

THE LAKE GUARDIAN



SPRING 2022

PHOTO CREDIT: FISHWEB.COM

Protecting Our Lake By Preserving Our Greenbelts

Joe Kimmell

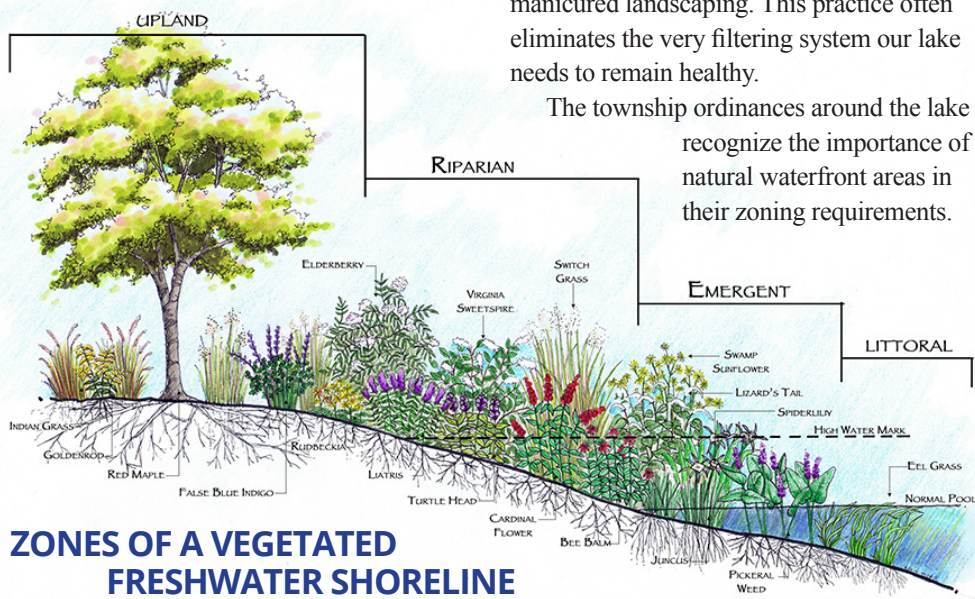
Over the years, The Lake Guardian has contained several articles on the importance of a healthy “greenbelt.” This buffer zone along the shoreline is critical for preserving the overall health of our lake. In the not too distant past, Lake Charlevoix was blessed with long stretches of natural, undeveloped shoreline. This allowed potentially harmful runoff to be naturally filtered, thus protecting the

lake, as Mother Nature intended. However, ongoing development of the lake shore has reduced the number of areas of natural shoreline from pre-European settlement to 2020 by 42%. This degradation process is bound to continue in the years to come. As part of this trend, many developers, builders, landscapers, and homeowners, whether intentionally or otherwise, have replaced longstanding natural shorelines with more manicured landscaping. This practice often eliminates the very filtering system our lake needs to remain healthy.

Greenbelt areas are required in every township. All seven townships abutting the lake have regulations establishing a natural shoreline area, with setbacks ranging from 25 feet (Charlevoix Township) to 100 feet (sections of Evangeline Township), with most requiring a 50-foot natural “greenbelt.” These ordinances usually prohibit disturbing the natural vegetation within this setback area. When it is disturbed, restoration of the area with native vegetation is expected.

The focus on “natural” vegetation is an important part of maintaining a buffer area that protects our lake. Too often homeowners or landscapers install a turf grass yard to the water’s edge, perhaps under the assumption that this will filter harmful runoff. A turf grass yard filters very little water, especially when compared to native plants with much deeper root systems. An equally important issue is that this type of yard often requires fertilizers and pesticides to maintain its appearance. The chemicals from a turf grass yard can add to the toxic load entering our lake. As the adage goes, if we don’t want the problems of many “downstate” lakes, we need to avoid such “downstate” landscaping.

The township ordinances around the lake recognize the importance of natural waterfront areas in their zoning requirements.



ZONES OF A VEGETATED FRESHWATER SHORELINE

Cross-Section of a Shoreline Buffer Garden

<https://hgic.clemson.edu/factsheet/maintaining-your-freshwater-shoreline/>

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PHOTO CREDIT: JULIE STRATTON

President's Corner



One of the things I enjoy about writing the President's message for our spring issue is it gets me thinking about spring. I'm writing in mid-March and there

is still ice on the lake. Real spring is a long mud season away. Sitting in a sunny corner of our "Great Room", I am called upon to write something that will be relevant when the Trillium are in full bloom and the boat ramp at Ferry Avenue in Charlevoix is a busy place.

A good theme for this issue of our newsletter could be "back to work." Our Lake Charlevoix Association has a full slate of projects and programs scheduled to start or resume as "the season" begins. We are pursuing our mission on several fronts as you will see when you turn these pages.

The problem with the "back to work" theme is that a group of dedicated volunteers, including every one of our Board members, has been at work all along. We have improved our internal operations and have prepared for the day when our field work could resume. The projects are necessarily narrow in their

focus and finite in their ability to bring about noticeable change. However, all our work is focused on our mission which is to: (1) Protect the natural quality and beauty of Lake Charlevoix, (2) Promote understanding and support for safe, shared lake use and (3) Advocate sensible and sustainable practices for lake use and development.

Recently I attended a continuing education seminar focused on "water law." The speaker opened his talk by reading from the 1963 Constitution of the State of Michigan, Article 4, Section 52, which reads, in part: "The conservation and development of the natural resources of the state are hereby declared to be of paramount public concern in the interest of the health, safety and general welfare of the people."

Both our mission statement and our state constitution require balancing the forces of conservation and development. This balancing act is always a challenge. Maintaining our watershed so our water is clean and safe to drink, live in and play on, not only for us but for all the living things in the watershed, is a very complex task. We do our best to come up with "things we can do" to contribute. We also do well when we remember that nature, when given enough room and enough time, will strike a balance. That is why, among other

things, our focus on shoreline protection emphasizes providing space for natural forces to work with minimal interruption. After all, in the end, nature prevails.

*Tom Darnton,
LCA President*



It's time to renew your annual membership to the Lake Charlevoix Association.

The Lake Charlevoix Association plays an important role in keeping our beautiful lake one of the healthiest in North America. Our efforts include research, education, advocacy, and collaborating with other environmental organizations—all aimed at protecting Lake Charlevoix for future generations to enjoy.

Please use the enclosed envelope or go to <https://www.lakecharlevoix.org/support-us.html>

to renew or increase your annual support. You will be providing critical funding for our 2022-23 activities.

Thank you for your ongoing support!

Mission:

*Protect the natural quality and beauty of Lake Charlevoix.
Promote understanding and support for safe and shared lake use.
Advocate sensible and sustainable practices for lake use and development.*

LCA Board of Trustees

Tom Darnton | President
Dan Mishler | 2nd Vice President
John Hoffman | Treasurer
Joel Van Roekel | Secretary

Kim Baker | Director
Joe Kimmell | Director
Peggy Smith | Director

www.lakecharlevoix.org
Like us on Facebook!

The People Behind the Mission

THE ORGANIZATIONS WE BELONG TO OFTEN SEEM TO BE NAMELESS, FACELESS GROUPS. THE LCA BOARD IS SIMPLY A GROUP OF PEOPLE LIKE YOU, WHO LOVES OUR LAKE AND WANTS TO PROTECT AND PRESERVE IT FOR YEARS TO COME. TO GIVE YOU A BETTER IDEA OF WHO THEY ARE HERE'S WHAT THEY HAD TO SAY ABOUT WHY THEY BELONG TO LCA.



TOM DARNTON,
President

I experience Lake Charlevoix as a living place of inspirational beauty. As a riparian owner, I have a special obligation to the whole lake, not just my little piece of it. Being on the LCA Board gives me a place to work on preserving and protecting it. The lake needs us to engage with it directly through careful use and indirectly through collective actions with our neighbors to protect the watershed.



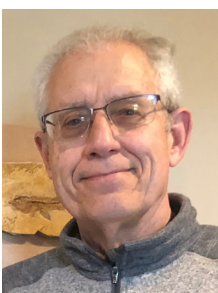
DAN MISHLER,
Vice President

When I retired in 2005 and moved to Lake Charlevoix full time, LCA was the perfect opportunity to give back and make a difference, giving me a chance to help protect the lake I love and inspire others to do the same. As you think about your shorefront this spring, I hope you will "think natural" and keep protecting the lake at the top of your priority list.



JOHN HOFFMAN,
Treasurer

I've seen few lakes as beautiful as Lake Charlevoix. I live on and enjoy this lake and have a strong desire to see it stay that way. We need to understand that just because the lake is in great shape at the moment, it is going to degrade over time if we don't do our part. Establishing and maintaining greenbelts, making sensible use of fertilizers, maintaining septic systems, and supporting LCA's mission to protect and preserve the lake will go a long way toward that end.



JOEL VAN ROEKEL,
Secretary

We have one of the most beautiful lakes in the world. Its ebb and flow are out of our control and we must respect, protect, and support what nature gives us. By planting native plants like pollinators, five previously absent species of butterflies returned to Holy Island bay last summer. The mink, muskrat, and beaver are back as well. Our newsletters and website are filled with useful information on supporting what nature has given you. Please do your part.



KIM BAKER,
Director

Lake Charlevoix will never be like it was when my grandfather worked for the railroad and my dad went to a one-room schoolhouse in Boyne in the 1920s. Yet, it remains a place of wonder and beauty. My hope is that we can care

for and manage it so that my children and yours can enjoy its waters and wildlife for years to come. Enhancing the lake's shoreline with native plants, trees, and shrubs is a step toward that goal.



JOE KIMMELL,
Director

The thing that draws you to Lake Charlevoix is its natural beauty. This lake is an overwhelming part of the community, and we are responsible for preserving it. Protecting and preserving the beauty and quality of the watershed and the lake really can't be done on an individual basis. We can start with our own property as an example to others and then reach out to others to join the effort. But to really protect the lake it must be a community, state, and local government effort.



PEGGY SMITH,
Director

Lake Charlevoix has given a lot to our family. It's important to me to try to get as many people as possible to try to visualize how the lake has impacted their lives. That said, the lakeshore is a portal to the lake, and we are responsible for keeping it natural and native. My philosophy is to treat the lake like you treat your home. We owe it to ourselves to contribute to the effort of keeping Lake Charlevoix clean and healthy for generations to come.

If you are interested in becoming further engaged with the LCA as a volunteer, committee member or member of the board, please contact us at info@lakecharlevoix.org

It's The Natural Thing to Do

Peggy Smith

The buzz about using native plant material continues at a steady hum throughout gardening, agricultural, and landscaping circles. And for very good reason. Plants, trees, and shrubs that are indigenous to outdoor habitats support the life cycles of numerous living creatures. Along our lakeshore, they play a major role in helping support and stabilize the shoreline. In recent years natural shorelines have been recognized as an important part of “best management practices” for the sustained health and beauty of our lake.

You may be able to hire a team of experts to design, source, contract, and install your natural shoreline project. Or you're a do-it-yourselfer seeking to add to current landscape design. Either way, there are a few essential actions to consider, prior to getting started.

1 Follow Your Township Ordinances

The first steps are to check in with your township. Learning which ordinances must be followed is important. Each township is unique in its makeup, with a multitude of natural and manmade qualities. The ordinances are typically designed to work with the natural features in the geographic area they encompass. Michigan native plants are required to be used at and below the ordinary high-water mark on the shore of each parcel. Our wildlife depends on these specific plants for both food and protection from predators.

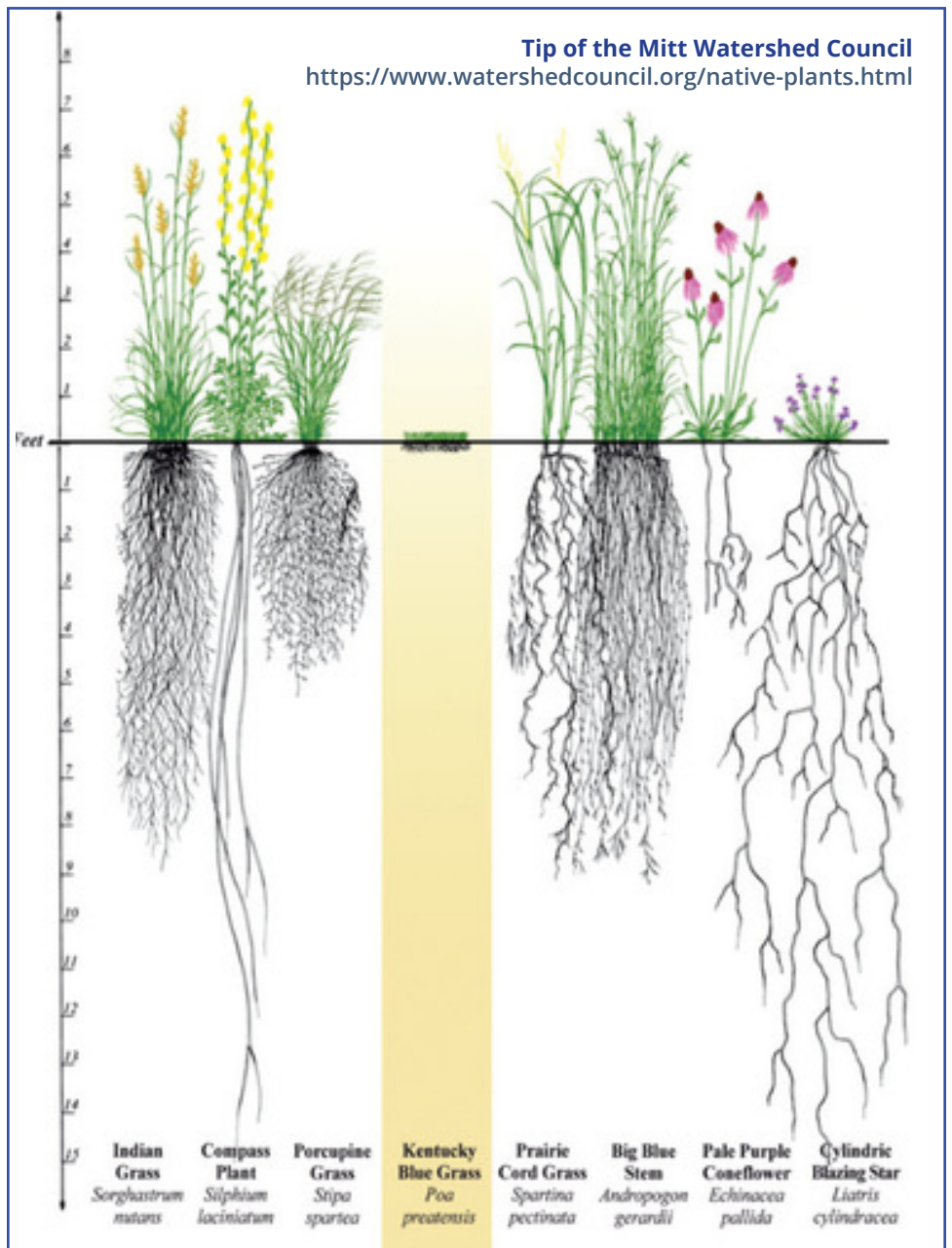
2 Surveil Your Property

Secondly, take pictures, establish the amount of sunlight each area gets, and determine the soil types you're dealing with. Consider how forceful the wave action is on your shoreline. Think about how you and your family and guests plan to use the different areas of your property. This helps to inform your decisions on laying out a plan or multi-year projects to chip away at over time. There are a plethora of resources including material lists for many shoreline conditions and support for your ideas each step of the way.

3 Choose Credible Plant Sources

The trend to source and install natives is gaining in popularity. To that end, both credible area nurseries and big box stores are now selling various plants with the same names. There is a difference. Those that are not grown locally or are different cultivar lack the root structure and strength to handle our levels of wind and waves. Non-native and exotic plants can wreak havoc with our shoreline. This can be due to lack of biological controls as well as the potential to become invasive.

The good news is that there are numerous readily available resources to help in your quest. We'd like to continue this conversation by sharing some of them with you. Please see links on page 5 or go to www.lakecharlevoix.org for more information. These aids will get you on the road to planning, restoring, enhancing, or just continuing to support the natural shoreline that is such a beloved feature of our beautiful Lake Charlevoix.



Easy Slope Shoreline Garden



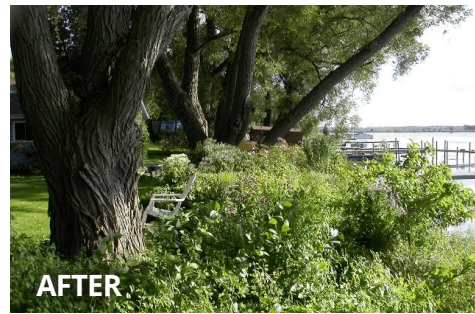
<https://www.mishorelinepartnership.org/plants-for-inland-lakes.html>

Symbol	Scientific Name	Common Name
1	Carex stricta	Tussock sedge
2	Carex lacustris	Lake sedge
3	Asclepias incarnata	Swamp milkweed
4	Symphyotrichum puniceum	Swamp aster
5	Eupatorium altissimum	Boneset
6	Mimulus ringens	Monkey-flower
7	Lobelia siphilitica	Great blue lobelia

Design Notes

Native shoreline plantings provide important habitat for birds, pollinators, and wildlife while preventing erosion along the lakeshore. The plant species chosen are ones specific for two zones, either below or above the ordinary high water mark (OHWM). This garden provides a variety of colors throughout the growing season at variable heights and textures, all with a managed look. This garden is suitable for a site with a gradual slope that remains wet for much of the year and is typically flooded during high water, but may have an occasional dry period.

Design by MSU Extension in collaboration with the Michigan Natural Shoreline Partnership <http://www.mishorelinepartnership.org/>

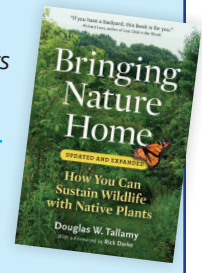


Before & After Vegetated Buffer Zone Naturalization
<https://scugoglakestewards.com/wp-content/uploads/2013/01/Vegetated-Buffer-Zones-Naturalization.pdf>

HELPFUL NATIVE PLANTING GUIDES

- <https://www.mishorelinepartnership.org>
- <https://mymlsa.org>
- <https://www.canr.msu.edu/michiganlakes/>
- <https://www.michigan.gov/egle/0,9429,7-135-3313-164820--,00.html>
- <https://plantitwild.net/resources-links/>

Bringing Nature Home - How You Can Sustain Wildlife With Native Plants by Douglas W. Tallamy



SUGGESTED NATIVE PLANT LISTS

- <https://www.watershedcouncil.org/native-plants.html>
- <https://www.michiganmastergardener.org/nurseries-featuring-native-plants>
- https://www.canr.msu.edu/news/smart_trees_and_shrubs_for_natural_shoreline_plantings
- https://www.canr.msu.edu/nativeplants/plant_facts/local_info/north_lower_peninsula
- <http://nativeplant.com/plants/search/input>

WHERE TO FIND NATIVE PLANTS

- <https://wildflowersmich.org/?menu=20>
- <https://www.nativeplantguild.com>
- <https://cms2files.revize.com/charlevoixmi/2022%20Catalog.pdf>
- <http://www.otsegocd.org/our-native-plant-catalog.html>
- <https://www.macd.org>



Scan for more info on Greenbelts and how to improve them.



Mother Nature Gets a Helping Hand

Joel Van Roekel

Getting Ready to Stock the Lake

PHOTO CREDIT: MDNR

In 1903, the Charlevoix Sentinel declared “Charlevoix, the largest fishing point on the Great Lakes.” That year the Booth Packing Company built freezing lockers to hold one million pounds of fish. At that rate, the lake lost its ability to sustain such large stocks of fish and in 1907 the Michigan Department of Natural Resources began work on stocking the fishery to a level that still supports sport anglers today.

The current fish population in Lake Charlevoix is diverse. At least thirteen species are known to ply our waters. According to Heather Hettinger, Fisheries Management Biologist for the Michigan Department of Natural Resources (MDNR), anglers report that the top three are walleye, cisco, and smallmouth bass while yellow perch, steelhead, and northern pike are also gaining the attention of current anglers.

While rainbow, lake, and brown trout were stocked for many years, walleye have been the species of choice for the past thirteen years. The MDNR has placed 1,355,682 walleye fry and fingerlings in Lake Charlevoix since 2009. Over the past thirty years the number of stocked brown, lake, and rainbow trout coupled with the walleye count exceeds 7,800,000.

So why aren’t there more fish out there? It turns out that the life of a young walleye is not an easy one. The spawning season is temperature dependent and only happens when the water is between the 40 and 50 degrees. On average, a female drops about 85,000 eggs of which only five to twenty percent will become fertilized. Of the fertilized eggs, only ten percent will hatch. Then, of the hatched eggs, only ten percent will make it to the larval stage. Lastly, from the larval stage, less than ten percent will survive the rigors of the lake to become fingerlings.

A lot of things can get in the way of these young fish reaching maturity. When stocked, fry are only about a half-inch long and fingerlings are between an inch and a half to two inches long. Some of these newcomers are too small or too weak to make the transition to the lake. Predators like bass, pike and birds also take their toll. Nature sometimes hits the lake with weather events that alter the temperature or oxygen saturation needed for proper development. Additionally, if the plankton supply is too low or insect hatches haven’t taken place, the newcomers don’t have enough food to grow into juveniles.

Even with low survival rates, the large number of young in the stocking program

allow thousands of these fish make it to adulthood. Between what nature provides and the commitment of the DNR, Lake Charlevoix has become a highly regarded smallmouth bass fishery and is considered an up-and-coming walleye lake by many tournament anglers.

The MDNR Fisheries Division is one of many organizations that work behind the scenes to support the aquatic resources we all enjoy on Lake Charlevoix. The LCA has spent the past fifty years advocating for the protection and preservation of this beautiful and bountiful lake. Join us in this journey by visiting our website www.lakecharlevoix.org or join the Lake Charlevoix Association Facebook Group to learn what you can do.



Circular Fish Holding Tanks

PHOTO CREDIT: MDNR



Cladophora growth on a shoreline can be used as an indicator of septic problems, such as septic water leaching into the lake. It can also help to determine if fertilizer misuse is occurring. Both of these issues can adversely affect water quality.

Protecting Our Lake By Preserving Our Greenbelts

Continued from page 1

Our townships do have “greenbelt” protection ordinances on the books. However, their limited resources in enforcing these ordinances have resulted in landscaping around the lake which clearly is not in compliance. Some homeowners, home builders, landscapers and yard maintenance companies recognize the importance of lake shore protection and work hard to comply with the ordinances. It is apparent that a significant number of projects have ignored these requirements. A cruise around the lake will point out the growing number of parcels where the protective greenbelt has been altered or eliminated.

If Lake Charlevoix is to continue to be a healthy place where we can all fish, swim, and recreate it will be up to all of us who live in or around the watershed to take the necessary actions to prevent its decline. Some townships are in the process of reviewing the “greenbelt” provisions of their zoning codes. If you live in such a township, encourage your officials to use this process to retain meaningful protection against environmentally inappropriate development.

Increasing development in our watershed will increase the pressure on our lake. Adhering to and supporting your township’s waterfront ordinances is critical in maintaining the water quality of our lake. Strict compliance with our zoning ordinances by homeowners, as well as our neighbors, area contractors and public officials, will assure that future generations will be able to enjoy the same beautiful Lake Charlevoix we all have been drawn to. Living on this lake carries a responsibility that extends beyond our own lot lines - a responsibility to make sure we are part of the lake community that is protecting its beauty and caring for its future.

Failing Septic Systems: A GROWING CONCERN

John Hoffman & Dan Mishler

Septic systems usually aren’t part of a conversation about lake life. But they are an important part of discussions about lake health. Improperly maintained or failing septic systems can pose a problem to inland lakes. This summer the LCA will begin a multi-year septic study on Lake Charlevoix. The two-part study aims to 1) locate areas around the lake where excess nutrients are entering (especially from failing septic systems) and then pinpoint the source; and 2) develop better protocols for locating and evaluating shoreline septic system pollution in inland lakes. This project is a partnership between the LCA, Tip of the Mitt Watershed Council and Central Michigan University. The study is supported by and is receiving funding from The Charlevoix County Community Foundation.



Cladophora is a filamentous, green algae that thrives in nutrient-rich water. The source of nutrients in Lake Charlevoix includes fertilizer use, hard surface runoff, and failing septic

systems. The study will be looking at areas with heavy Cladophora growth, areas recommended by the Northwest Michigan Health Department, and areas that are more likely to have aging septic systems.

The study’s plan includes:

- 1 An outreach letter/questionnaire to be sent to homeowners in selected areas.
- 2 An invitation for all members to request to be sampled if capacity is available.
- 3 A sample/study to be collected from near-shore open water for each lot in the program.
- 4 A ground water sample to be collected for parcels who have given permission.
- 5 A follow up with owners to inform them of their current conditions and assist them in remediating the problem.
- 6 A follow up sampling at locations with high nutrient levels including E. Coli counts and, where appropriate, qPCR testing to genetically determine if the source is likely human.

We are hopeful for property owner participation in this, and we will be reporting the results as they become available.



Tributes

In Memory of Jane Cochrun Wells
By David & Elizabeth Domann

In Memory of Jane Wells
By Joe & Nancy Halter

In Memory of Joanie Schumann
By Thomas & Karen Verysier

In Honor Paul Nowak
By Jonathon & Lynn Friendly

In Honor of Rod & Pat Tinney
By Mitchell & Nancy Carey

LAKE CHARLEVOIX DAY

Save the date!

WHEN: June 13, 2022, from 9:00am- 4:00pm

WHERE: Charlevoix Public Library
220 Clinton St. Charlevoix, MI 49720

A Full Day of Learning with Topics Including:

- Water Level Fluctuations
- Impacts of Shoreline Hardening
- Tools for Local Governments
- Citizen Participation in Shoreline Protection
- Bioengineering/ Natural Shorelines

eight



Join now!

Lake Charlevoix Association
P.O. Box 294
Charlevoix, MI 49720
info@lakecharlevoix.org
www.lakecharlevoix.org

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Thank You: LCA gives the Charlevoix County Community Foundation a big thank you for their continued commitment to the protection of Lake Charlevoix and its watershed. We are happy to announce the grant awarded to the LCA that will help us to team up with Tip of the Mitt Watershed Council and Land Information Access Association to work with communities surrounding Lake Charlevoix on visioning for the future and reviewing zoning regulations that will protect the Lake Charlevoix Shoreline. Other grants with beneficial impacts on our watershed were awarded to several non-profits and include addressing and managing

invasive species, upgrading river crossings on the Jordan River & Deer Creek, and trail maintenance for Charlevoix County conservancies.

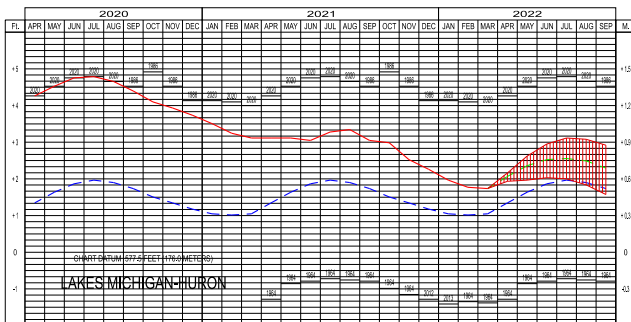
Renewal Time: May is our renewal time for LCA Memberships. If you have not yet renewed/joined, please take a moment to do so by going to our website www.lakecharlevoix.org. Online renewal is preferred. Thank you to those who chose to renew through our online portal. We have seen an uptick in the number of people who have done that. However, you may also use the enclosed membership envelope for renewing. The LCA lake protection programs are only possible through the generous contributions of our members. The LCA is a 501(c)3 and donations are fully tax-deductible. Thank you for your support!

Annual Meeting: Mark your calendars for Friday, June 17, 2022. Please join us for our LCA Annual Meeting at the Boyne City Hall Commission Chamber (second floor) located at 319 N. Lake St. We will host a coffee hour from 9 - 10 a.m. followed by the meeting from 10 a.m. - noon.

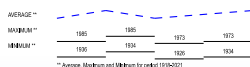
Poker Run: The Poker Run is planned for Friday, August 19, 2022, but we need new volunteers to help make it happen this year! Please contact us at info@lakecharlevoix.org if you like to help us. A link will be emailed for online registration and will be posted to our Facebook group. Please be sure to include your email address when you renew your membership, so you don't miss our invitation to register.

WATER LEVEL FORECAST

LAKES MICHIGAN-HURON WATER LEVELS - APRIL 2022



LEGEND



For a detailed version of the water protection graph please visit https://lre-wm.usace.army.mil/ForecastData/BulletinGraphics/MBOGLWL-mich_hrn.pdf