

THE LAKE GUARDIAN

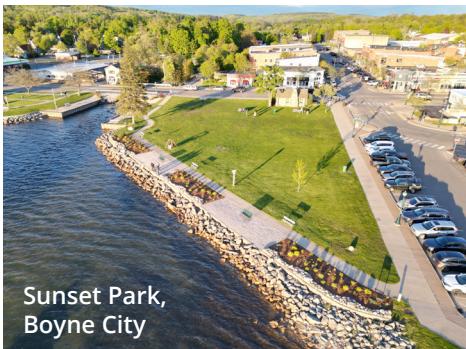
PHOTO CREDIT: JOHN DOSKOCHE



FALL 2025

LCA Shoreline Demonstration Garden Update

By Mike Costa, MSU Extension Master Gardener and LCA Member



On May 22, volunteers joined Ryan's Landscaping to install over 100 native plants along the shoreline, transforming the area into a vibrant demonstration garden. The team also added updated signage featuring QR codes linking to a full plant list and educational resources from MSU Extension. The codes have already been scanned over 100 times, and several lakefront owners have requested consultations and additional guidance.

This project highlights sustainable landscaping that protects shoreline health while adding beauty. The garden features native grasses, flowering perennials, and shrubs that provide pollinator habitat and help prevent erosion. Plants were carefully placed to match their sunlight and moisture needs, ensuring resilience and longevity.

Preparing Your Lakeshore Garden for Winter

As fall arrives, now is the time to winterize your shoreline garden. These tips will help safeguard your plants and get your landscape ready for a strong spring comeback.

CLEAN UP DEBRIS Clear fallen leaves, spent plants, and other debris along the shoreline. Leaves, twigs and other debris that accumulate on the shore can wash into the lake during rain or snowmelt, leading to excess nutrients in the water.

PRUNE THOUGHTFULLY Cut back dead or damaged branches to avoid breakage under snow. Trim perennials, but hold off pruning spring-blooming shrubs until after they flower.

PROTECT TENDER PLANTS Cover sensitive plants with burlap or frost cloth. Apply mulch—straw, shredded leaves, or wood chips—around the roots to insulate and retain moisture.

INSPECT AND STORE Check and repair garden borders, retaining walls, and fencing. Store garden furniture and tools in a dry place to prevent winter damage.

ADJUST WATERING Water less as plants go dormant but maintain slight moisture in the soil. Drain and shut off irrigation systems to avoid freezing damage.

PREPARE FOR SNOW Use snow fencing to reduce accumulation and wind damage. Avoid walking on frozen garden beds to protect root structures.

SUPPORT WILDLIFE Leave seed heads on some plants or set up bird feeders to provide winter food sources for birds and beneficial insects.

GET READY FOR SPRING Mark early bloomers and new plantings for easy spring care. Prepping beds now makes planting smoother when the season changes.

Your Garden's Winter Rest = Spring Success!

By following these steps, your lakeshore garden will be protected through winter and ready to thrive when spring arrives.

Want More Info?

Scan the garden's QR signs on-site or visit the MSU Extension website for additional shoreline gardening resources!

FALL 2025
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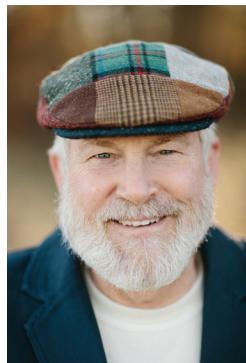
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PHOTO CREDIT: JULIE STRATTON

Reflections of a Recovering Riparian

Earlier this year, we sold our waterfront property and I moved into town. Moving off the lake was a great loss shared by three living generations of our family as well as our ancestors in some way. Lakefront living is an experience that, once people have had it, they want more. Separating from that for me has been a recovery experience.



I was assisted in my recovery by Jane Elder, who wrote a book titled *Wilderness, Water and Rust: A Journey Towards Great Lakes Resilience*. (MSU Press 2024) Jane's memoir is focused on her experiences over a career doing public policy and advocacy work

protecting our Great Lakes. Woven into her narrative were stories of difficult negotiations and painful choices while doing under-funded education and advocacy work. If these were the warp, the weft held stories of the inspiring natural places she had experienced during her career, camping and moving about in the publicly accessible natural areas within the Great Lakes watershed. For me, there were two important takeaways.

First, Jane's passion for our special place, at least equal to my own, had been built through connection with publicly accessible natural areas. Mine was based on a connection with a particular parcel of real estate. Our Lake Charlevoix Association, which began with a focus on riparian issues, has broadened its mission to include the entire watershed. We recognize that caring for the lake begins with caring for the water that flows into the lake

Caring for water requires information and inspiration. From the beginning, our Association has been focused on securing and distributing information about how to care for the Lake, from shoreline protection to drain fields and everything in between. While we believe in and support enforcement where it is needed, we have focused our attention on providing information.

What about inspiration? Jane writes eloquently of how the beauty of our region inspired her to carry on the work, not just once, but over and over, through a career spent trudging about within our society's governmental structures. Inspiration brings us the energy to carry on. The beauty of our region has been inspiring, and can continue to inspire, visitors and residents alike. While the watershed has been transformed in the 70+ years of my experience within it, it remains a place of great and inspiring beauty. It is up to us to keep it that way.

*Tom Darnton,
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.*

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www.lakecharlevoix.org
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Who We Are, Where We Are Going

By Tom Darnton

The mission of the LCA is to protect and preserve Lake Charlevoix and its watershed. It is a challenging assignment by any measure. The watershed is dramatically more developed now than when we formed the LCA in 1975. Development has hardened our shorelines, cleared much of the forest from the near shore areas and transformed the surface of our lakes to seething cauldrons of boat wakes. The sound of wind and waves has been replaced by the roar of "go fasts" and large wake cruisers. Perhaps if we had not been working to protect the watershed things would be worse. Nonetheless, we should be thinking about new approaches.

An important first step is to reframe how we understand the work. Protection is a defensive posture. Instead, let's focus on nurturing our watershed. If we look for ways to nurture, we can channel forces, rather than resisting

them. Let's switch from enforcement to seeking compliance. Enforcement tends to impose minimum standards and can breed resistance. Compliance seeks to identify and promote best practices. We will always need minimum standards to deal with the truly bad actors. However, if we are going to bend the forces of development in a positive direction, we need to do better than meeting minimum standards.

We also need a political system that is up to the task of shaping the forces of development in directions that are consistent with our long-term goals. Currently, there are 7 townships and 3 cities that have jurisdiction over some part of the Lake Charlevoix shoreline. Add another 4 townships to encompass the full watershed. Add 2 county governments, 2 county road commissions, 2 conservation districts, 2 regional planning agencies and numerous nonprofit organizations to the mix. Each element has its own

priorities and budget constraints. This complex weave of entities needs a means of organizing itself and working together. Thankfully, we don't have to start from scratch.

We have a detailed Watershed Management Plan, available for download on the Tip of the Mitt Watershed Council website. This plan lays out goals, objectives, and recommended implementation tasks. Within the structure of the Management Plan is an "Advisory Council" made up of the stakeholders in the watershed.

What is missing? An organized leadership structure for the Advisory Council. What can be done to bring that about? Our organization is the only entity, private or public, whose sole mission is protection of the watershed. Our goal is to be the energy that convenes and supports the Advisory Council as it takes on the important mission of organizing our community to effectively manage development in our watershed.



PHOTO CREDIT: JULIE STRATTON

100 Centuries of Water, Where Are We Now?

By Carrie Mikolaizyk and Joel Van Roekel

It's been about 10,000 years since we've had year-round ice on Lake Charlevoix. It began forming more than two million years prior and when it melted, we were gifted with 17,200 acres of pristine, beautiful fresh water. Thanks to relatively low human activity and large areas of protected land, the quality of the lake has remained quite good to this day.

However, there are some clouds looming in the distance. The population in northwest Michigan has been increasing since the 1960s. The lake has become a popular destination for down-and out-of-staters, lakefront homes have taken over much of our undeveloped shoreline and boat traffic has increased dramatically over the past ten years.

Thankfully, Tip of the Mitt Watershed Council has been following these trends since 1987 with a program called "The Comprehensive Water Quality Monitoring Program." Physical and chemical data are collected from 58 lakes and rivers including Lake Charlevoix. Data for nine parameters (such as dissolved oxygen, pH, clarity and chemicals) are collected at the surface, middle, and bottom of the water column. Here is what we know to date.

Water Quality Update for Lake Charlevoix

Overall, the water quality in Lake Charlevoix remains good, but conditions have shifted over the past few decades. Here's a look at recent trends and emerging concerns.

Nutrients (Phosphorus & Nitrogen)

In the 1990s, phosphorus levels dropped sharply and then stayed fairly steady. In 2024, both the Main Basin and South Arm saw a spike but remained below state thresholds. We'll continue to monitor

where and why these increases occur.

Nitrogen tells a different story. After declining in the early 1990s, levels have crept upward again. While the Main Basin has stayed mostly below concern levels, the South Arm has shown much more variation—and in 2024, nitrogen spiked well above the threshold. Likely causes include fertilizer and pesticide use, shoreline vegetation removal, or failing septic systems. Nitrogen remains one of the bigger challenges for the lake.

Lake Productivity

Until 1995, the South Arm was considered *eutrophic* (high in nutrients and productivity). Since then, both the Main Basin and South Arm have been classified as *mesotrophic* and now *oligotrophic* (lower nutrients). A big reason for this shift was the arrival of zebra and quagga mussels in the late 1980s and 1990s. These invasive mussels filter the water so efficiently that they remove too many nutrients, disrupting the food web. While the water looks clearer, it can actually be less healthy for fish and other aquatic life.

Chloride (Road Salt)

Both basins saw a recent dip in chloride, followed by a sharp rise in 2024. Higher chloride levels are a growing issue in northern Michigan lakes, largely due to winter road salt.

Emerging Concerns: PFAS and Harmful Algal Blooms

PFAS—sometimes called “forever chemicals”—were detected in Lake Charlevoix at very low levels through sampling efforts by Little Traverse Bay Bands of Odawa Indians. The only concern was higher PFAS in the South Arm near East Jordan, suggesting a possible source

in that area. Fish are also being tested for PFAS, mercury, and PCBs, with results expected in the next few years.

Harmful algal blooms (HABs) have also appeared on the lake, most recently in August 2023. While no toxins were tested then, HABs are becoming more common across northern Michigan. If you ever see a suspected bloom, please report it to the state at Algaebloom@Michigan.gov.

To Sum It Up

Lake Charlevoix is still in good shape, but careful monitoring is essential. By working together to reduce runoff, protect shoreline vegetation, and stay aware of emerging threats, we can help keep the lake healthy for generations to come.

What You Can Do to Protect Our Lake

Limit fertilizer and pesticide use on lawns and gardens.

Maintain your septic system to prevent leaks into the lake.

Plant native vegetation along shorelines to reduce erosion and absorb runoff.

Dispose of chemicals properly—never pour them down storm drains or near the water.

Reduce salt use in winter or explore alternatives where possible.

Report harmful algal blooms by emailing: Algaebloom@Michigan.gov.

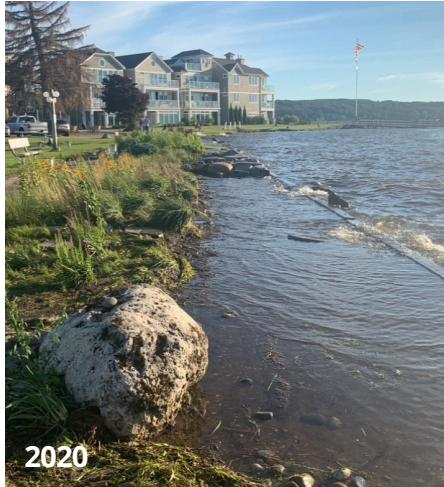
Together, small steps like these make a big difference in protecting the water we all enjoy.

Carrie Mikolaizyk is the Water Resources Manager for Tip of the Mitt Watershed Council.

Fall Water Levels, Our Best Guess

By Joel Van Roekel

THE USACE GREAT LAKES WATER LEVEL UPDATE AT THE END OF SEPTEMBER 2025 FORECASTED WATER LEVELS FOR LAKES MICHIGAN/HURON TO BE BELOW AUGUST LEVELS AND NINE INCHES BELOW LAST YEAR'S LEVELS. ALL LAKES ARE EXPECTED TO CONTINUE THEIR SEASONAL DECLINES IN OCTOBER WITH LEVELS FALLING ONE TO FIVE INCHES. THE GRAPH BELOW IS THEIR CURRENT ESTIMATE THROUGH FEBRUARY.



Scan QR Code for
**WATERLEVELS
FORECAST**



PHOTO CREDIT: JULIE STRATTON

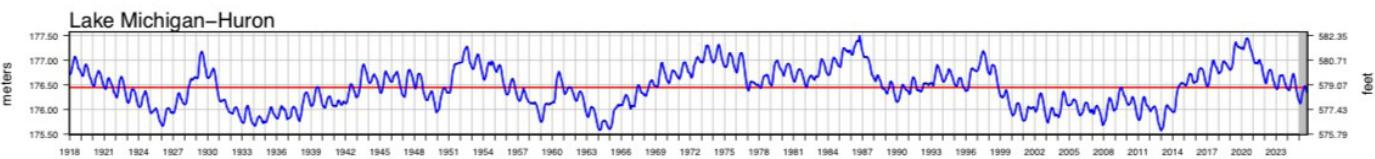


PHOTO CREDIT: US ARMY CORPS OF ENGINEERS

Why the Lake Sparkles

By Julie Stratton



A quiet science, a daily blessing. Some mornings, Lake Charlevoix doesn't just shine — it sparkles. Tiny flashes of light skip across the surface like scattered stars, catching our breath and reminding us why we love this place.

It feels like magic. But it's also physics. Each sparkle is sunlight reflecting off the crests of small ripples. When the lake is calm and the angle is just right, those reflections concentrate into bright,

fleeting points of light. Cooler, clearer autumn air sharpens the effect. And when the water is clean and balanced, the sparkle is even stronger.

That's the quiet part:

- Sparkles thrive in clear water.
- Clear water reflects a healthy lake.
- A healthy lake reflects a caring community.

So, when you see the lake glittering like a field of diamonds, know this — it's not just beautiful. It's a sign that things are working. That the lake is breathing. That stewardship matters. We protect this lake not just for its science, but for its sparkle. For the way it reminds us — in a flash of light — that beauty is a kind of truth. Let it shine.

SEPTIC *Matters*

By John Hoffman

LCA Septic Studies

Over the last few years, LCA has invested in studies that attempted to determine if septic leachate was making its way into the lake. While we found high levels of e-coli at several sites within our study area, there was no human e-coli detected in our samples. Although this may seem to be good news, we know from the scientific literature that faulty or improperly maintained septic systems or improperly located drain fields will cause human e-coli to infiltrate the lake water. It seems that timing of the sampling and that human e-coli rapidly dissipates in the water makes detection difficult. Additionally, it is estimated that 20% of the septic systems in Michigan are failing. We strongly believe it's critical to stay vigilant.

Your Septic System

The following diagram shows a septic tank where the solids settle at the bottom, grease and oil float to the top and the liquid effluent flows (or is pumped) to the drain field.

Tank Maintenance

The tank should be inspected by a professional every 3-5 years, more frequently if it has an effluent filter, and pumped every 3 -5 years, or more often depending on the size of the tank and the number of people occupying the house over the course of a year.

Proper Waste Disposal

What is put down the drain significantly impacts the system's health:

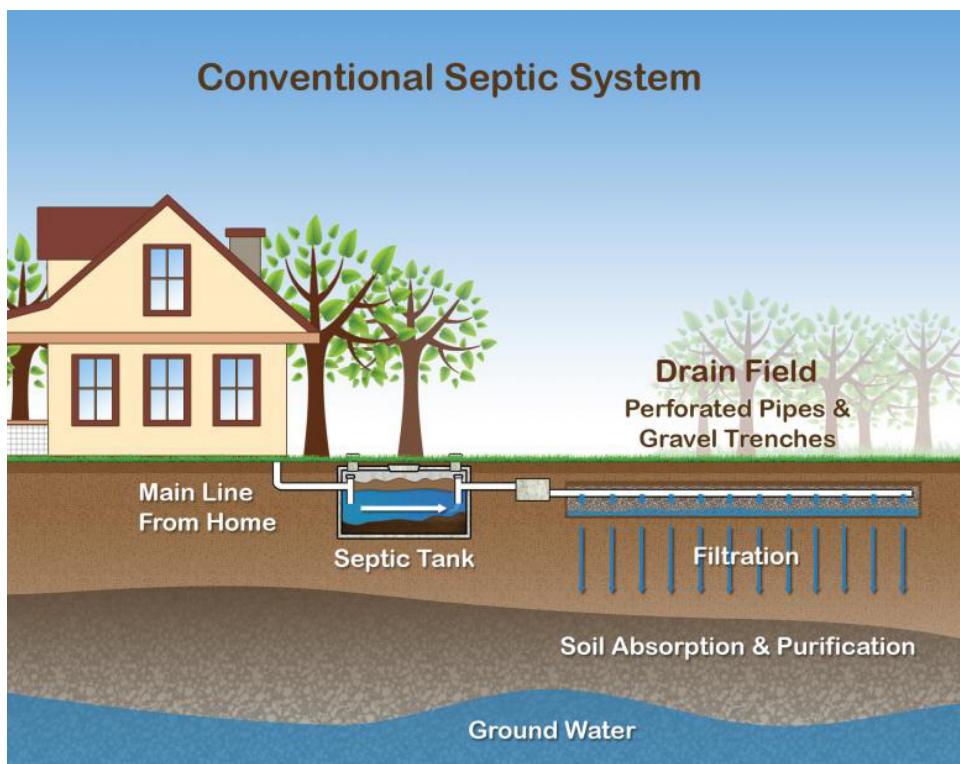
- Flush only human waste and septic safe toilet tissue

- Minimize the amount of oil and grease that enter the system as they can quickly clog the effluent filter or foul the drain field if they escape the tank.
- Be cautious with chemicals as they can kill the beneficial bacteria in the tank that break down waste.
- Limit food waste disposal if you have a garbage disposal to avoid overwhelming your septic system.

Protecting the Drain Field

- Avoid compacting the soil over the drain field by parking vehicles or placing heavy structures on it.
- While grass and small vegetation are helpful in taking up water, trees and large shrubs, water loving plants or plants with deep roots should be avoided as they can grow into and clog the drain field gravel layer and piping.
- Keep an eye out for trouble signs such as standing water, lush patches of grass or foul odors.
- Avoid overwhelming the tank and drain field with excessive water usage over a short period of time.

Let's all of us do our part - Be Septicsmart! For information visit www.epa.gov/septicsmart



Fighting Invasive Phragmites on Lake Charlevoix

By Joel Van Roekel

INVASIVE EURASIAN PHRAGMITES HAS THREATENED LAKE CHARLEVOIX'S SHORELINE FOR MORE THAN A DECADE. THIS TALL REED GROWS IN DENSE STANDS THAT EXCEED 15 FEET AND CAN GROW UP TO 20 FEET TALL. THEY CAN QUICKLY OVERTAKE BEACHES AND WETLANDS. LEFT UNCHECKED, IT BLOCKS VIEWS, LIMITS ACCESS TO THE WATER, AND CROWDS OUT THE NATIVE VEGETATION THAT SUPPORTS FISH, BIRDS, AND OTHER WILDLIFE.

Fortunately, CAKE CISMA continues to lead the fight in controlling this invasive. Their team actively maps infestations and follows a regional management plan. When new patches are reported, a rapid response team contacts the property owner, inspects

the site, and develops a treatment strategy.

Control requires persistence. Phragmites often regrows after a single treatment. So management involves cutting (below the water carefully in order to drown the plant as cutting live stalks can cause the plant to spread), thoughtfully applying herbicides, and follow-up monitoring. Success depends on early detection and ongoing cooperation between property owners and CISMA staff.

Shoreline residents can help by staying alert. Look for tall, dense patches along the shoreline, especially where sand meets shallow water. If you suspect Phragmites on your property, contact CAKE CISMA (cakecisma.org) for guidance.

By working together, we can limit this invasive plant and protect the natural beauty and ecological health of Lake Charlevoix for generations to come.



Invasive



Native



Invasive



Native

PHOTO CREDIT: TIP OF THE MITT WATERSHED COUNCIL/ ADD LINK [HTTPS://WATERSHEDCOUNCIL.ORG/INVASIVE-SPECIES/INVASIVE-PHRAGMITES/](https://WATERSHEDCOUNCIL.ORG/INVASIVE-SPECIES/INVASIVE-PHRAGMITES/)

2025 BOATING REPORT

By Sheryl Ryan

With the 2025 season wrapping up, we thought we would check in with local authorities to see how Lake Charlevoix fared with tourists, boaters, and seasonal residents this year. We are pleased to announce that we get an A. Aside from one boating accident mid-season resulting in no injuries there were no altercations on the lake. The boaters were respectful of marine rules and the sheriff's office reported that their main goal was to educate, not regulate our boaters regarding waterway rules in order to keep everyone safe.

The water levels did not drop as expected in August due to additional rain amounts earlier in July.

Boyne Thunder suffered from some inclement weather early in the day. This resulted in fewer spectator boats to watch the offshore racers begin the race. Later in the day a variety of vessels headed out to Lake Michigan to enjoy the beautiful afternoon weather. A good time was had by all.

There were no waterfowl incidents reported and we stayed open for swimming and water sports unlike many other lakes in the area that dealt with issues like swimmer's itch and had to be closed from time to time throughout the season.

All in all, our Sheriff was happy to report a year similar to 2024 with no real changes to report.



PHOTO CREDIT: CHARLEVOIX COUNTY SHERIFF



In Memory of Dave Irish, Edith Irish, and Jim Wilderom

Mike and Debby Reagan

In Memory of Larry Levengood

Jay & Peggy Smith

In Memory of Genevieve Whittaker

Charlie & Julie Stratton

In Memory of Martha Mishler

Robert L Badgley

Alan and Debra Campbell

Dave and Ann Germond

Paul and Deborah McDowell

Erin O'Donnell & Timothy Plancon

Tad and Laura Richards



Special Thanks to Mike Costa

LCA applauds Mike Costa for his commitment and ongoing care of the Shoreline Demonstration Garden at Sunset Park in Boyne City. In early October, Mike and a volunteer team of seven master gardeners completed the fall cleanup of the lakefront garden, concluding their bi-weekly weeding and trimming throughout the summer. Looking forward, Mike is working with Boyne City officials to improve irrigation, aiming to replace the current rotors with a system that provides better coverage on windy days. In the spring, Mike will assess winter plant loss for replacement and refresh the beds with nutrients and mulch.

2018
eight



Join now!

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Lake Charlevoix Association

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



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Fall Native Plant Sale—A Huge Success: This September, Lake Charlevoix Association and Walloon Lake Association & Conservancy joined Charlevoix Conservation District, in bringing together gardeners, lake stewards, and conservation partners for an afternoon of education, interaction, and native plant advocacy. Special thanks to Birdfoot Native Nursery—all the plants were locally grown and tailored to support shoreline health and pollinator habitats in Northern Michigan. Proceeds from the fundraising sale will help fund future projects.

Leave a Legacy for Future Generations: If Lake Charlevoix and its rivers, streams, and surrounding natural habitat holds a special place in your heart, consider including a portion of your estate as a bequest to the Lake Charlevoix Association in your personal will.

Protect the Lake You Love: If you're 70½ or older with a traditional IRA, a Qualified Charitable Distribution is an easy and smart way to support the Lake Charlevoix Association, and it may count toward your Required Minimum Distribution. Talk to your financial advisor or IRA custodian to explore your options.

And Finally, Thanks to Our Valued Members: Your ongoing support is the foundation of everything we do to protect and celebrate Lake Charlevoix. Happy Holidays and a Blessed New Year!