



# The Lake Guardian

## Making a Positive Difference Lake Charlevoix Association

### Spring, 2008 Table of Contents

- 1 - Why Join Us?
- 2 - From the President
  - Annual Meeting
- 3 - Vanishing Water
- 6 - Exotics: Asian Carp
- 7 - Algal Bloom Found
- 8 - Grant Received for Web Upgrade

Bob Smith - www.aerialgraphics.com 616-956-0419

**Why join us? Because a healthy Lake Charlevoix needs you and you need a healthy Lake Charlevoix.**

Simple as that. Unless an organized group is an active guardian of Lake Charlevoix, it could be open to all the ills that can imperil any beautiful Michigan inland lake.

Fortunately, the Lake Charlevoix Association (LCA) was created in 1974 and is the only organization 100% dedicated to the well-being of Lake Charlevoix. Over the years, the LCA has compiled an outstanding track record of protecting the lake for all to enjoy.

However, times are changing. Negative pressures on the lake are on the increase. Issues include leaking sewage, contaminated stormwater runoff, polluted ground water seepage, overdevelopment, decreasing water levels and damaging invasive plants and fish, to name a few.

Accordingly, the LCA leadership has come to the conclusion that the organization must “ramp up” its efforts to become an even more powerful community force and a better representative of lake users.

To accomplish the above, the first order of business is for the LCA to significantly increase its membership. In the near future, the LCA is going to launch a major membership drive. Our goal is to have every property owner on Lake Charlevoix as an LCA member.

You don't have to own lake frontage to be a member. LCA

**There is only one Lake Charlevoix and leaving it to fend for itself is not an option.**

believes you have just as much right to enjoy the lake as those who live on the lake – and just as much responsibility for its future. It is critical that all of us are involved in protecting the lake.

There is only one Lake Charlevoix and leaving it to fend for itself is not an option. The Lake needs tender, loving, care...so that all of us, and future generations, can continue to enjoy the Lake as we do today. One person or one family will find it very difficult to guard against the looming problems facing the Lake today. It takes an organized body to make a difference.

If you are already a current 2008 LCA member, we thank you. If not, please give us a head-start on our membership drive and visit [www.lca-mi.org](http://www.lca-mi.org) for sign-up information. (Credit card option is available.)

One final request: Over the next few months, LCA leaders plan to conduct several “focus group” meetings with members and non-members alike. The purpose of these meetings will be to gain input on improving our Association's effectiveness. Anyone who would like to take part in such a meeting may email Paul Witting at [paulw@lca-mi.org](mailto:paulw@lca-mi.org)...or drop him a line to 3435 Ross Lane, East Jordan, MI, 49727. Your participation will be much appreciated.



# Looking at the Lake

Sam Williamson, LCA President



AT TIMES DURING THIS HARSH WINTER WE'VE HAD, I've looked out my window at the lake and thought about icebergs, both what they reveal above the water and what is unseen below. And I've thought that the Lake Charlevoix Association might seem like something of an iceberg to lake residents.

You may not even know about us or you may have heard about some of our activities, such

as the program that takes local sixth and seventh graders on a boat trip to learn about the lake or our annual boat census.

But in recent months, the most exciting work of the Association has been going on in a less public way. The board of LCA, joined this last year by several new members, has been going back to basics, asking tough questions about why we exist and what we need to do. Through this process, we've been able to define our goal for the 21st Century: to be the guardian of the lake. We want to protect the natural quality and beauty of Lake Charlevoix. We will promote understanding and support for safe and shared lake use. We will advocate for sensible and sustainable practices for lake use and development.

Plans are in place to begin advancing this mission in the upcoming months. We will work with other groups to implement additional programs designed to educate lake users and improve overall lake quality. With the help of our members, we will strengthen our participation and influence in local government. We have begun the task of upgrading our website and have secured a grant from the Charlevoix County Community Foundation to further enrich the site. Our vision is for [www.lca-mi.org](http://www.lca-mi.org) to be the go-to site for everything Lake Charlevoix. As we move into the future, we will also address issues critical to our members based on input from our focus group meetings.



LCA trustees gather at a strategic planning meeting last year. A series of focus groups will be held in the next few months. For more information, please contact paul witting: [paulw@lca-mi.org](mailto:paulw@lca-mi.org) or drop him a line at 3435 Ross Lane, East Jordan, MI, 49727.

At the same time, we realize that we can't do all we want to do unless we represent more than the 200 or so current members. So we are opening a sustained membership drive by reaching out to the more than 2,000 families who own lots, condos, or boat slips around the lake and asking them to join us in this effort to preserve Lake Charlevoix in all its natural beauty and for all the pleasure it gives the generations that love it.

Elsewhere in this issue, you'll find information on how to join LCA. Or you can learn more by visiting our developing website, [www.lca-mi.org](http://www.lca-mi.org).

The LCA can only be as good as the work of its members. We need volunteers to help with our educational programs and other board activities. Whether you are a longtime member or just joining, if you want to participate — in any way — please contact any board member. Or email me ([sam@lca-mi.org](mailto:sam@lca-mi.org)) or call me at 547-1315. I'd be delighted to hear from you.

Winter is ending. The ice is melting. And your Lake Charlevoix Association is tuning up its motor and getting ready to go for another season. It'll be a good ride. Come along and enjoy it with us.

## Lake Charlevoix Association Board of Trustees:

- Sam Williamson - President
- Paul Nowak - 1st Vice President
- Dan Mishler - 2nd Vice President
- Mike Dow - Treasurer
- Jonathan Friendly - Secretary
- Sue Costa - Director
- Paul Witting - Director

The Lake Charlevoix Association is a non profit, 501(c)(3) corporation. All dues are fully tax deductible.

[www.lca-mi.org](http://www.lca-mi.org)

## Save the Date!

### Ready to roll your sleeves up and do something for Lake Charlevoix?

Join the Lake Charlevoix Association for our annual meeting on **Friday, August 15, 2008 at 10:00 am** at a place yet to be announced. You do not need to be a current member to attend. More details will be forthcoming and invitations will be mailed to members. For more information, please contact [info@lca-mi.org](mailto:info@lca-mi.org)





# The Incredible Vanishing Water

By Paul Nowak, LCA Trustee

Dan Mishler

## Where did the water go? Is it ever coming back?

That, in a nutshell, is what people around Lake Charlevoix have been asking as the level of the Lake has plummeted nearly three feet in the last two years and five feet since its historic high in 1986.

Part of the answer to the first question is scientific, related to changing weather patterns and natural cycles in the amount of water that flows into three of the Great Lakes: Michigan, Huron, and Superior. Another part is technical, dealing with how water flows out, most through the St. Clair River around Detroit and on to Lake Erie and a much smaller amount into a channel in Chicago. A somewhat unknown but fairly large consumptive use of Great Lakes water is that used for urban and industrial purposes. Such operations as water-bottling plants are also net water losses. Some of the rest of the missing water is a bit of a mystery.

Answering the second question — what does the future hold — is even harder. Weather patterns could change, as could the amount of water used or diverted by humans out of the lake system. Ultimately, those of us who use the lake don't have a lot of power to affect the water levels, unless we want to undo some history. More about that later...

## Basic Stuff

Lakes, like Lake Charlevoix, are depressions in the earth's surface that collect and lose water in a number of different ways. On the collecting side there is of course direct precipitation (rain, snow, sleet etc.) that falls into the lake or falls in the lake's watershed and then flows through tributaries (rivers, streams, underground springs, etc.) to increase the volume of water in the lake. The outflow of water from lakes (often called diversions by water scientists) can occur through water outlets such as a river, or by flowing into the underground water table and on into water-carrying aquifers. Evaporation is another loss and can account for more loss of lake water than most of us are aware of.

Natural inflow and outflow are what determine a lake's level. In the case of Lake Charlevoix, the Boyne and Jordan Rivers are the most conspicuous sources of water to the Lake. These inflows are augmented by Horton and Stover Creeks and by a myriad of small creeks and springs. Rain, snow and sleet add a bit more. The Pine River, the shortest river in the United States, flowing through to Round Lake, is the major outflow and that outflow is augmented by losses to evaporation.

The level of Lake Charlevoix responds directly to any change

in the level of Lake Michigan because Lake Charlevoix is connected directly to Lake Michigan through the Pine River, which flows into Round Lake and then into the channel to Lake Michigan. It is worth noting that other inland lakes, such as Walloon, Elk and Mullet that are not connected to the Great Lakes, have not suffered significant water losses during the last few years.

According to David Miles of the Charlevoix Historical Society, the water level of Lake Charlevoix was originally some four feet higher than Lake Michigan than it is today. When the Pine River was dredged for shipping in 1896, the lake level dropped to match the level of Lake Michigan.

All lakes fluctuate somewhat with seasonal changes in precipitation — higher in the late spring and early summer and lower in the late fall and winter. Irregular cycles of higher and lower lake levels are caused by the availability of water from the various natural sources and losses through diversion and evaporation.

In January 2008, the level in Lake Charlevoix was nearing the all-time low recorded 44 years ago. U.S. Army Corps of Engineers data show the levels of Charlevoix, Michigan and Huron are about 3.5 inches above the record low water levels recorded in 1964. They are 26 inches — more than two feet — below their long-term average level. For many lake property owners this means an extra 25 feet of beach and not being able to get their hoists low enough to get their boats into them.

Moreover, the drop has happened very quickly. In 1998, the lake levels were four feet higher than now. This quick change is somewhat unprecedented in our relatively short period of recorded data, which goes back only 160 years. We do know from evidence of old beaches that line the western shore of Lake Michigan, that the Great Lakes have over the centuries receded many miles, indicating that the levels have dropped many times since the lakes were carved out 12,000 or so years ago.

Sadly, there are indications that water levels will continue to fall. For example, in November 2007 the volume of precipitation falling on lakes Michigan and Huron broke a record low established in 1908, according to Corps of Engineers data. "There was more water evaporating from the two lakes in November than there was precipitation going into the lakes. In effect, we took water out of the lakes," said Carl Woodruff, a hydraulic engineer at the Corps' Detroit office.

In an average November, precipitation enters lakes Michigan

*continued next page*  
[www.lca-mi.org](http://www.lca-mi.org)

*continued from previous page*

and Huron at a rate of 1,111 cubic meters (1,453 cubic yards or 300,000 gallons) per second. In November 2007, the lakes suffered a net loss as water evaporated from the lakes at a rate of 3,230 cubic meters or more than 850,000 gallons per second, according to Corps of Engineer's data. In short, evaporation took away three times as much water as fell as rain. In the last two years, Lakes Michigan and Huron dropped 2.9 feet, the largest such change on record.

Frank H. Quinn, a retired hydrologist with NOAA's (The National Oceanic and Atmospheric Administration) Great Lakes Environmental Research Laboratory in Ann Arbor, said his studies over the past two years had found that 80 to 90 percent of the lakes current drop-off could be attributed to weather. Quinn noted that the unprecedented drop ended a 30-year run of above average high lake levels. During the summer of 1986, Lake Michigan spilled over its banks and washed some lakefront homes off of their foundations.

A long-term cause of the drop in Great Lakes water level, according to NOAA climate experts, is that despite recent La Niña climate patterns, the region has experienced an over-riding long-term warming trend, which means less ice and more evaporation in winter months. Quinn also cited hotter temperatures and lower amounts of rainfall. Last winter's warmer temperatures and below average precipitation meant that there was less winter snow, which the lakes require for the normal spring lake level rise. The hotter temperatures increased the lake evaporation and reduced the runoff in the tributary streams.

One fact about evaporation is that it can be a major factor in water loss in the winter. Lake-effect snowfall, for example, is caused by water that evaporates in cold weather and then falls, usually on land when it condenses into snow. It does not contribute to overall lake levels since it is water that has been evaporated from the lakes before coming down as snow. In fact in some cases, the snow from evaporation from the Lakes falls outside the watershed and is a net loss.

Each of the Great Lakes has different circumstances. Lake Superior has a major inflow from rivers in Canada which used to flow North to the Arctic but which have had their flow reversed for hydro electric power stations that ultimately divert the water into Lake Superior. This has increased the volume of Lake Superior that is controlled at the entrance to the Saint Mary's River for hydropower and the locks. The extra water from this diversion also increases flow into Lakes Michigan and

Huron. (The Straits of Mackinaw is so wide and water flows so easily within it that Lakes Michigan and Huron act like one lake in terms of water levels.) That outflow from Lake Superior at the Soo is a major inflow to the two lakes, which also get water from a number of smaller rivers and streams.

In addition to the evaporative losses, water flows out of Michigan and Huron at two main outlets: the Chicago Sanitary Canal and the St. Clair River at Port Huron. While Lakes Michigan and Huron are at almost all-time lows, Lake Superior, also approaching its all-time low, according to NOAA data, is down 16 inches from its mean data line while Lakes Michigan and Huron are down 30 inches. The lower Lakes St. Clair and Erie are up somewhat because of water flow in from the St. Clair River and wetter weather in Lower Michigan and in Indiana, Illinois and Ohio.

Scientists use the term "consumptive use" to describe the practice of taking and using water from lakes or rivers, but not returning it. Today, according to Environment Canada, more than 115 cubic meters of water per second is lost from the Great Lakes basin due to consumptive use. The amount will increase as the population on the Canadian side of the Great Lakes basin is expected to rise by about 20 percent, reaching an estimated 12 million people by 2020.

We can measure fairly closely how much is lost to evaporation and consumptive use, but other components of the drop are the subject of often-heated arguments. The best example of that is the question of loss from the dredging of the St. Clair River at Port Huron. A claim has been made that this deepening of the river accounts for a major drop in the water level in Lakes Michigan and Huron but others think it is only marginally significant.

A Canadian study released in early January 2007 says a "drain hole" in the St. Clair River caused by dredging and other commercial projects is costing Lakes Huron and Michigan a combined 2.5 billion gallons of water each day. That exceeds the amount diverted from Lake Michigan to provide

Chicago's daily water supply, the Georgian Bay Association said. The group based its findings on water level data compiled by U.S. government agencies.

The association first reported on water losses from Lake St. Clair dredging in 2005. But the latest report says the volume flowing south from Lakes Michigan and Huron is three times greater than originally believed and has caused an overall water level decline of nearly 2 feet since 1970.

"This new report reveals that the problem is far more serious than first thought and underscores the need to fix the problem immediately. Mary Muter, chairwoman of the association's Environment Committee, said recently.

But scientists working for a U.S.-Canadian advisory group say that video images from the St. Clair River bottom show no evidence that erosion is causing water levels on Lakes Michigan and



Trevor Mays



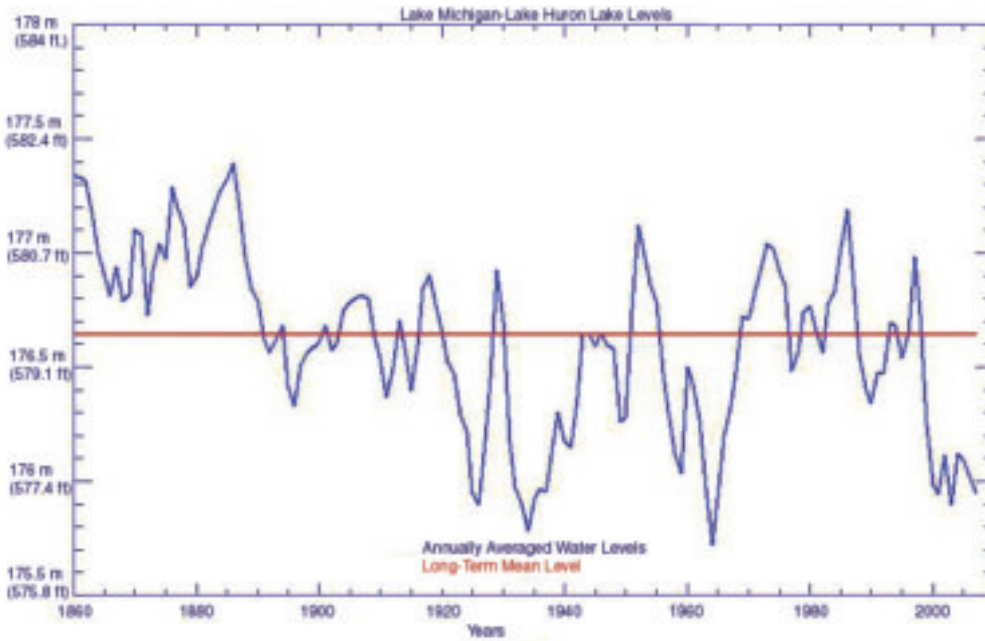
Huron to drop, the Associated Press reported.

Although preliminary, the findings intensified a debate over whether people or nature is more to blame for the two lakes' steady decline since the late 1990s.

Leaders of the research team said it was too early to judge the validity of a Canadian group's contention that erosion on the upper portion of the river is the leading culprit. They said the underwater video — taken along a roughly 30-mile stretch — showed the riverbed is covered with gravel, pebbles and stones

established, but it has brought into question how carefully requirements are being met.

There have also been requests to use Great Lakes water by communities outside the watershed that would release that water after use to the Mississippi River, a diversion that could ultimately provide more water for the naturally parched western states. In addition, the development of drinking water bottling plants has also increased the amount of water withdrawn from the Great Lakes watershed.



### Some Ideas about Solutions

It is often easy to find and describe problems like the low water levels of the Great Lakes. Solving the problems are harder and could involve tough decisions.

The residents of Charlevoix County cannot easily affect some solutions that jump out of the discussion of water levels of the Great Lakes. Global warming, for example, is an international issue that individual citizens and citizen groups affect in only a limited and political way.

Many issues on the Great Lakes water levels are international and are governed by treaties between the federal government and Canada. Again individual citizens can have input to various lake problems though the IJC and through their state governments.

For example, watching over diversions

up to 10 inches long. The rock layer is stable, meaning “the bed cannot be eroding,” the team’s report said. “On a preliminary basis, we’re finding that ongoing erosion does not appear to be a cause of low water levels,” said John Nevin, spokesman for the The International Joint Commission, which advises the U.S. and Canada on Great Lakes issues.

The IJC has long acknowledged that dredging caused Lakes Huron and Michigan to drop nearly 16 inches from the mid-1800s to the 1960s. The debate now is over whether it also is causing the present low-water period.

The IJC this year began studying the issue. Under pressure from U.S. Senators and other political leaders it promised a final report by next year. Michigan Gov. Jennifer Granholm and U.S. Senator Debbie Stabenow have asked the U.S. Army Corps of Engineers to consider placing underwater barriers in the river to limit its flow even before the study is finished.

Another issue is whether Chicago has allowed a great deal more water to flow out the Sanitary Canal than is allowed by its agreement with the IJC. The facts in this issue have not yet been

such as the flow of water through Chicago and studies of the effect dredging has on outflow through the St. Clair River. These regional issues should not be hard to control, but political action is needed.

Tip of the Mitt Watershed Council, which works on a local basis on water resource issues, also is involved with regional, state, and national water issues. They are currently leading a Great Lakes basin-wide effort for Great Lakes restoration that includes water level policy. If you don’t know their work, check them out at [www.watershedcouncil.org](http://www.watershedcouncil.org).

What about Lake Charlevoix? Maybe it’s time to ask for the lake level to be controlled by a dam on the Pine River. Because of the large amount of boat traffic between Lake Charlevoix and Lake Michigan, a lock should be part of the complex. A dam and lock would be a fairly simple way of keeping Lake Charlevoix regulated and perhaps even a way of generating some small amount of hydroelectric power.

It’s our lake. What can be done to protect it into the future is a question for all of us.

Like our cover photo?  
Prints are available from  
aerial photographer Bob  
Smith. Contact him at  
[www.aerialgraphics.com](http://www.aerialgraphics.com)  
or 616-956-0419.

### Did you know...?

Lake Charlevoix is the third largest lake in the state with a surface area of over 17,200 acres and 56 miles of shoreline? The maximum depth in the main basin is 122 feet. The largest tributaries to Lake Charlevoix are the Jordan River and the Boyne River. Other significant inflow comes from Horton, Stover, Porter, and Loeb creeks. (source: Wikipedia)





# Asian Carp: The Urgency of Keeping Them Out!

Asian Carp were brought to the United States by commercial fish raising operators in the south to help clean out their ponds. Due to floods, they escaped from the ponds and into the Mississippi River system. Since they prefer colder water, they have been migrating north ever since. They are presently as far north as the Illinois River and not far from the Chicago Sanitary and Shipping Channel. The only barrier preventing them from entering the Great Lakes is an electronic weir. Lake Michigan and Lake Charlevoix may never be the same if those aliens get in our waters. They are plankton eaters at the bottom of the food chain, so they will further reduce a part of the food chain

Imagine going for a boat ride on Lake Charlevoix and having a 100-pound fish jumping right up into your face.

that is already severely damaged by the invasive mussels. It is predicted that the carp will quickly become the dominant fish in all waters in which they exist, because they cut off the food supply for other fish and totally out compete them.

These fish have a nasty habit that will drastically reduce our

enjoyment of our lakes. Asian Carp feed near the surface and are “inspired” by boat noise to jump into the air. Several people have received fairly serious injuries from these flying creatures. No one has been killed as of yet, but arms have been broken. Can you imagine going for a boat ride on Lake Charlevoix and having fish weighing up to 100 pounds jumping right up into your face at 25 miles per hour? Water skiing would simply be out of the question.



Asian (Bighead) Carp

## We must stop these invaders before they get into our lake.

Would they get them all if they poisoned the whole Mississippi River? Restocking that whole system would cost less than the damage that will be caused if the carp get into the Great Lakes. Experts estimate that 95% of the biomass in the Illinois River is made up of Asian Carp anyway, so why not try poison. Many environmental organizations have been working all over the United States to remove dams so that natural migration of natural fish is allowed. Returning the great Salmon runs to western rivers is one goal. These tactics may have to be reevaluated in light of this new invader. Maybe a dam in the Pine River channel isn't such a bad idea. Unfortunately, on the other side of that issue, the carp would likely not be stopped by a dam, especially a dam with a lock. It is also feared that some people may try to transport these fish or that fisherman may inadvertently use them as bait. Carp eggs may also stick to duck's feet and be transplanted that way.

If you want to see these fish in action, go to [www.youtube.com](http://www.youtube.com) and type in Asian Carp.

## Fish Stocking Sites Needed on Lake Charlevoix

The Lake Charlevoix Association is working with the Michigan Department of Natural Resources, Fisheries Division to identify alternative fish stocking sites around Lake Charlevoix. Lake Charlevoix is currently stocked with walleye and lake trout. Fish are generally planted in the early spring months to increase survival rates. Predation by birds is reduced by planting under the ice, at creek inlets, or at areas with immediate access to deep water. A variety of potential stocking sites around the lake is desired to assure optimal locations. Ideal lakefront sites would have driving access to within 50 feet of the water's edge. We anticipate posting more information this spring at the Lake Charlevoix Association website at [www.lca-mi.org](http://www.lca-mi.org) and follow the “Fish Planting Sites” link. To volunteer your frontage, please send an email to [dan@lca-mi.org](mailto:dan@lca-mi.org).



# Shoreline Survey Finds Increased Algal Growth

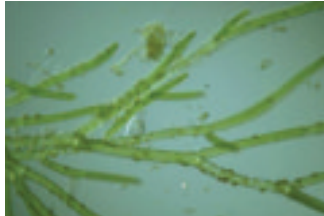
Nearly one in every five Lake Charlevoix shorefront properties have an algal growth, Cladophora, that is linked to excess minerals from fertilizers, septic tanks, stormwater runoff and treated sewage water, according to a new survey done last summer by staffers from the Tip of the Mitt Watershed Council.

The growth does not pose any immediate health threat to swimmers or boaters, but it is a sign of the difficulty we face in trying to preserve a pristine waterway and a natural food chain while residential development increases around the lake.

Working out of kayaks a few feet from shore, the Watershed staffers found 288 properties of the 1,600 around the lake had growth ranging from a green shimmer on shoreline stones to dense matting that covered rocks in the splash zone. Sixty properties had heavy infestation, 114 had moderate growth and another 114 were rated light.

A similar survey by Lake Charlevoix Association volunteers in 2000 found 259 properties with some level of cladophora infestation. But because the methodology and the number of properties checked were somewhat different, it is not possible to make direct comparisons between that survey and the new one.

The algae thrive on minerals washed into the lake from a variety of sources including lawn fertilizers, septic tanks, stormwater runoff and sewage plant effluent that has not been treated to a high enough level of purity. The cladophora problem is evident



Protist Information Server



Tip of Mitt WC

Cladophora

on the shores of Lake Michigan and the other Great Lakes, and researchers have linked the phenomenon to higher water temperatures, lower lake levels and greater water clarity (thanks to industrious zebra mussels) that allow the algae to make effective use of the minerals from human activity. That inhibits the growth of other algae that have been the basis for the food chain that supports the historic variety of fish life.

Property owners can not safely get rid of the growth in any quick way because the minerals have already washed into the lake bottom. But they may be able to discover the source of the materials and reduce the amount of phosphorus-heavy lawn fertilizers they use or to repair any septic field leakage. Cutting off the algae's food supplement would reduce future growth.

In many cases, the survey found a single property with excess cladophora bordered by many properties with none, suggesting a single-source culprit. Near Boyne City, however, which has been wrestling with issues of proper sewage treatment, the survey found many contiguous properties with

above average growth. Other concentrations were on the west side of the South Arm north of East Jordan, west of Advance and north of Young State Park in Horton Bay.

The Lake Charlevoix Association will make the survey data available through our website. Property ownership will be coded to maintain the confidentiality (see note on back page). LCA members who want to find their individual results, or who wish to know more about survey methodology or improvements can visit the website for more information at [www.lca-mi.org](http://www.lca-mi.org).

## Experience Lake Charlevoix

### 2008 Middle School Education Program

Experience Lake Charlevoix is an annual event sponsored jointly by Tip of the Mitt Watershed Council and the Lake Charlevoix Association. Over a two-day period, we rent the Beaver Island Ferry and take all Charlevoix County 6th and 7th graders out on the lake to learn first-hand about Lake Charlevoix. The 2008 trip will take place in late May.

*“Once our boat stopped we began to go to stations. We went to each of the seven 15-minute stations. We got to meet the Coast Guard, learn of alien invaders, along with seeing the clarity of the lake water with Secchi disks. We also learned the hazards of dumping chemicals into water, and how it can contaminate the ground water, along with runoff into lakes and rivers. The pH is something we got to test. We found the pH of lake water and rainwater, along with other things mixed in with the water. What was really fun was seeing all the parasites and invertebrates that are on the bottom of the lake by sending down a machine that gathers the muck from the bottom and pulling it up.”*

excerpted from “7th Grade Learns to Test Water” by Caila Coale, Boyne Falls from the 2007 Experience Lake Charlevoix



*Just a few of the things we do...*



- Did you know that the number of boats using Lake Charlevoix has gone up by 800 vessels in the last decade? The change was apparent in the annual survey organized by Steve Hansen, a longtime member of LCA.
- Have you heard of Rain Gardens? We support these new landscaping solutions that are proving to be an excellent way to minimize the effects of storm water run-off, one of the major sources of pollution in Lake Charlevoix.

## How did **your shore** score?

If you are a property owner whose property was part of the shoreline survey (see article on page 7), you'll see a code number next to your name on the address label just below. Go to the LCA website at [www.lca-mi.org](http://www.lca-mi.org) to find an explanation of how to use this code to check the results for your property.



Lake Charlevoix Association  
P.O. Box 294  
Charlevoix MI 49720  
[info@lca-mi.org](mailto:info@lca-mi.org)  
[www.lca-mi.org](http://www.lca-mi.org)

## Updated Website *Coming Soon!*

One of the main goals of the Lake Charlevoix Association is to keep members and the general public informed about the issues and events that affect our enjoyment of the lake. In the 21st Century, that means we need to use our website, [www.lca-mi.org](http://www.lca-mi.org), more effectively. We want you to be able to rely on the site whenever you have a question about water quality or best development practices or where to find the rules about something you want to do — or even the dates of Venetian Festival or the morel hunt.

The good news is that the Charlevoix Community Foundation shares our belief in the site as a place to build a stronger and better informed community of lake users. And it has backed up that belief with a \$5,000 grant to reshape the site.

In the coming months, a group of LCA members plan to address the questions of what content to have on the site and what services make the most sense for people who want to use the site. We hope to be creative, complete, and fun, but we'll do better at that if we could get a little help from you. What would make the site something you would put in your Favorites folder? What information do you want most?

Please, drop us an email at [info@lca-mi.org](mailto:info@lca-mi.org) or give a call to Jonathan Friendly at 231-547-0213. As always, your input is what will make a useful site and a better lake.



How can we **work together** for Lake Charlevoix? The first step is to join Lake Charlevoix Association and the next step is to give us your input! Our website is a great way to share ideas and current information.