. Here the teachers observed mink frogs and green frogs. One teacher by accident briefly joined the frogs in their watery home. The group compared data from Gratiot Lake with data they had collected during a previous foray on Lake Superior aboard the Michigan Tech's research vessel, the Agassiz. Overall, in this snapshot view, Gratiot was deemed a healthy inland lake.

About Water's Edge

Water's Edge, the newsletter of the Gratiot Lake Conservancy, reports Conservancy news, informs about the ecology and history of Gratiot Lake and its environs, and shares ways to improve environmental stewardship.

**Please send questions, comments, or articles to Bonnie Hay, *Water's Edge* Editor
Gratiot Lake Conservancy
P.O. Box 310
Mohawk, MI 49950**

email: belh@verizon.net phone: 906-337-5476

***Water's Edge* archives are at www.gratiotlakeconservancy.org**



Sprucing up!

Thanks to Gratiot Lake residents and Michigan Tech students over five miles of Gratiot Lake beach is cleaner. Michigan Tech students, Natasha Fetzer and Neil Noack (pictured at left) pitched in with the clean-up. They joined lake residents Mike and Mary Bingham, Bonnie Hay, Al Hochstein, Dorothy and Virginia Jamison, and John and Eve Lindsey in removing over 111 pounds of trash.

The annual September clean-up is coordinated by the Great Lakes Alliance. Details of the type and quantity of trash collected are added to a database which is used to educate about beach litter and its impact, for instance that plastic bags and fishing line can be a hazard to wildlife. The most unusual items found were an old metal radio and a fire extinguisher. This year there were more volunteers and less trash at Gratiot than last year. You can view data from the past two years on the Alliance website at <http://www.greatlakesadopt.org/Home/HistoricalData>. Type in "Lake Gratiot" for the lake name.

Thank You, Volunteers!

Your efforts sustain our work!



Kerrie Richert (pictured above) worked with Jim Cox to spruce up the Noblet Field Station. Jim and Kerrie donated forty hours of their time to painting the field station porches, window and door frames, staining the picnic table and benches, and re-installing some signs. GLC volunteers are irreplaceable treasures! Thanks to all who "put in time" this year.

**GLC membership renewals for 2013 are due.
A GLC membership makes a great gift.
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Join our 140 Member Families. Support GLC !

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 are always welcome.

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

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