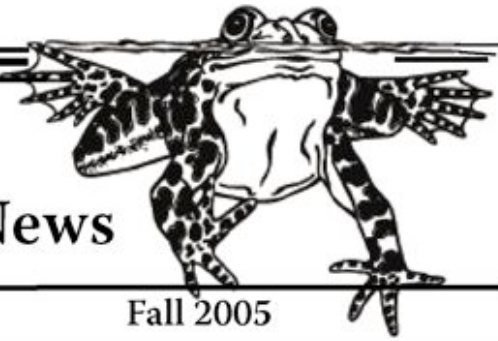


Water's Edge

Gratiot Lake Conservancy News

Volume 7

Fall 2005



Awards Presented at 8th Annual Members Meeting



Two Directors' Awards of Merit were presented at Gratiot Lake Conservancy's 8th Annual Members Meeting on August 2nd at the Miscowaubik Club in Calumet.

Rita Sandretto was presented with the GLC Directors' Award of Merit as a Patron in Environmental Education (see photo above). She has endowed the Jack Sandretto Scholarship which allows local youth to participate in educational programs sponsored by the Conservancy and has also contributed to the educational fund of the Conservancy. For the last three years, local students have attended the MTU Summer Youth Program Aquatic Ecology at Gratiot Lake

Exploration through Rita Sandretto's generosity.

Robert Nemiroff PhD received a GLC Directors' Award of Merit honoring him as a Volunteer in Education for organizing the GLC astronomy night on Brockway Mountain. He and his students from MTU's astronomy program have helped star gazers view celestial highlights for the last four years.

Thirty-five members attended the meeting which was preceded by a buffet dinner. GLC directors were elected, an amendment to the bylaws approved, and a slide show highlighting GLC programs was presented.

GLC Receives Donation from A.W.A.K.E.

A.W.A.K.E. founders and officers, Janet and Bud Avery, presented GLC with a donation of \$3000 at the Conservancy's Members Meeting. The amount included about two thirds of the the residual funds left when A.W.A.K.E. recently disbanded and an additional donation by Betsy Aller and the Avery's.

A.W.A.K.E. was founded in response to concerns over new copper mining operations being implemented above Gratiot Lake in the early 1990's. The group spoke out about potential environmental damage the mining could have caused to Gratiot Lake and to a nearby creek. Janet and Bud Avery were tireless in their efforts to make sure that proper and complete assessment of the harm such mining could cause was addressed by various arms of the

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.

Coastal Clean Up

On September 5, 2005 volunteers helped to gather trash from Gratiot Lake shoreline and participated in the *International Coastal Clean Up*. Low water levels exposed plenty of shoreline for volunteers, Orin Ahlstrom, Jim Hay, Al Hochstein, Dorothy and Virginia Jamison, Ed Kaeding, Gina Nicholas, Bruce Wagner, and Nick Wilson, to comb. Biggest finds were three tires and sections of a collapsed ice fishing shack.

International Coastal Clean Up asks that beach combers categorize and count the trash they pick up so that this data can be used as an educational tool. Most trash seemed to be items that just blew away from people—for instance, small plastic grocery type bags. Some items were likely pitched in the water – lots of cigarette filters for example. Some debris, such as fishing lures, was evidence of the recreational activities that take place at Gratiot. We estimate over 150-200 pounds pounds of trash was removed. The group tried to leave only bear tracks behind.



Boot next to bear tracks spotted during clean up at Gratiot Lake.



Photo courtesy of Jim Hay

Notecards including the above photo of a White Admiral Butterfly, the hawk photo on page 8, and others taken at Gratiot Lake will be a gift to you for donations of \$100 or more to GLC.

Thirty-four Volunteers put in over 400 hours trail clearing, shoreline cleaning, gutter hanging, picture taking, baking, furniture staining, program planning, grant writing, water testing, assisting at programs, website maintaining, lake watching, notecard assembling, editing, etc. Thank you to all who pitched in. Your actions sustain GLC!

Not sure if your membership is due. Just check the expiration date on the mailing label next to your name. If you have received a complimentary copy of "Water's Edge," please consider joining GLC. Membership details are on page 8.

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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P.O. Box 310
Mohawk, MI 49950**

**e-mail: belh@verizon.net phone: 906-337-5476
Visit our web site: <http://www.mlswa.org/gratiot-lake-1508/>**

GLC gratefully acknowledges those who recently donated to the Land Acquisition Fund, Education Fund, or to GLC's General Operating Budget...

LEADING CONTRIBUTORS

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Joseph Nicholas

MAJOR DONORS

A.W.A.K.E.

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Bonnie and Jim Hay

Keweenaw Trail Running Festival

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Nancy and Doug Sherk

Patricia and Peter Van Pelt

A.W.A.K.E. continued from page 1

government. Later the group championed causes including the conservation of the Bete Grise shoreline. A.W.A.K.E. also raised awareness about the negative impact clearcutting could have on Keweenaw's high quality mixed hardwood forests. Because of A.W.A.K.E.'s proximity to and interest in the environment of Gratiot Lake and also its mission of education about the ecology and stewardship of the lake, the A.W.A.K.E. board generously earmarked a portion of its residual funds to be donated to GLC's Education Fund.

The GLC's website recently received the Golden Pasty Award. Visit our updated website at <http://www.mlswa.org/Gratiot-Lake-1508/>



Mengya Li, pictured above canoeing at Gratiot Lake, received a scholarship to attend the Aquatic Ecology at Gratiot Lake Exploration in July.

High Speed Internet Access Arrives at Gratiot Lake

Charlie Hopper of pasty.net has successfully installed devices at GLC's Noblet Field Station which allow wireless high speed internet access at the lake. There is a small antenna installed on the Noblet Field Station and another is mounted on a 8 foot post in from the shoreline not far from the old stone dock and "iron thing." The internet signals are picked up from a transmitter which is located on the top of Mt. Horace Greeley above the lake.



The system is powered by a small electrical input from GLC's solar panel. This small antenna system has not only brought wireless internet access to GLC for use by groups doing education and research there, but also will enable others at Gratiot Lake to use this service if they wish. Pasty.net is donating the use of the service to GLC. They can provide necessary interface device and high speed wireless internet service to homeowners at the lake for a fee. Pasty.net's fee structure has recently been modified to accommodate seasonal users as well as those who subscribe on a yearly basis. Visit <http://www.pasty.net> for further information or call 906-337-5979.

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



"Gratiot Blue" by Marilyn Brandenburger

An Idea for Holiday Giving

GLC's 2004 Artist-in-Residence, Marilyn Brandenburger's original paintings and pastels, as well as prints of the images of Gratiot Lake, are available for sale. To help support the GLC's work in preserving the lake and its environs and to show her appreciation for her stay at the lake, Marilyn is contributing to the Conservancy 25% of the sales price of any work sold.

To see the Marilyn's work visit <http://www.brandenburgerstudios.com/lakesuperior.html>.

To order, contact Marilyn directly:

Marilynn Brandenburger
643 Clairmont Circle
Decatur, GA 30033
phone: 404-325-4302
email: marilynn@brandenburgerstudios.com

SUPPORT GLC!
See page 8
for membership and donation details.

AIS Videos and CD's

Thanks to a grant GLC received from the Great Lakes Aquatic Habitat Network and Fund, a video and a CD detailing information about aquatic invasive species and measures boaters and anglers can take to keep them from spreading are available. The "Exotics to Go!" CD includes Powerpoint presentations on the topic. "Stop Exotics: Clean Your Boat" video features John Ratzenberger (better known as Cliff Clavin from the TV show "Cheers"). This humorous video leaves boaters informed and motivated to take a couple extra minutes to clean their boat, sailboat, or personal watercraft at the end of a day on the water. To borrow these materials from GLC for personal use or to present to organizations or clubs, please contact GLC.

Reading the Landscape 2005 Water Bugs



Reading the Landscape of the Keweenaw 2005 Natural History Field Trips for Adults focused on water. GLC is one sponsor of this series planned by volunteers Patricia Van Pelt and Marcia Raley and by GLC Program Director Bonnie Hay.

The July 30th *Water Bugs* session was held at Gratiot Lake. Wildlife biologist, Walt Summers introduced participants to the myriad of fresh water insects, crustaceans, snails, and worms that inhabit streams. The diversity, type, and quantity of these organisms in a stream can be used to assess the quality of the water they live in. In particular, the presence of the three pictured on this page, *caddisflies*, *stoneflies* and *mayflies* are indicators of a high quality stream. Not surprisingly, fishing flies based on these three insects are among the most popular ones used in angling for trout.

Some participants braved a downpour (the only one of the entire summer!) to do a survey of the invertebrates in 932 Creek which flows into Gratiot on the north side. The 932 was deemed to be of good quality although somewhat compromised by the drought conditions which prevailed for most of the summer.

Graphic designer, John Van Pelt demonstrated scratchboard art, an ideal medium to capture the forms of insects. He guided participants in exercises using images of invertebrates magnified by projection from GLC's new microscope.

Websites below describe stream ecology and contain keys to stream life:

University of Minnesota Water Resources Center
Guide to Aquatic Invertebrates of the Upper Midwest
<http://wrc.coafes.umn.edu/VSMP/education.htm>

Department of Environmental Sciences, University of Virginia :*The Stream Study*
<http://wsrv.clas.virginia.edu/~sos-iwla/Stream-Study/StreamStudyHomePage/StreamStudy.HTML>

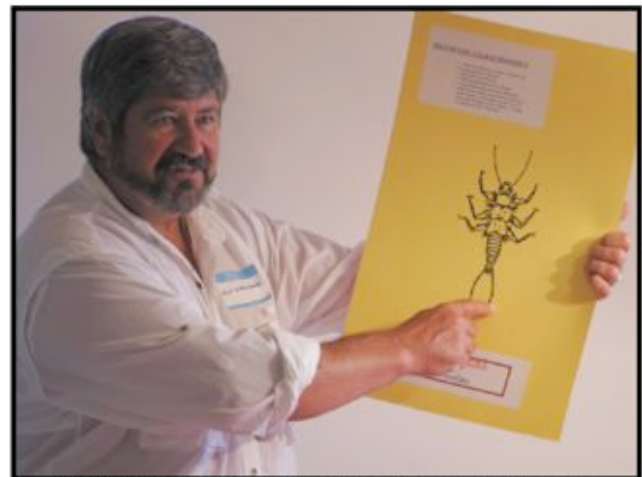
Isaac Walton League: *Save Our Streams*
<http://www.iwla.org/sos/>

Stroud Center : *Linking Trees to Streams*
<http://www.stroudcenter.org/lpn/more/trees2streams.htm>

Caddisfly Nymph



Participant at "Water Bugs" tries her hand at scratchboard illustration.



Walt Summers explains the importance of stoneflies in streams.



Stonefly Nymph

Scholarships to GLC's classes are available for Gratiot Lake residents and Gratiot Lake Conservancy members. To apply, contact GLC (info on page 2).

Conifer answers from (page 7) :

Jack Pine has cones which release seeds after a fire.
Red Pine is sometimes referred to as Norway Pine.
Tamarack is a deciduous conifer.
White Pine is Michigan's state tree.
Eastern Hemlock tea can cure scurvy.
White Spruce roots were used to sew birch bark canoes.
Northern White Cedar is known as the "Tree of Life."
Balsam Fir resin is used as a clear cement.

Hemlock Study Underway

Researchers from MTU's school of Forestry and Environmental Science are studying the winter use by deer of hemlock stands in the western UP. The Gratiot Lake Preserve is one of the study sites. A stand of mixed aged hemlock near the Bear Paw Path will be analyzed looking at the number and age of hemlock trees and their regeneration as well as the intensity of deer use of the area. Deer browsing on young hemlock may be impacting the tree's ability to reproduce



Before European settlement, Eastern Hemlock, *Tsuga canadensis*, was a dominant tree species in most of the western UP. Along with yellow birch and sugar maple, it made up most of the mesic forest in the region. Hemlock is a slow growing, long lived conifer. It is extremely shade tolerant and can grow in as little as 5% direct sunlight. Hemlock reach maturity at 250 years of age and can live for more than 500 years.

Native Americans used hemlock twigs and inner bark which are high in vitamin C to brew tea which was used for colds, fevers, stomach ailments, and scurvy. Bark was also used in poultices to reduce bleeding. It was an ingredient in pemmican along with dried fruit and animal fat.

Beginning in the mid 1800's and until the 1920's, the primary source of tannins used in the curing of animal hides in the United States was the bark of the eastern hemlock. During the early years of this industry, only the bark of giant hemlock trees was used because there was no demand for hemlock lumber, and the trees were left in the forests to decay. Peeling hemlock bark provided jobs for loggers during the summer when hardwood logging was not feasible. Hemlock wood was brittle, prone to windshake and splintering, and not considered for other uses until the later 1800's. It was then used for railroad ties, mining timbers, rough lumber, and pulp. The hemlock tannin industry led to the devastation of hemlock forests.

Primarily due to deforestation a century ago and forest management practices favoring the develop-

ment of pure hardwood stands, hemlock is only 1% as abundant as it was 200 years ago in the western U.P. Current sustainable forest management plans see a renewed place for hemlock in a more diverse forest community. The tree is an important cover tree and food source for a variety of animals including moose, snowshoe hare, martin, bobcat, black bear, a variety of warblers and songbirds, ruffed grouse, and of course, white tailed deer.



Clockwise from the top: Vicki Budynsky, Will Lytle, and Rachel McPherson stain a white pine picnic table at the Noblet Field Station.

Red Pine Thinning at Bammert Farm

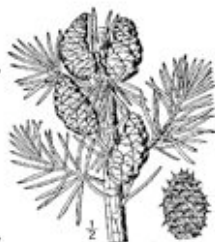
The first thinning of the approximately 50 year old Red Pine plantation at GLC's Bammert Farm was completed in November. Monocultures, such as this 39 acre Red Pine stand, where only one species of tree is present, do not support a varied community of wildlife or herbaceous plants. Forester Jim Sweeting prepared a sustainable forestry management plan for Bammert Farm which prescribed how to thin the red pine in two cycles. Tree marking, road and culvert permitting and contracting, volume estimates, and logger selection for the first thinning cycle was conducted By Keweenaw Community Forest Company with support from MTU. MTU Forestry students, under the guidance of forester Jim Rivard marked the trees for harvest and assisted in the process. The students will prepare a final report on the Red Pine project in December.

The 2006, Reading the Landscape education series will focus on forests and forestry. A field trip visiting Bammert Farm is planned. Look for more information in the Spring *Water's Edge*.

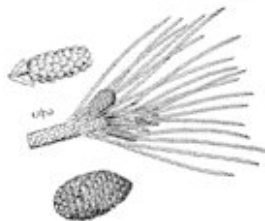
CONNECT THE CONIFERS ON THE LEFT WITH THE STATEMENTS ON THE RIGHT!

Answers are on the bottom of page 5.

Jack Pine's short, 1" needles are attached in bundles of two, It naturally grows in pure stands, usually in sandy soils.



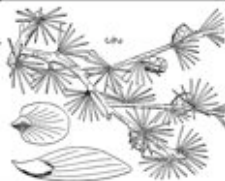
Musky, disagreeable odor released when this tree's leaf is crushed. Roots were used by Native Americans to sew birch bark canoes and to make baskets.



Red Pine has thick 4-6" needles in bundles of two. Its patchy, scaly bark has a reddish cast. It is common in plantations in the U.P.

The first North American tree introduced into Europe in the 1500's. Also known as "arbor vitae" or "tree of life."

Tamarack has up to 24 soft bright green needles in a bundle. It usually grows in swamps and bogs.



The resin from the pitch blisters on this tree's bark is called Canada Balsam and is used as a clear cement for glass in optical instruments and microscope slides.



White Pine's long 3-5" flexible needles are in bundles of five. The bark is deeply furrowed. The crown and mature branches have a feathery appearance.

First tree to sprout after a fire. Resinous cones release seeds after a fire or hot sun.

Eastern Hemlock needles have a rounded notch at the tip and two white bands underneath. Small 1/2 inch cones are held on drooping branches.



This is a deciduous conifer which has needles that turn yellow and fall in Autumn.

This is Michigan's state tree. Often preferred by bald eagles as a nest tree.



White Spruce has singly attached, 4 sided, sharply pointed needles up to 3/4 inch long attached to twig with a woody base. Grows upland in association with balsam fir or aspen.

Not to be confused with poisonous foliage of another plant with the same name, tea from this tree's leaves (and several other conifers depicted here) can cure scurvy because of the high vitamin C content.

Northern White Cedar's flat scaly leaves release an aromatic scent when crushed. The wood is rot resistant.



Sometimes called Norway Pine because it resembles a spruce native to Norway.



Balsam Fir has flat single needles with white bands underneath. Purple/green cones sit upright on top of branch. The needles have an aromatic scent. This was the first Christmas tree.

Illustrations courtesy of USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. Illustrated flora of the northern states and Canada.

Please note membership changes >>

To bring fees more in line with current costs and with contemporary fees of similar organizations, we are raising basic membership to \$15 annually beginning in 2006. Three year memberships will no longer be available.

This new membership fee will be phased in as follows:

Memberships renewed (and new memberships initiated) through 5/31/06 will be \$10 and will be due for renewal again on 12/31/06.

Memberships renewed (and new memberships initiated) between 6/01/06 and 12/31/06 will be \$15 and due again for renewal on 12/31/07.

Thereafter, all new memberships and renewals will run from January 1st of the year in which they are initiated until December 31st of that year.

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



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.

Please note upcoming membership changes above.

Please complete this form and mail with your check to

1 year Membership \$10 contribution

Additional Donation ____

Donation to Land Acquisition Fund ____

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

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