

A Message from Our President

As this newsletter reaches you, I hope you are back in the Glen Lake area and enjoying its beauty. The Association's Board and many volunteers continue to work on several issues that will affect us this year and in years to come. Some of these issues we can resolve together as an Association with your help - others depend on the actions of people at the township, county, state or even national level.

There seems to be no end to the number of invasive species that enter our Great Lakes and eventually threaten our inland lakes. As you may know, we have a county sponsored initiative to maintain and even improve the quality of water in our lakes. One of the committees, chaired by Sarah Litch, deals with invasive species and potential measures to control their spread. More lakes in the county have agreed to begin boat washing programs that will help reduce the transfer of invasive species from one lake in the county to another. However, these are expensive programs, and ultimately we need better regulations of ships entering the Great Lakes and these organisms that are generally released through their ballast water.

I hope you will join me in asking our federal representatives to support stricter regulations in this regard.

We have been working with Glen Arbor township on ways to ensure the sensible development of hillsides

and hilltops outside of the National Lakeshore. We plan on having similar discussions with the other townships involved. As you can imagine, irresponsible development of these hillsides would change the character and beauty of our area. Planning sessions regarding this issue at any of the townships will be posted on our website. These are open to the public and I hope you will have the opportunity to express your thoughts on this issue.

In other developments, the Leelanau County Health Department will shortly begin the inspection of certain properties along Hatlem Creek to determine the source of pollutants entering Glen Lake. We will continue to monitor their progress and our water testing program. Work on the construction of the new bridge at the Narrows will affect boat traffic between the lakes and boat launching on Little Glen. We will do our best to provide the most current information on our website as to when boats can pass through the construction area. Finally, the Glen Lake Association Annual Meeting will be held at the Leelanau School auditorium on August 8. You will receive more information on the meeting in July.

Thank you for your support and I look forward to seeing you this summer.

John



The Glen Lake Association, Inc. is a non-profit organization dedicated to the protection, preservation and continued improvement of the beautiful Glen Lake area.

Summer 2009

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Karner's Korner

New News from Our Watershed Biologist



What is Water Quality?

To answer the question, “What is water quality?” one must first ask from what perspective do you ask?

According to Wikipedia, “Water quality can be defined as the physical, chemical, and biological characteristics of water. It is most frequently used by reference to a set of standards against which compliance can be assessed. The most common standards used to assess water quality relate to drinking water, safety of human contact, and health of ecosystems.”

Since our drinking water comes from ground water, the standard for safe potable water would be:

- water free of harmful bacteria;
- water free of toxic levels of salts and cancer causing metals;
- water free of pesticides and herbicides;
- water free of petroleum products;
- water free of radioactive contaminants and pharmaceuticals

There are legal standards set by the Environmental Protection Agency (EPA) and the U.S. Food and Drug Administration (FDA) that regulate our drinking water via the Safe Drinking Water Act. Your health department would be the best place to take your well water and have it tested for drinkability.

If Glen Lake is a lake that is safe for swimming, then it should be water that has low levels of E.coli, swimmer's itch, and microcystin. High E.coli levels are a concern after significant rain events combined with swimmers who may accidentally swallow contaminated water and/or may have infections develop from contaminated water that comes in contact with open wounds in their skin. Microcystin is a toxin that comes from bacteria in our lake that typically “blooms” in August and can cause illness in humans and pets. Swimmer's itch (affecting 30% of the pop-

ulation) can also be considered a health issue.

Measuring water quality from a human contact perspective would be to have the harmful bacteria in low enough levels that would result in safe swimming and free of the parasitic worm that causes swimmer's itch.

Water quality from a chemical perspective includes how parameters such as dissolved oxygen, nitrates, phosphates, ph, conductivity, and heavy metals – all play a role in the quality of the water. Each lake has a chemical signature and with this signature, all the plants and animals that can tolerate this signature live and play out their complex life cycles.

Water quality from an ecological perspective can be viewed from both human and nonhuman vantage points. If an ecosystem is healthy, then humans obviously benefit. As humans, we can judge health according to age. So it is with our watershed. Big Glen is the youngest followed by our middle aged Little Glen and Fisher Lakes, followed by our oldest lakes - Tucker and Brooks. Age of a lake is often measured by how much more time will it take for the lake to fill in from the bottom up and eventually no longer exist. Also, you don't expect the same physical, chemical, and biological parameters to manifest themselves for different aged lakes. For example, Brooks Lake can be considered “healthy” for its age but its water quality readings are considerably different from Big Glen.

Another way of looking at water quality as it relates to ecology is biological integrity. This involves rate of change in a lake. Often, when water quality parameters change rapidly, it causes stress on the plants and animals that live in the lake. Stress reduces the biological diversity. Reduced biological diversity is an indication that the biological integrity of the lake is comprised.

Some would argue that biological integrity is built
...continued on page 3



on the assumption that decline in the values of an ecosystem's functions are primarily caused by human activity or alterations. The more an environment and its original processes are altered, the less biological integrity it holds for the community as a whole. If these processes were to change over time naturally, without human influence, the integrity of the ecosystem would remain intact. The integrity of the ecosystem relies heavily on the processes that occur within it because those determine what organisms can inhabit an area and the complexities of their interactions.

One example of how the biological integrity of our lakes can decline quickly is the introduction of zebra mussels. The amount of change that has occurred in our lake over a very short period of time is remarkably sad. This is evidenced in the microscopic world where the entire community and balance of the free floating plankton in both Big Glen and Little Glen hardly resembles what was seen as recent as 2004 as compared to today's view. The complexities of the zebra mussel's feeding (making the water more clear), more light traveling through the water, and the blooms of *Mircosystis* (bacteria that release toxins) all have changed the biological

integrity of Glen Lake. The best way to minimize the decline in the biological integrity is to find a way to rid our watershed of the zebra mussel along with reduce our phosphorus loading into the lake from lawn fertilization, septic failure, and runoff.

Keep in mind that the Glen Lake Association monitors water quality on a regular basis in all domains – physical, chemical, and biological. Our hope is that Glen Lake will continue to show signs of high water quality and when each riparian does his part to become “lake friendly”, our water quality can and will remain high.

In summary, I hope I have given you a glimpse of how to answer the question, “what is water quality?”. The answer(s) to this simple question really depend on a number of factors and a variety of perspectives.

Hopefully I will cross paths with many of you this summer!

Rob Karner, M.S.

Watershed Biologist

Your Glen Lake Association Values Your Membership

At the mid-point of the year, membership in the Glen Lake Association stands at 516. Although this is below the 600 members we had by the end of 2008, we are still hopeful to surpass the 2008 figure. Membership dues are the primary source of funds to run all of the operations and programs that help ensure the quality of our lakes and river. 2009 dues are at 80% of last year's level, and we would ask that you check your mailing label to make sure it has the year “2009” on the top right. If not, this means your 2009 dues are yet to be paid. You can use the form in this newsletter to pay your annual dues. Dues need to be received by July 24 for a member to be able to vote at the annual meeting on August 8th.

Protecting Our Beautiful Environment

Two Terrestrial Invasive Plants “Not Welcome”

There are two plants that you should be on the lookout for as they are a threat to our woodlands and shorelines.



Garlic Mustard

Garlic mustard is native to Europe and was introduced by the early settlers for medicinal properties and for cooking.

Since it is free of natural enemies of its homeland it has a competitive edge over our native plants. It invades woodlands and displaces native wild flowers and tree seedlings, spreading rapidly and dominating the forest floor within ten years. Garlic mustard can quickly take over by producing a toxin which is harmful to other plants. As it stays green throughout the winter it is possible to check for its presence all year. It blooms in late April through early June. Seeds are disseminated in July and August. (100 seeds per plant) Look for it along stream banks, forest edges, woodlands and at the base of trees. Survey your area for garlic mustard, and remove by hand pulling. Once flowering has begun all plants must be bagged. Garlic mustard sets seed just days after flowering begins even after it is pulled. Pulled plants can be put in plastic bags to die. Monitor your non-infested woodlands carefully and frequently, removing plants before they seed as it is much easier than removing hundreds or thousands later on. Be careful not to spread its seeds by cleaning your shoes, pockets, pant cuffs and equipment after working or walking in an infested area.

Phragmites, or common reed, is a native to the United States but a more invasive strain originated in Europe and was introduced into the United States during the late 1800's. It grows to 6 meters high in dense

stands and is long-lived. It reproduces by seeds and rhizomes. Seeds set through fall and winter. It is in all eastern states and is spreading, particularly in the Midwest. It takes a permit for eradication by herbicide and burning, but if small patches are identified early it can be hand dug. *Phragmites* alters the structure of a diverse wetland ecosystem, decreasing native biodiversity and the quality of a wetland. There are 26 herbivores in the United States that eat *Phragmites* but not enough of them in our “stands” to keep up with it. A biological control is being researched and may be available in 2 years.

Phragmites

If you find either of these plants on your property and would like help in identifying them please call 334-3612.



Hatlem Creek Update

The spring Hatlem Creek macroinvertebrate sampling took place on May 23. Three sites were sampled: Plowman Road, the upper Hatlem Creek Pond, and the lower Hatlem Creek. Sampling the quantity and quality of macroinvertebrates at these sites gives us an idea of the quality of the water. On a rating scale from Excellent to Poor all sites received a Good rating. John Hays, from the GLA Water Quality Committee will be sampling Hatlem Creek for E.coli once a month. John and Rob Karner are meeting with Bill Crawford, head of the Leelanau-Benzie Health Department, to determine which septic systems along the creek should be inspected by the health department. It would be advisable for Glen Lake riparians with property near the mouth of Hatlem Creek to stay out of the water for 24 hours after a heavy rain event until we can determine and remediate the cause of high E.coli counts after such events in this area.

Protecting Our Beautiful Environment, continued

Not All Aquatic Plants (weeds) Are Undesirable



Leelanau School students removing curly leaf pond weed from Glen Lake

Recently a flyer from Promax Environmental Sciences was mailed to Water Front Property Owners. They state that “we are committed to assisting you in managing undesirable lake weeds.”

They advertise that their granular aquatic weed control product is effective on American lotus, Bulrush, Canada waterweed, Elodea, Coontail, Curly-leaf pondweed, Eurasian Milfoil, Hydrilla, Large leaf pondweed, Naiad, Sago pondweed, Stargrass, Wild celery, Chara, and Planktonic algae.

The only aquatic plants on this list that are invasive are Curly-leaf pondweed, Eurasian milfoil, Hydrilla and European naiad.

Plants are a natural part of the aquatic environment as they are an essential source of oxygen for the lake and cycle nutrients through the environment. They provide habitat and a nursery for spawning fish as well as habitat for foraging and protection for avoiding predators. Zooplankton which are one of the primary sources of food for fish feed on phytoplankton (plant plankton). Roots of aquatic plants are a fabric that hold sediments in place, reducing erosion and maintain the stability of the

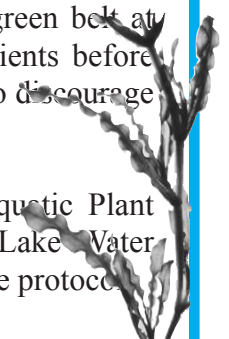
lake bottom. Waterfowl and shorebirds use aquatic plants for food, nesting materials and cover from predators. Aquatic animals - frogs, turtles, otter and other water-dependent animals - use plants for similar purposes. A previous article in Alligator and Inspiration describes the advantages of bulrushes.

The use of chemical aquatic plant control, particularly if misused can negatively affect the fish, animals and beneficial aquatic plants. Persistent overuse of any control tool can cause a shift to invasive species of aquatic plants, taking advantage of the disrupted beneficial aquatic plants. A permit to treat aquatic plants is required from the DEQ and there must be agreement among waterfront owners for prescribed footage.

As of the 2008 Aquatic Plant Study in Glen Lake no Eurasian milfoil, Hydrilla, or European Naiad were found. A small patch of Curly-leaf pondweed was found in the west side of Big Glen Lake and Leelanau School students under Rob Karner’s supervision harvested it by hand.

Our past annual aquatic plant surveys indicate plant growth in general is at a desirable level. This is primarily due to the relatively low level of nutrients (phosphorus and nitrogen) present in our lakes. The most effective and lake friendly action watershed residents can take to control unwanted excessive plant growth is follow the best practices outlined in our Landowner’s Handbook, i.e. use non-phosphorus fertilizer (or use none at all), maintain healthy septic systems and have them pumped on a regular schedule, and maintain or establish a green belt at riparian shorelines which soak up nutrients before they fertilize plants in the water and also discourage waterfowl from visiting.

This year there will be a complete Aquatic Plant Study of Brooks Lake by the Glen Lake Water Quality Committee using Michigan State protocols.



Protecting Our Beautiful Environment, continued

The Good News Plant



Yellow Michigan Monkey-flower Initiative

The Michigan Monkey-flower is a Federal and state endangered plant found only in Michigan, where it occurs from Benzie and Leelanau counties to Mackinac County in the eastern Upper Peninsula and the Straits of Mackinac regions. Its occurrences are very localized, consisting of small but dense patches where there are small seeps and springs or along small streams and spring-fed seeps within white cedar swamps. Large to moderately-sized populations occur on Glen Lake. It can best be identified from mid-June to mid-August.

A restoration project along Susan and Vik Theiss's shoreline as well as Kathy and Steve McShane's shoreline has taken place over the past ten years. The Theiss's were one of the Glen Lake Stewardship Award winners last year for restoration of their shoreline.

The goal of the initiative is the restoration of a significant portion of the Monkey-flower population

along its original Glen Lake occurrence areas, ranging roughly from MacFarlane Woods past Old Settlers Picnic Grounds. However, it may be found in other places around the lakes where conditions are favorable.

The Glen Lake Garden Club Monkey-flower Committee can assist property owners who want to know if they have the flower or the appropriate habitat on their land. Technical assistance is available for restoring existing patches of Monkey-flower or of Monkey-flower habitat. Reintroduction of this rare plant into likely habitats where there is none or where it has been destroyed could be done if there is interest in doing so.

Please call Vik Theiss at 334-4444 or Sarah Litch at 334-3612 if you are interested in identifying this rare treasure found no where else in the world except Michigan or if you want to promote a habitat for the Monkey Flower.

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Website Update

Stop by our website at www.glenlakeassociation.org to check on water levels, channel closings, current weather conditions or take a peek at the live web camera located on the South shore of Big Glen Lake. We update and post current events and topics that are relevant to the Glen and Fisher Lakes, the Glen Lake/Crystal River watershed and also include great photos and stories about the history of families that live around the lake.

We provide links to local businesses and to the Glen Lake Chamber of Commerce so that you can view the wide array of community events that happen

throughout the year. We have just added a new Channel Alert link that takes you to the Chamber's website page showing the most recent updates about the bridge project and channel closings.

If you have photos, family stories or items you think might be of general interest, email them to us at glenlakeassociation@gmail.com and we will post them up to the website .

Have a safe and fun summer.
Shirley Hoagland, Webmaster

GLA Stewardship Awards Announced



The Glen Lake Association Stewardship Awards for 2009 have been announced. These awards are presented to individuals, businesses, and government agencies who have demonstrated lake-friendly practices which preserve the environmental integrity of the Glen Lake-Crystal River Watershed.

These awards will be presented at the Glen Lake Association Annual Meeting which will be held August 8 at the Leelanau School Auditorium.



Steve Yancho, Head of Natural Resources for Sleeping Bear National Lakeshore, will receive the award for Watershed-Friendly Protection Strategies for a local unit of government that officially seeks to preserve the environmental integrity of our lakes, river and streams. Steve not only does an outstanding

job in the preservation of the natural resources of Sleeping Bear National Lakeshore but has cooperated and given many hours to the work of the Glen Lake Association.

He has shared his wisdom and expertise in the development of the Glen-Lake Crystal River Management Plan at ongoing meetings. Steve has worked cooperatively with the association on several grants. He attends the Leelanau Water Quality Task Force along with three of our association members working on water quality issues for the county. The

park has given its support for watershed signs to be placed in the park. His past intern, Paul Murphy and present intern, Chris Otto work closely with the Glen Lake Association on water quality issues. As Head of Natural Resources for the park Steve's protection of hillsides and hilltops in our watershed is a benefit to all who live or visit this area.



Chris and Duane Shugart have received the award for Lakescaping for the use of native vegetation and mostly natural materials to landscape their riparian property in a manner that protects the shoreline's environmental integrity in a way that can potentially improve water quality. Four years ago the owners of Dorsey Trailer Park approached the Glen Lake Association about the opportunity to take their 900 feet of shoreline and add a greenbelt. Most of their property consisted of lawn from the water's edge to the homes along the lake. Lawn care required irrigation, fertilization, mowing, and resulted in a Canada goose magnet. After making the commitment to add a greenbelt, the project was divided into three phases with each phase including 300 feet of shoreline. To this date, all three phases have been completed. The Shugarts are still working on adding more native plants to phase three but if you go past their property, you will see phases one and two are a dramatic change to the once large lawn with no greenbelt. The end result of work like this is both esthetically pleasing and functionally important to water quality.

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Jack and Renee Beam on the east shore of Big Glen have received the award for Lakescaping for the use of native vegetation and mostly natural materials to landscape their riparian property in a manner that protects the shoreline’s environmental integrity in a way that can potentially improve water quality. A few years ago, they built a new home near the shoreline and contacted Traverse Outdoor Landscaping from Traverse City to begin to plan out their “lakescaping”. The Beams gave specific instructions to their landscaper to make their property as lake friendly as possible. They wanted to preserve any and all native plants that already grew along their shore and to add new native species that would be colorful, attractive, encourage butterflies and wildlife to visit, and to have a greenbelt that does not need fertilizers, herbicides, and pesticides. They also wanted some “mow-free” turf that would not need fertilizers or need to be manicured. Their “lawn” is like a shag rug!



Owners of 13 homes in the Harbor Island Association on Brooks & Big Glen Lake, have received the award for Lake Friendly Protection for their construction of a community drainfield designed to treat waste from their households. The effort took over a year and involved purchasing nearby property and converting it to a sophisticated pump system that transfers effluent from each home to a common pump station and drainfield that reduces the potential for failure in the future.

The transport of wastewater to a location away from the shoreline of an area with sensitive soils and a high

water table like those found on Brooks Lake make this project an important one to the water quality of Big Glen Lake.



Kathy and Steve McShane on the east side of Big Glen Lake have received the award for Lakescaping for the use of native vegetation and natural materials to landscape their riparian property in a manner that protects the shoreline’s environmental integrity in a way that can potentially improve water quality. They have worked on restoration of their shoreline since 1998. Since their initiative 4 other contiguous properties have joined them in restoring their shorelines. In the 1998 assessment of the McShane shoreline property by Jody Marquis of Mama Bear Restorations, 200 bags of decaying wood and a truckload of gravel were removed. The shoreline had only 6-7 native species present. The water flow from springs and seeps had been covered and in places halted. The first step was to restore the



hydrology along the shoreline which resulted in pools and streams reappearing. Over the next eleven years over 3,000 native plants representing 100 species were planted. The Michigan Monkey flower, a Federal and State protected rare plant was discovered as the ecosystem of the shoreline was restored by Jody and the McShanes. This beautiful yellow flower is found only in the Grand Traverse and Straits of Mackinac areas. Because of this restoration which started with the McShanes, the Michigan Monkey Flower covers about 700 feet of shoreline. The naturalization of the shoreline prevents excessive nutrients from entering the lake and preserves this rare flower.

News From the Water Level Committee

On June 1st, we reached our targeted 596.90 feet lake level for the summer as planned. Recall that this level is also the maximum level set by the District Court. We started out at the 596.65 feet lake level on January 1st, and stepped up the level day by day until June 1st. We will try to keep the lake level near 596.90 while complying with minimum flow rate constraints on the Crystal River, also set by the District Court.

Achieving the above was not easy, as the winter and spring was a mix of periods of no precipitation interspersed with six “special” occasions that required attention by the Water Lake Committee volunteers’ in some pretty tough weather.

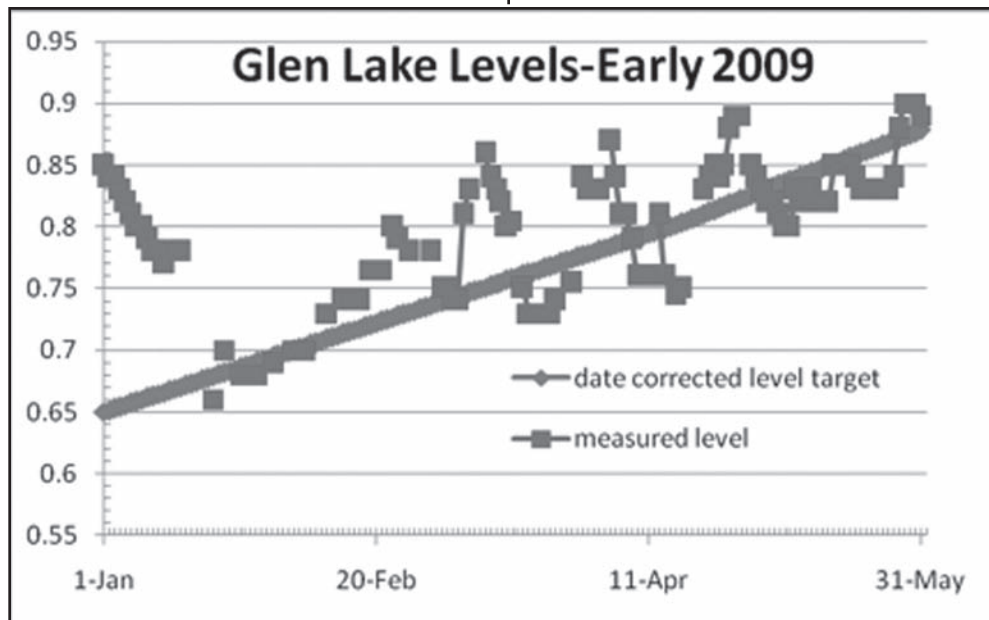
The lake level chart below summarizes when the precipitation occurred and indicates how the volunteer’s efforts brought the lake level trend back on to the path we had planned. Since we cannot predict the weather, we must respond to Mother Nature’s whims. As the chart shows, this results in

a catch up game that requires measured responses if we are to avoid high water conditions and anything less than the targeted lake level on June 1st.

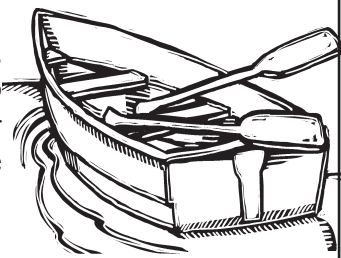
The Water level committee has done much to control the high lake levels that have caused serious (shoreline) damage at times due to ice floes piling on the beaches or high waves (relative to Glen Lake). But only so much can be done without adversely affecting other property owners.

Fortunately, some research has been made on ways to mitigate shore line damage by ice floes and wave action. While this research will not resolve all such issues, property owners who have experienced recurring shore line damage may want to read a publication issued by the “Tip of the Mitt Watershed Council” (A). This publication may be of use to some property owners.

John Kassarian



Our Glen Lake-Crystal River Watershed Biologist, Rob Karner, needs some place on Glen Lake or Fisher Lake to keep his boat so that it doesn't have to be taken in out of the water continually for testing. If anyone has an extra lift and would be willing to have Rob keep his test-boat on it please call Rob at 883-2776.



Association News

**Glen Lake Association
Annual Meeting
August 8, Saturday
9:30-11:30**

doors open at 8:30 for
Continental Breakfast and Displays
*Leelanau School
Auditorium and Library*
1 Old Homestead Road, Glen Arbor

2009 Board of Directors Nominations

Ann Davey's love of Glen Lake began as a child when she spent every summer in a log cabin on Little Glen. In 1968 she and her husband, John, bought Their own cottage right next door to the log cabin, and in 2000 decided that That was where They preferred to live. They built their house and retired here in 2001.

John Kassarjian has been vacationing on Glen Lake since 1965 and has owned a home here since 1974. John is a semi-retired consultant for the petroleum refining industry and previously worked for Marathon Oil, including 14 years in technical management. John is registered as a Professional Engineer in Michigan.

Mike Litch and, his wife Sarah, and their children have vacationed on Glen Lake since the early 70's. In the early 80's they bought the cottage that they had rented from Bill and Helen Pepler and after retirement in the late 90's expanded it and moved here permanently. Since then Mike has been involved with the Glen Lake Association serving on the water quality and membership committees. Mike also sings with the Leelanau Community Choir, serves on the Glen Lake Library Board, volunteers with the Inland Seas Education Association, and is a National Lakeshore Adopt-A-Trail volunteer.

John Rockwood is running for re-election for a second term. He currently serves as President of the Glen Lake Association.



Your Glen Lake Association Board of Directors

Apologies to our Unrecognized Glen Lake Association Members

When the 2009 winter edition of the Alligator and Inspiration was published, some names were omitted where we acknowledged members. Records of your membership dues for 2008 were inadvertently lost in our database but have now been restored. Below are the names who should have been listed as 2008 members. The membership committee is truly sorry for this error.

Contributor (\$100 - \$249)

Mize, Larry & Lisa
Seward, Scott & Gail

Basic (\$50 - \$99)

Kamps, Dick & Lynn
Papa, Michael & Windy
Potter, Lance
Wepking, Dorothy

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Update on Budget		GLEN LAKE ASSOCIATION, INC FOUR MONTHS ENDING APRIL 30	
REVENUES		2009	2008
MEMBERSHIPS		\$49,699	\$48,963
GRANTS & FOUNDATIONS		1,884	1,780
INTEREST		438	3,247
OTHER		120	120
	TOTAL REVENUES	\$52,141	\$54,110
EXPENSES			
WATER QUALITY		\$5,760	\$5,466
WATER LEVEL		2,778	2,905
RECREATION & WATER SAFETY		1,884	0
MEMBER COMMUNICATION		4,934	4313
SUPPORT SERVICES		2,692	1,996
	TOTAL EXPENSES	\$18,048	\$14,680
EXCESS OF REVENUE OVER EXPENSES		\$34,093	\$39,430

News From Fisheries, Wildlife, Recreation and Water Safety

Action Checklist for Recreation and Watercraft Use

(From your Glen Lake-Crystal River Stewardship Checklist p.13)



1. Control loud outdoor music.
2. Keep outdoor lighting to a minimum.
3. Never paint anything over or near the water.
4. Periodically take phosphorus-rich ashes from camp or beach fires to the compost pile to get them away from the water's edge. Especially important before it rains.
5. Avoid pressure treated or painted wood for docks and floats. Use cedar, redwood, cypress, recycled wood/plastic or aluminum for float and dock construction.
6. Replace your older out-board motor with a new, cleaner-burning, four-stroke or direct-fuel-injected or electronic fuel-injected two-stroke, to reduce emissions into the air and water.
7. Stay clear of large patches of water plants.
8. Water ski, jet ski or tube as far from shore as possible to avoid stirring up sediments and disturbing wildlife and people on shore.
9. Limit idle and/or full-throttle operation as much as possible to reduce hydrocarbon emissions and minimize wear and tear on the motor.
10. Fill portable tanks on shore and do not top off fuel tanks as expansion will allow fuel to spill.
11. Ensure that fuel tanks, hoses and all fuel connections are not leaking.
12. Use petroleum-absorbing pads when performing engine repairs and maintenance and dispose of properly.
13. Don't fog the motor in the lakes or the end of the season. Purchase a garden hose adapter from your local marina and fog away from the shore.
14. Use biodegradable hull cleaners that do not contain phosphoric acid.
15. Wash boats outside of a 250-foot shoreline or river-line protection zone and on a porous surface. Before introducing boats, any other watercraft, trailers, water skies, fishing equipment, etc. into any body of water

in the Glen Lake-Crystal River Watershed wash all of the above and flush the motor's cooling system, bilge areas and live wells thoroughly with hot water. Dry for at least 3 days or use the power boat wash at the DNR boat wash to do the same. Ask guests or renters with water recreation equipment to do the same.

16. Use an onboard toilet or makeshift toilet.

17. Avoid bathing with soap in the lakes or river.

***If you do not have a Glen Lake-Crystal River Handbook and Stewardship Checklist call the Glen Lake Association office at 231-334-7645 and request a set of these books.



Fishing Report

Thousands of lake trout and steelhead were planted again this year. But where are they??? Has the bridge construction spooked them? Did the mass of cormorants that swept through early this spring wipe them out (and the perch)? It's anyone's guess. And those who *are* catching aren't telling where.

The fisheries improvement group is trying to raise \$75,000. A grant request for \$150,000 has been submitted to the DNR Fisheries Office, and getting that depends partially on our ability to raise \$75,000 including volunteer labor. Basically we wish to refurbish historical fish spawning sites by permanently opening up the mill pond to the west end of Little Glen; Brooks Lake to Big Glen; and Tucker Lake to Fisher Lake.

Anyone who wishes to contribute to this effort can contact Carl Oleson at 517 420 3111





P.O. Box 245
Glen Arbor, MI 49636

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**Glen Lake Association
Annual Meeting
August 8, Saturday
9:30-11:30**
see page 10 for more details

General Boxholder
or Rural Route Holder

Summer 2009

GLEN LAKE ASSOCIATION

2008-2009

BOARD OF DIRECTORS

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Andy DuPont	Vice President
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Gary Humphreys	Treasurer

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Jack Laitala	Carl Oleson
Sarah Litch	Roy Pentilla
Sue Meserve	Matt Wiesen

Watershed Biologist Rob Karner

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Development	Charles Ofenloch

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Fisheries, Wildlife, Recreation	Gary Humphreys
and Water Safety	Carl Oleson

Historian Joan Kramps

Invasive Species Denny Becker

Long Range Planning John Rockwood

Membership & Records Andy DuPont

Newsletter Sue Meserve

Nominating James Dutmers

Swimmer's Itch Rob Karner

Water Level John Kassarian

Water Quality Sarah Litch

Web Site Webmaster Mike Litch

Shirley Hoagland

GLEN LAKE ASSOCIATION OFFICE

P.O. Box 245	231-334-7645
Fax	231-334-7470

GLEN LAKE ASSOCIATION WEB SITE

www.glenlakeassociation.org