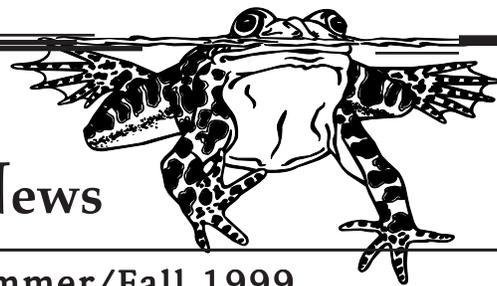


WATER'S EDGE

Gratiot Lake Conservancy News



Volume 1

Summer/Fall 1999

NOBLET FIELD STATION OPEN HOUSE

Sunday, August 8 was a sparkling day for the Gratiot Lake Community Open House at the Noblet Field Station. Guests toured the cabin, walked the woodland trail, and discussed our lake and its watershed with Conservancy board members. The cabin sparked some fascinating reminiscences from several Gratiot Lake residents, including the story of the beer cap trail and memories of Burt Noblet and his family and friends.

Some seventy Gratiot Lake residents and friends attended. It was wonderful to see such a nice turnout even though the access was a bit challenging by land and by sea!

A special thank you to all who helped make the day run smoothly, including Ginny and Dorothy Jamison, Jan Anderson, Mimi Lytle, Carol Lizzadro, and Liz Hay who provided refreshments.

Do you know interesting tidbits of history about our Lake? It was a pleasure to hear some of these stories at the GLC open house. Please write or e-mail if you would like to share a piece of Gratiot Lake history in a future newsletter!



Ellen Manderfield and Asha Murrell relax by the fire during the Headwaters Art and Ecology Program at the Noblet Field Station. MORE ON PROGRAMS INSIDE!

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 education 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 Gratiot Lake Noblet Field Station located in the SE corner of the Lake is the staging area for many of the Conservancy's education and research activities.



Mudpuppy Visits Gratiot Lake!

You may have noticed this EPA research vessel, the *Mudpuppy*, when it came to Gratiot Lake in early August. Researchers from the EPA, Michigan Department of Environmental Quality (MDEQ) and Michigan State University sampled the lake bottom sediment. A tent was set up at the public access where these core samples were prepared for transport and preliminary data was collected.

According to William Taft of the MDEQ the pilot study included five Michigan lakes, Gratiot, Elk, Higgins, Gull and Cass. These lakes were chosen because

- they were deep with undisturbed sediments,
- they were separated geographically,
- they had great public ramps to accommodate the *Mudpuppy*,
- and they varied in the amount of human impact.

A state of the art sediment coring device was used to obtain samples in the deepest part of the lake. It is one of only five such hand constructed instruments in the world. Researchers will look at heavy metals, pesticides, and other organic chemicals in the consecutive layers of sediment to determine how the lake has changed over time. They will use lead 210 dating techniques on the layers. In addition samples of water taken from just above the area where deepest cores were extracted were analyzed for standard water chemistry parameters including hardness, metals, and phosphorus. The water sampling is part of MDEQ's trend monitoring program.

It will take some time to analyze the data, but a report is expected by the end of next summer. GLC will keep you posted!

MTU Seniors to Develop Field Station Power Source

Five Michigan Tech students are beginning design work this fall on a project which will benefit the GLC's education program. The Noblet Field Station which serves as overnight accommodation and classroom for students has no electric power. It would be useful to have some electricity available to power equipment occasionally brought to the site such as computers, microscope lights, and aquarium pumps.

MTU senior engineering students design and implement projects showcasing their skills as a requirement for graduation. MTU gives a small budget to each project, and the organization for whom the project is done pays the balance.

The students will work with the Conservancy as their client throughout the year to bring the plan from the drawing board to fruition.

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. If you have questions, comments, or offerings for *Water's Edge* please write to: Bonita Hay, Editor *Water's Edge*, 6699 Springbank Street, Philadelphia, PA 19119 or e-mail: belh@voicenet.com.

Students Study Lake Ecology

Clam Study

Amber Kenny, then a Senior at Houghton High School, studied the ecology of Gratiot Lake clams last year under the tutelage of Raven and Mike Scheiwe of Headwaters Environmental Station. The group stayed at the Conservancy's Noblet Field Station to pursue the research. Amber collected and released over 250 clams from the Lake and the Little Gratiot River. She measured their size and weight and assessed their age by counting the bands and ridges in the shells. She found that two species of clams, *Elliptio complinata* and *Pyganadon grandis* inhabit the Lake. Marion Havelick, a Wisconsin malacologist who specializes in clams, helped with the final species determination.

By placing some of the clams in an aquarium, Amber was able to observe their movements and siphoning behavior. Amber noted that clams move about much more than you would imagine.

Because clams are bottom dwellers and obtain their food in these sediments, they are good indicator species of the health of the lake. Tissue from a few clams was collected for future analysis of the presence of mercury, a heavy metal which is a pollutant in many lakes in the Great Lakes region. Amber assisted Sandra Harting, a biologist with special expertise in toxicology, when she came to Gratiot to measure data on the pH, dissolved oxygen level, clarity, and conductivity of the lake water. Amber assisted as Harting took a core sample of the bottom sediment. Further lab analysis of this sample did not indicate excessive levels of mercury.

Amber also examined the gills of fish in order to observe the relationship that the clams have to fish in these waters. Tiny clams spend the first part of their lives as glochidia attached to the gills of fish. At this stage they can be observed with a hand lens. As they mature, they drop off to bottom sediments.

Amber was the first participant in the Headwaters Resident Ecology Research



Amber Kenny Examines a Clam at the Noblet Field Station

Internships at Gratiot Lake. On completion of her three week project Amber presented an informative slide show. A written report for the Conservancy's library is in the works.

Ornithology Internship

Our 1999 Summer Intern Jake Musser is an aspiring ornithologist. In June and August, Jake and Mike Schiewe spent time at the Noblet Field Station mist netting, identifying, and recording birds. As of this writing, 100 birds were banded and released, 60 of which were warblers. Fourteen different species of warbler have been identified so far. Jake's research will continue into October. We will have more on Jake's research in a future newsletter.



Soumi Elderhostle Group Visits Noblet Field Station

Mike Scheiwe of Headwaters led an Elderhostle group from Soumi College on a tour of the Conservancy property. The visit was planned in conjunction with a workshop focusing on land use issues. As a follow up, Bonnie Hay, the Conservancy's Program Director, spoke to the group at Soumi about the land trust movement in the U.S. and some of the factors which motivate individuals to donate land for conservation.

Watershed Tips

Avoid overuse of fertilizers on gardens and lawns. Test the soil first to see what the nutrient needs are, and apply fertilizer only as needed. Fall fertilizer application on lawns generally has the least impact on lake ecology. Mulching and using compost on gardens will eliminate the need for synthetic fertilizers. Excessive application of fertilizer causes nutrient runoff into the lake. The added nutrients feed annoying algal blooms which harm the lake ecology. If you must fertilize, choose slow-release organic fertilizers which can improve soil health and structure. Use low phosphorus fertilizer. Phosphorus is the main culprit leading to overgrowth of algae in water systems. Don't apply fertilizer on rainy or wet days when it is more likely to end up in the lake than on your lawn. Leave lawn clippings. Studies show that leaving grass clippings on the lawn reduces the need for fertilizers by 30%.



*Donna Lenard, left, presents owl illustration to Bonnie Hay of GLC
Art and Ecology at the Noblet Field Station*

Donna Lenard, a gifted illustrator of wildlife, came to the Lake in August as an artist in residence during the Headwater's Art and Ecology program. Donna's illustrations served as a model and inspiration for students learning to draw birds. Ellen Manderfield, age 12; Asha Murrell, age 13; and Nicole Yaroch, age 12, worked on pencil, ink, and watercolor illustrations for a warbler card game.

Ms. Lenard has donated a beautiful pencil rendering of an owl to be displayed at GLC's Noblet Field Station.

Gratiot Lake Conservancy

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ADDRESS CORRECTION REQUESTED