



THE LAKE GUARDIAN

SPRING 2019

Moon: Mike Schlitt

The Demonstration Garden Comes To Life

Thomas Darnton & Joel Van Roekel

On Sunday, June 9, 2019, our LCA/ Boyne City Demonstration Garden Project will be dedicated at the (Sunset Park) garden site at 2:00 pm.

LCA project leaders, Boyne City Council representatives and our volunteer landscapers will be present. We invite LCAMembers and the general public to attend. Following a short ceremony, guests and participants will enjoy light refreshments and conversation where they can ask questions about each of the seven different parcels that make up the demonstration gardens.

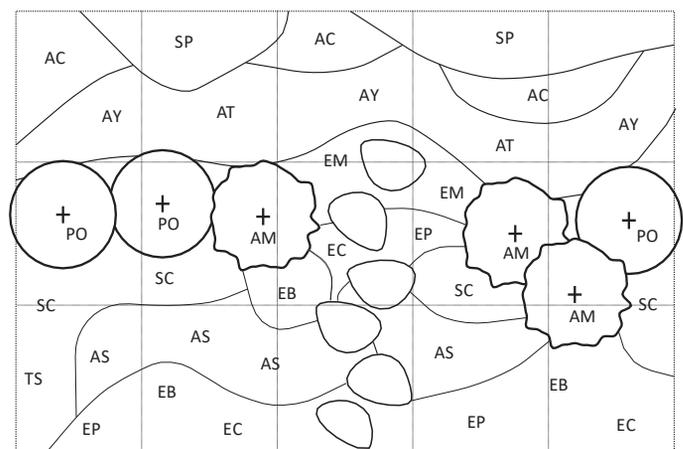
Tom Darnton and Joel VanRoekel, both LCA board members, have co-chaired the work team since it began in June of 2017. The project was inspired by the Michigan State University Extension Service and the Boyne Valley Garden Club. It is part of a community effort to increase understanding of the important role shoreline landscaping plays in protecting and preserving the water quality of Lake Charlevoix.

Other team members are Nancy Cunningham, a master gardener and long time community garden advocate, Gow Litzenberger, a retired landscape architect and Jason Brabbs, a working landscape designer with the firm North by Nature. Dan Mishler, LCA past president, and John Hoffman, current LCA president, also were actively involved with the work team.

Nancy provided invaluable assistance to the project through her knowledge of native plants and her experience installing a number of garden projects in Boyne City. When asked about her thoughts on the project, she said it was, “a win/win.” “People could see what the plants would like in an actual plot, while the garden protects the lake and keeps it beautiful.”

SHORELINE DEMONSTRATION GARDEN #1

Sunset Park, Boyne City, MI Summer/Fall 2018



- Shrubs**
- AM - Low Scape Mound Aronia
- PO - Ninebark
- Lakeside Perennials**
- AC- Lead Plant
- AT - Orange Butterfly Weed
- AY - Yellow Butterfly Weed
- SP - Little Lemon Goldenrod Cultivar
- Parkside Perennials**
- AS - Aster Cultivar
- EC - 'Cleopatra' Coneflower
- EM - 'Magnus' Coneflower
- EP - 'Pixie Meadowbrite' Coneflower
- EB - 'Orange Skipper' Coneflower
- Native Grasses**
- SC - 'The Blues' Little Bluestem
- TS - 'Tara' Prairie Dropseed



Thomas Darnton & Joel Van Roekel

continued page 7



Joel Van Roekel

President's Corner



As I write this at the tail end of winter, gazing at a still frozen Lake Charlevoix, my thoughts turn to our upcoming summer lake season. Like many of you I'm looking forward to launching boats, installing my dock and getting ready for the influx of summer visitors and house guests who for very good reasons are so attracted to our area. How fortunate we are to be able to spend all or a portion of our year on the shore of this beautiful body of water, which seems so pristine

and free of the ecological threats with which many other inland lakes are faced. However, every lake, no matter how healthy, requires vigilance to ensure that it remains that way.

With that thought in mind, let me take a few minutes to reflect back on some of the lake protection projects that LCA undertook last year.

With financial assistance from Charlevoix County Community Foundation, LCA commissioned Tip of the Mitt Watershed Council to have a drone photography based survey of the entire shoreline conducted last summer. The purpose of the survey is to monitor the quality of greenbelts, parcel by parcel, and also look for problems with the potential for harming the lake, such as erosion and evidence of nutrient loading caused by fertilizers or septic system failure. The survey results will be communicated to all riparian owners later this year.

Swimmer's itch in our lake? Although a survey emailed to members last spring indicated very little evidence of swimmer's itch, the limited study conducted last summer revealed several areas where the parasitic flatworms causing swimmer's itch were present. Please read the article on p. 4 & 5 summarizing the results of this study and LCA's plans going forward. To help us determine the extent of swimmer's itch around the lake, please let us know if you, your family members or guests have experienced swimmer's itch last summer and include an email address or phone number so that we can get as many details as possible. You can email us at info@lakecharlevoix.org.

If you have visited Sunset Park in Boyne City last fall, you will have noticed the seven shoreline demonstration gardens planted

by LCA volunteers and five local landscaping companies. The intention of the gardens is to show different ways to plant a greenbelt that is both attractive and effective at filtering pollutants and preventing erosion.

Please mark your calendars for the dedication event to take place at the gardens June 9 at 2:00.

A significant pollutant of lakes and streams is single use plastic, such as plastic straws and bags. Last fall LCA formed a committee to encourage and support individuals and businesses switching to alternatives to single use plastic in Charlevoix County. Please see the article on p.3 outlining this effort.

Much of LCA's activity in 2019 will be taking these projects to the next level, which brings me to my next point – volunteer support! LCA has been undertaking an increasing number of initiatives toward protecting Lake Charlevoix. However, we are a nine member board and can't do all that is necessary without help from our fellow members of LCA. Please consider your interests and talents and when we put out calls for volunteer support, put them to good use in keeping our lake the Northern Michigan gem that it is. In fact, there are two areas in which we are seeking volunteer expertise/assistance at the present:

- Grant application writing
- Website development and maintenance

Finally, a few words about membership in LCA. Currently we are 657 members strong but this is out of over 2000 riparian owners on Lake Charlevoix. All of us that enjoy our lake reap the benefits of that LCA provides, so if you are not a member, I strongly encourage you to join our fellow lake lovers and become a member by returning the membership envelope inside this newsletter or join on our website: www.lakecharlevoix.org. Please consider moving up a membership level or make an additional contribution to LCA's Lake Protection Fund. The lake protection projects that we have undertaken will require a higher level of financial support than what we have typically taken in from memberships and gifts in the past. We will need your support if we are to continue increasing LCA's impact on the health of our lake.

Wishing you all a wonderful summer on the lake!

John Hoffman, LCA President

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

John Hoffman - President
Tom Darnton - 1st Vice President
Joel Van Roekel - 2nd Vice President
Mike Dow - Treasurer
Sherry Pursel - Secretary

Chris Heroy - Director
Joe Kimmell - Director
Larry Levensgood - Director
Dan Mishler - Director

www.lakecharlevoix.org

Like us on Facebook!



REDUCE—REUSE—RECYCLE

Program to reduce plastic pollution in the Lake Charlevoix watershed is ready to roll!!!

As has been reported in our past newsletters, your LCA has been working for the past year or so to develop a program to reduce the use of single use plastics throughout our watershed in an effort to fight plastic pollution in our lake. While there are a number of sources of trash and litter that can pollute the lake, plastic pollution is particularly invasive as it will not biodegrade harmlessly as some other containers, and yet it does break down into micro plastics which can adversely affect our waters, and the fish, birds and other wildlife in the watershed.

The problem of plastic pollution is gaining increasing attention throughout the world, especially in its seas, lakes and waterways. While this may not seem to be a pressing problem for our lake, statistics for the Great Lakes would indicate otherwise. It was recently estimated that a significant number of sea birds in certain areas were found to have ingested plastics remnants. Also, many of the beer products of micro breweries using Lake Michigan watershed waters were found to contain micro-plastics. With the number of plastic grocery bags, plastic straws, plastic containers and plastic trash littering our areas, it seems obvious that a good amount of this pollution ends up at the bottom of our lake or in its ecosystem.

This Spring, LCA will launch a program called REDUCE, REUSE, RECYCLE aimed at encouraging businesses, city governments and consumers to join the fight to reduce plastic pollution by eliminating plastic products where possible by substituting eco-friendly substitutes, reducing the use of items which cannot be replaced, and increasing efforts to establish more comprehensive recycling programs and trash collection options.

Businesses will be recruited to join this program, designing a workable plastic reduction program for their operation. Look for the LCA logo decal on their windows signifying their support of this effort, and for their names on our website. We hope all will patronize these businesses to show your appreciation for their efforts.

Patrons of grocery stores, farmers' markets and other participating suppliers of plastic bags will see signage reminding them to use their reusable bags, and special LCA reusable bags will be available on County busses, through food pantries and other locations. A reusable bag can last four years or more, and using one regularly is estimated to replace as many as 600 plastic bags.

Joe Kimmell



Conversations among LCA and other interested groups are continuing to develop ways to make recycling and trash containers more accessible, make large community events more environmentally friendly and improve recycling programs throughout the County to increase the amount of plastic that is actually recycled.

All these efforts will hopefully have a major impact on the amount of plastic pollution finding its way into our environment. But the real front line in this fight lies with each of us as consumers and patrons. We can refuse plastic straws and containers at restaurants, we can ask for paper bags at clothing and other retail stores, we can use reusable bags at grocery stores-or ask for recyclable paper bags, and we can purchase products in aluminum or glass rather than plastic when available. We can further avoid clothing products made of micro fibers, as well as healthcare products containing micro beads (Check the labels!). When consumers attack plastic pollution through their shopping habits, stores and manufacturers will begin to follow suit.

So look for our signage, check our website for business supporters and join the effort in your shopping and dining habits. We need everyone's help to reduce this threat to the health of our beautiful Lake.

Lake Charlevoix Association Joins...

WATER FOUL

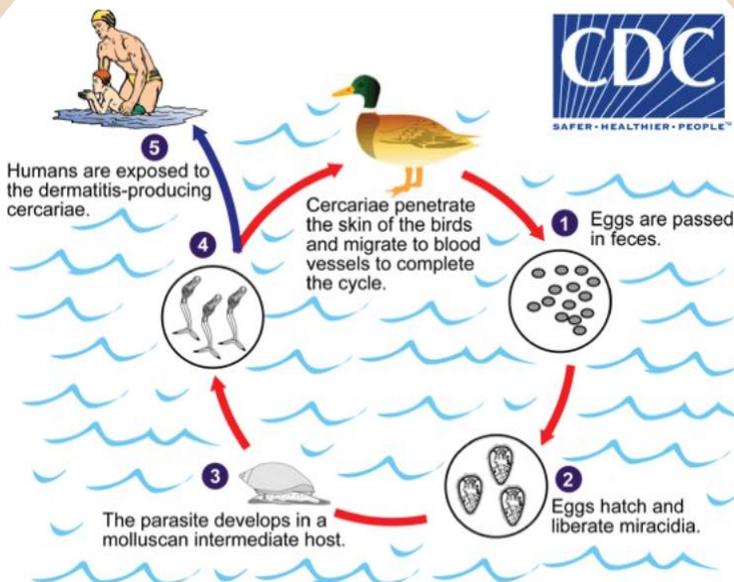
Is Swimmer's Itch in Lake Charlevoix?

Dan Mishler and Joel Van Roekel

Due to the unfavorable results of the 2018 Swimmer's Itch Study and coupled by the fact that numerous nearby lakes currently do have a swimmer's itch dilemma, the LCA board is committed to performing further Lake Charlevoix Swimmer's Itch Research in 2019.

One of the rites of spring is the return of migratory water fowl to our beautiful lake. Whether flying just above the water or bobbing along the shoreline, these gentle creatures can evoke feelings of beauty, grace and a sense of peace. For some, however, their arrival can be a cause for concern. Along with their beautiful appearance, some of these creatures are hosts to nasty microscopic parasites that can ruin the joy of a day in the water.

The villain goes by the name of Schistosomal cercaria, the larval stage of an aquatic flatworm. These are the critters that cause swimmer's itch. The worms have a three-part life cycle in which they live in both water fowl and aquatic snails. When these worms are looking for a duck or goose to inhabit, they sometimes encounter humans instead. The good news is that they can't live in us. The bad news is that while our body's immune system does a great job of killing off the invaders, the process also results in a case of dermatitis, an allergic rash where small red dots appear and then grow in size for the next 24 hours with intense itching.



Much like poison ivy, sensitivity to swimmer's itch increases with each exposure.

Swimmer's Itch Consortium of Northern Michigan

RESULTS OF THE 2018 LAKE CHARLEVOIX SWIMMER'S ITCH STUDY

- There is evidence of significant Schistosoma flatworm presence in Lake Charlevoix.
- The analysis of waterfowl fecal samples showed that several species of birds in Lake Charlevoix are infected including common mergansers, mallard ducks and geese
- A study of Lake Charlevoix snails indicated some abnormality, which may explain why Lake Charlevoix has not yet had a great deal of reported cercarial dermatitis cases.

LAKE CHARLEVOIX ASSOCIATION SWIMMER'S ITCH PLANS FOR 2019

- Once again contract Freshwater Solutions to quantitatively study Lake Charlevoix for schistosoma presence, in both the water column and in bird feces.
- Perform more research around the Lake Charlevoix snail population, toward determining how that impacts our swimmer's itch presence.
- Encourage the MDNR to assess waterfowl population to determine if our birds are those that have been relocated from other lakes.

Many lakes in our part of the state have experienced significant human impact from swimmer's itch and we don't want to be one of them. While the worms have been found in geese and gulls, the most common carrier is the merganser duck. In the past, mergansers were typically seen on Lake Charlevoix for a few weeks in the spring, but most of them flew further north to breed. It is concerning that several LCA members reported observing more merganser broods on the lake in 2018.

To date, Lake Charlevoix has not had a major problem with swimmer's itch. An online survey of LCA members showed 12-15 instances of human effects from swimmer's itch. One major concern centers around a State of Michigan program that trapped broods of infected merganser ducks and relocated them to the Sutton's Bay area over the past few years. The flight distance from there to Lake Charlevoix is less than 25 miles, a relatively short hop for these birds.

The LCA has taken a number of steps in order to keep our lake healthy. In 2018, the LCA joined the Swimmer's Itch Consortium of Northern Michigan. In addition to staying connected with other lake associations that are dealing with this problem, LCA hired Freshwater Solutions to perform a study of our lake. Please see the study results highlighted above.

Into the future we plan to partner with the Walloon Lake Association and Tip of the Mitt Watershed Council to purchase technical equipment that will allow us to analyze our own samples for schistosomes and for enteric bacteria.

Your LCA board takes the issue of swimmer's itch very seriously. The cost of this work is significant both in terms of dollars spent and volunteer time. Your continued support in both is very much appreciated.



Brigitte Werner



2018 Survey Documents Lake Charlevoix Shoreline Health

Dave Edwards, Monitoring and Research Director, Tip of the Mitt Watershed Council

Serenity: The character or quality of being calm, peaceful, untroubled. Sometimes coupled with great fishing, serenity is a word or feeling that can come to mind when a person is asked why they choose to live on or visit a lake. Little can surpass time and memories spent beside the lakeshore as one's mind drifts from one thought to another inspired by the harmony of observations in front of them.

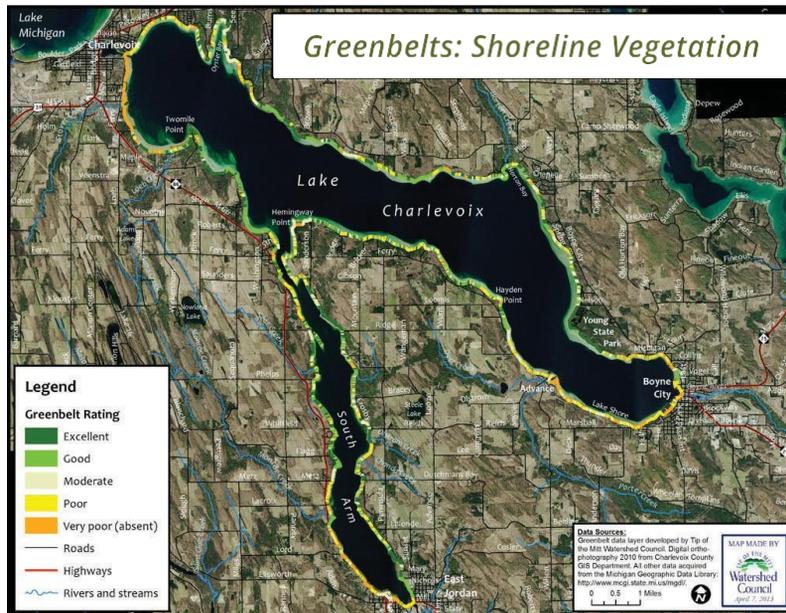
“Perhaps the sheer beauty of Michigan’s third largest lake is enough for its residents and a powerful draw for those who visit, but each person has their own reason(s). Each reason is likely dependent upon what is around and on the incredible 60 mile-long shoreline. Most interactions between plants, fish, and other animals occur in the nearshore areas. These areas also offer scenic and relaxing views.

Natural shorelines also help filter pollutants, reduce erosion, and contribute to increased water quality. Altered and unhealthy shorelines however can cumulatively degrade a lake, which could lead to water quality problems.

To better understand Lake Charlevoix’s shoreline health and promote positive shoreline stewardship, the Lake Charlevoix Association (LCA) contracted with Tip of the Mitt Watershed Council and ZeroGravity Aerial drone imagery to perform a shoreline survey during the summer of 2018. This survey marked the fifth shoreline survey of Lake Charlevoix since 1996 and offers a timeline of changes around the lakeshore. Surveying focuses on three major categories representative

of the largest threats to inland Michigan lakes: shoreline habitat loss, sediment inputs, and algae-promoting nutrient pollution. To accomplish such a survey, Watershed Council staff and ZeroGravity Aerial circumnavigated the entire 60-mile shoreline. From drone video, surveyors documented if the shoreline possessed a greenbelt (natural vegetative buffer), an algae known as Cladophora, erosion, drain pipes, and any

type of alteration(s) such as a seawall. Documenting Lake Charlevoix’s shoreline status with respect to these conditions provides valuable data and a basis for improving the character and quality of the Lake. The 2018 survey also provides another data point for identifying changes around the lakeshore that could impact future water quality. Tip of the Mitt Watershed Council does not enforce any regulations, nor do we divulge any property specific results to third parties.



A detailed report from the survey will be available this upcoming May/ June. Individual property results will also be available for landowners.

For information on healthy shoreline practices around Lake Charlevoix, please contact LCA or visit the Michigan Shoreland Stewards (MiSS) website at www.mishorelandstewards.org. Whether a person would like help identifying shoreland areas on their property, correct erosion, or encourage visits from wildlife, materials available on the MiSS website will help guide actions toward a healthier and resilient Lake Charlevoix. Tip of the Mitt Watershed Council staff look forward to working with LCA and other stakeholders to enhance the character and quality of Lake Charlevoix for future generations.



Gow Litzenberger brought three decades of landscape experience to the committee. His heart for environmentally responsible shoreline development and his knowledge of eco-friendly planting practices helped the group with plot layout, site preparation, and personal contacts with the five landscape businesses who volunteered to create demonstration plots. Gow felt this project “illustrates diverse approaches to landscaping... with everything being natural and each plot a different look.”

Jason Brabbs, a designer for North By Nature, provided the working group with a landscape plan that addressed many of the issues related to installing a demonstration shoreline plot. His goal was to “synthesize the views of each team member” into a plan that was both “beautiful and functional.” An underlying theme of his work is that the natural beauty of native species leads to the natural health of the lake. Jason also believes that the aesthetics and ecology are almost interchangeable. Health and beauty go together, it is not a choice between the two.

Describing the June 9 gathering as a “dedication” rather than an open-house was deliberate. The LCA mission has three elements: (1) Protect the natural quality and beauty of Lake Charlevoix, (2) Promote understanding and support for safe, shared use and (3) Advocate sensible and sustainable practices for lake use and development. For many LCA members, caring for the lake is an act of love. Dan Mishler is well known for asking the question “We love our lake; don’t you?” While it is true that the economy of the Lake Charlevoix Watershed depends on the high quality of our lake, most of the work done to protect the lake is inspired by its beauty and the emotional attachment with engages residents and visitors alike.

Please join us in dedicating the LCA/Boyne City Shoreline Demonstration Garden on June 9 at 2:00 pm. It will be a celebration of thoughtful natural shoreline design, cooperation between a city, a nonprofit, and businesses dedicated to protecting and preserving our beautiful lake. The Demonstration Garden is along the shoreline of Sunset Park, in downtown Boyne City at the far west end of Water Street.



John Hoffman & Jason Brabbs

GREEN LAND + BLUE WATER

Dan Mishler and Joel Van Roekel

We have a beautiful lake, and we all want to keep it that way, but there are threats. In addition to the threats presented by invasive species, chemical pollution, and shoreline erosion, there is concern about excess nutrients entering our lake, especially from failing septic systems and fertilizers.

Phosphorous is necessary for plant growth and a key nutrient that must be kept out of our lake. In clean lakes like ours, phosphorous is typically in extremely limited supply, restricting plant growth. Typically, all other necessary ingredients are present for growth except phosphorous, so adding just a “pinch” of it can cause an algal bloom. For this reason, phosphorous has long been banned from laundry detergents and more recently from lawn fertilizers.

That brings us to the connection to Cladophora and our 2018 shoreline survey. Cladophora represent a group of over 20 species of filamentous green algae that naturally occur in Michigan’s lakes. Cladophora can proliferate when there is an abundance of nutrients, especially phosphorous, entering the lake.

In the summer of 2018, with funding help from the Charlevoix County Community Foundation, LCA contracted with Tip of the Mitt Watershed Council and Zero Gravity Drone Surveys, to assess our lake’s shoreline. The summary report of the survey data, will highlight areas on the lake where Cladophora is established. While we don’t yet have data from the 2018 survey, our 2012 shoreline survey by the watershed council found that there was noticeable growth of Cladophora along 370 properties, a five percent increase from a similar survey done in 2007.

Because Cladophora growth is a good indicator of nutrient input, your LCA board will use the 2018 survey data to develop and implement a plan to work with owners in areas showing excess Cladophora growth. Our plan is to do more research in trouble areas to determine the source of the excess nutrients, with the goal of reducing their flow into the lake.

We all want to make sure no septic leachate is entering our lake, so it is important that we seek to find and fix failing systems. Failing septic systems often emit phosphorous near the shoreline, so the presence of Cladophora can signal a failing system. Failing septic systems also leach human sourced enteric bacteria. To test for enteric bacteria, we will work with owners to collect nearshore water samples. If analysis of the samples detects enteric bacteria, it could indicate that a septic system in the area is causing trouble.

The overarching mission of LCA is to protect the beauty and quality of Lake Charlevoix. Part of meeting this mission is to work toward preventing harmful substances from entering the water. Success will take all of us working together toward this end.

WATER LEVELS

Mike Dow

Our Lake Charlevoix water levels are expected to increase this upcoming summer of 2019. The report from the US Army Corps of Engineers, their Monthly Bulletin of Lake Levels for the Great Lakes, projects Lake Superior to be slightly higher than last year, and their report for Lakes Michigan-Huron, which directly determine our Lake Charlevoix levels, projects an increase of up to 4-6 inches over last summer's levels.

It should be noted that this is a forecast only and their projection levels range from 2" LOWER than last summer to 12" HIGHER than last summer. Stay tuned for actual water levels.



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



Join now!

LCA THANKS YOU!

In Memory of Norman Probert
By Judith Probert

In Memory of Marilyn Silver
By Randy & Rochelle Forester



Lynne Tollas

PFAS

PFAS has made the news across our state. Here's what's going on in our lake.

Based on no known point sources of PFAS in our watershed, the DEQ has no current plans to conduct PFAS testing in Lake Charlevoix. However, TOMWC will conduct a comprehensive water quality monitoring of Lake Charlevoix this summer which includes baseline testing for PFAS. You can test your own well for PFAS (\$60) by contacting Freshwater Future (freshwaterfuture.org) who is partnering with the University of Michigan Biological Station to provide the tests for private individual well use.

LCA MEMBERS SURVEY

In a 2018 LCA Member's Survey, the following projects were deemed most meaningful to the 141 respondents:

- Phragmites Control
- Support of projects within the watershed.
- Plastics Reduction Initiative
- Lake Guardian/ Shoreline Stewards/Greenbelt
- Shoreline Nutrient Input/Erosion/Greenbelt

NEWS BITES...

Annual Meeting: Mark your calendars! Friday, June 28th, 10 am-noon at the Train Depot at Depot Beach in Charlevoix. Please join us.

Poker Run: Please join us for this year's annual Poker Run on Friday, August 16th with a reception at Veteran's Park Pavilion, Boyne City. Registration begins in June. Last year, this event raised over \$7000. These funds drive many of LCA's lake protection programs. Thank you!

Renewal Time: May is our renewal time for LCA Memberships. If you have not yet renewed, please take a moment to do so with the enclosed Membership envelope. You may also renew online through our website: www.lakecharlevoix.org. Thank you very much for your support.

New Website: The LCA will be launching a new website this summer. Stay Tuned!

SELC: We will again be supporting Students Experience Lake Charlevoix, a learning stations project for students aboard the Beaver Island Ferry, which will be held on Tuesday, May 14th and Wednesday, May 15th.

Volunteers: Thank you to our many volunteers!!!! SELC, Database, Environmental, Membership, Communications and Financial. We could not do it all without you. Thank you.

Boyne City: We are excited that Boyne City's 2019 goals include "Protecting Lake Charlevoix and the Boyne River". This is one of six goals created by community input that includes objectives such as rain gardens, stormwater ordinances, improved practices along the lakeshore and river.