

# MAINTAINING OUR PRECIOUS LITTLE SAND LAKE

*A special edition featuring programs being offered and educational  
information to preserve this beautiful lake we all love.*

This compilation of eight articles supplements our Annual Newsletter. It focuses on programs to help us keep our loons safe and to keep Little Sand Lake clean, clear, and healthy.

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\*MLR emphasizes this article.

Compiled by MaJeana Hallstrom, LSLAA COLA Rep  
June 2022

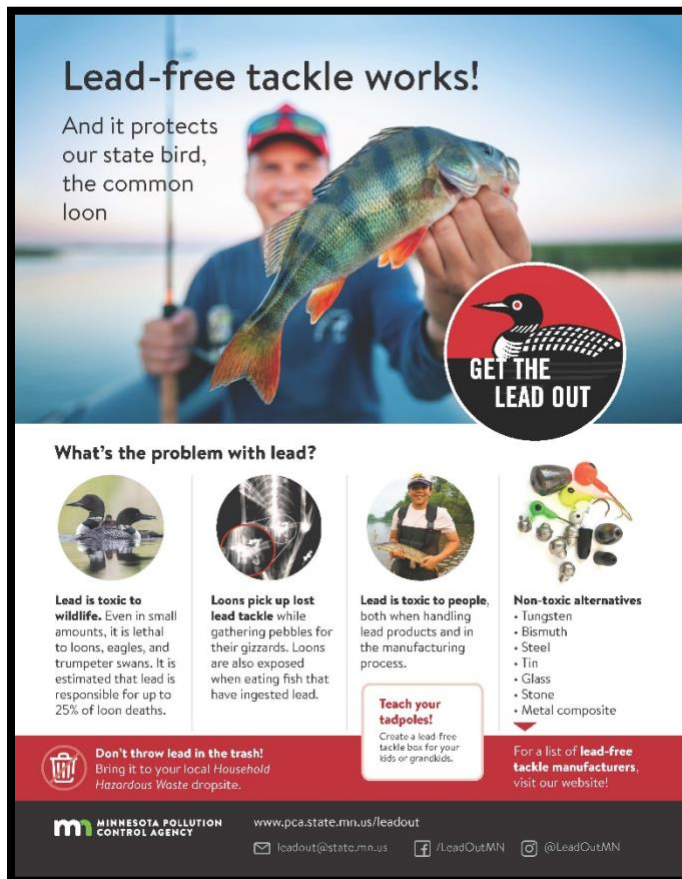
## Lead and Loons – A Toxic Relationship. “Get the Lead Out” Program

Did you know that some 20%-25% of our loons die from lead poisoning?? The Minnesota Pollution Control Agency is sponsoring a program encouraging anglers to remove lead tackle from their tackle boxes and bait shops to sell only lead-free tackle. Kelly Amoth is a program coordinator with the "Get the Lead Out" tackle program. Prior to working at the MPCA, she was a naturalist for 15 years at several Minnesota nature centers. Kelly emphasizes that just an exceedingly small amount of lead can kill loons. Lead can be ingested two main ways: 1) by consuming fish that have lead tackle in remaining in their bodies and 2) from ingesting lead tackle that has fallen to the bottom of the lake; loons dive to the bottom of lakes to get gravel for digestion (i.e., for their gizzards).

LSLAA is participating in and introduced the “Get the Lead Out” program at our Annual Meeting on June 11. We will be collecting lead tackle from our lake residents at our summer events and will be disposing of it properly. (Lead is poison and should not be thrown in the trash.)

More information about the rebate program for bait shops can be found here:

<https://www.pca.state.mn.us/living-green/lead-free-fishing-tackle-rebate-program>



“Get the Lead Out” Flyer



Lead Tackle Collection Kit

Kelly Amoth presented information on this program at the May 26, 2022, HC COLA meeting. The presentation was recorded and can be accessed on HC COLA’s website:

<https://www.hubbardcolamn.org/presentations.html>

## Promoting Shoreline Quality –

*Program sponsored by a grant and implemented by HC SWCD*

Jake Shaughnessy, Water Quality Resource Technician from the Hubbard County Soil and Water Conservation District (HC SWCD) team and Libby Martin, a Bemidji State University graduate student, received a grant from the Midwest Glacial Lakes Partnership to assist in promoting community-driven water quality and fisheries protection. The HC SWCD and Libby have partnered with the Crow Wing County SWCD on this grant which includes 3 chains of lakes. Due to ecological roles and fisheries of these systems, Hubbard County the lakes of focus include Belle Taine, Upper and Lower Bottle, Big and **Little Sand**, Lake Emma, and Big Mantrap.

At the LSLAA Annual Meeting, Cindy Nollette, who owns property at the Little Sand Bay Villas (LSBV), shared her recent experience with the HC SWCD team and Sharon Natzel, president of COLA. LSBV experiences run-off from County Rd 7, and the residents there are concerned not only about how the run-off impacts their driveway, but also are very concerned about this run-off going into the lake. The HC SWCD made recommendations to LSBV and encourages anyone who has similar concerns to reach out to them; the service is available at no cost. HC SWCD and this grant are sponsoring educational virtual and field events. For more information, contact Jake Shaughnessy at [jake.hcswcd@gmail.com](mailto:jake.hcswcd@gmail.com) or at 218-732-0121, x112.

### Keeping Our Lakes Healthy

Water quality is primarily dependent on what happens on the land around the lake or along a river and within its watershed, which is the area of land that drains to a particular waterbody. It's the runoff from the land, and the pollution that is carried with it, that can determine the quality of the water.

A healthy lake depends on a healthy watershed. A healthy lake doesn't just happen. It comes about when shoreline property owners and others living in the watershed take steps to insure the lake's health.

Each lake has its own watershed or land that directly influences what comes into the lake and ultimately impacts water quality. Each lake watershed is part of a larger watershed that influences water quality, too. The southern half of Hubbard County lies within the Crow Wing River Watershed, the northwestern portion is in the Mississippi Headwaters Watershed, and the northeastern portion is in the Leech Lake Watershed.


While the land activity in the watershed contributes pollution to the lake, **the shoreland zone is the lake's first line of defense**. What you and your neighbors do or don't do on your shoreland property can have a significant impact on the quality of the lake. Managing water quality means appropriately managing the land use around the lake to reduce the amount of pollution that enters the lake.

The 4 Zones:

- At the shoreline interface of land and water;
- The shoreline buffer zone, the land immediately adjacent to the water;
- The shoreland zone – 1,000 feet from a lake and 500 feet from a river or stream;
- The lake's watershed.

### The 4 Zones of Lake Protection

The 4 zone approach to lake protection is most restrictive at the shoreline, and it is more flexible as one progresses further up the watershed.



From *Hubbard County Shoreland Guide to Lake Stewardship*

Link: [Shoreland Guide \(hubbardswcd.org\)](http://shorelandguide.hubbardswcd.org)

Jake Shaughnessy and Libby Martin presented information about this program at the May 26, 2022, HC COLA meeting. The presentation was recorded and can be accessed on HC COLA's website:

<https://www.hubbardcolamn.org/presentations.html>

## *Minnesota Lakes and Rivers Advocates (MLR)—Introduction*

LSLAA maintains a membership with the Minnesota Lakes and Rivers Advocates (MLR). MLR works with Minnesota legislators on behalf of lake owners. One recent example most lake property owners experienced a few months ago was regarding your lake property value for 2023; many properties experienced 15%- 30+% rise in property value, which of course, will translate to higher taxes. MLR provided form letters and asked us, as lake property owners, to contact our state legislators. MLR also supports lakes by providing educational materials that will physically protect our lakes. Following are:

1. an excerpt from a letter from MLR leaders, Jeff Forrester and Judy Corrigan, and
2. six valuable articles to help lake lovers and lake property owners be good stewards of our lake. MLR emphasizes the first article.

Dear Little Sand Lake Property Owners:

Lake associations like yours are part of the largest, most generous and most committed conservation/angling group in Minnesota, contributing about \$6.25 million towards lake work collectively, and about 1.2 million volunteer hours to protect the public waters, and almost \$400k for annual fish stocking.

It is an honor to work for all of you. We do have one persistent problem and I wanted to ask you for your help. Despite all that MLR has accomplished our individual membership numbers are flat. A growing membership of individuals is critically important legislatively. The larger our membership base the more impact we can have at the Legislature. But individual membership contributions are also critical to MLR's financial health. Individual memberships make up 76% of our revenues, and Lake Association contributions about 17%. ***Will you do two things to help us with this issue:***

1. ***Publish the article attached to this email "(4) What is the One Thing You Can Do to Protect Your Lake" in your newsletter,***
2. ***Encourage your members to become MLR members at whatever level works for them.***

As you know, MLR has a very active legislative effort this year. Stay tuned for outcomes.

Thank you for your membership support of MLR. Your decision to become a member aids MLR in its work to help us meet your water quality goals. We cannot do this without engaged lake associations and a statewide association working to advance our shared goals. Quite simply you and other lake associations in partnership with MLR are building the largest and most effective water group in the state.

This is an exciting effort. Please don't hesitate to call if you have any questions or suggestions.

Thanks you for all the work you do,

Jeff Forester  
Executive Director  
MN Lakes & Rivers Advocates

Judy Corrigan  
MN Lakes & Rivers Advocates  
952-854-1317

## *What is One Thing You Can Do Today to Protect the Lake You Love?*

By Jeff Forester, Executive Director, Minnesota Lakes and Rivers Advocates

***The answer is to join Minnesota Lakes and Rivers Advocates, (MLR) if you are not a member already.*** There is no other group in Minnesota that does so much to protect the lakes and rivers we all love.

As Bernie Steves, President of the Otter Tail County AIS Task Force, says ***“No group has done more to protect water than Minnesota Lakes and Rivers.”***

**JOIN Minnesota Lakes and Rivers Advocates NOW to protect the lake you love!**

**You can contribute online at [www.mnlakesandrivers.org](http://www.mnlakesandrivers.org).**

**Or, mail a contribution to MLR, PO Box 22262, St. Paul, MN 55122**

Your membership in Minnesota Lakes and Rivers Advocates provides a significant Return on Investment. MLR has successfully lobbied to lower property taxes on lakeshore, create grant programs through DNR that support lake association programming, trainings and education from the Minnesota Aquatic Invasive Species Research Center for lake home and cabin owners, and technical assistance from local units of government to support property owners and lake associations.

When our members told us they were seeing more boating conflicts, dangerous boating, damage to shorelines and lake bottoms, and rude boating behavior, MLR took action.

Last year we worked to ***fund research (\$160k) at the St. Anthony Falls Lab***, the oldest fluid dynamics lab in the US, to study the height and energy of different wakes, from an 18-foot runabout to a wake surfing boat. The study was released in February. Check the blog section of the new MLR website (<https://mnlakesandrivers.org/>) to see the released study.

Last fall we worked to build a broad base of partners, including Hennepin and Goodhue County sheriffs, the National Marine Manufacturing Association, Marine Retailers Association of the Americas, the Community of MN Resorts, Tonka Bay Marina, and MN DNR in ***support of a new boater education and certification requirement.***

- Minnesota is one of only 8 states without a watercraft certification program,
- Boating deaths broke a decades old record the summer of 2021,
- Boating sales of paddle craft and larger pontoon and wake surfing craft have been up over 30%, escalating conflicts among user groups,



- Training will include Best Practices for safety, reducing user conflicts, preventing the spread of Aquatic Invasive Species, preventing damage to shorelines from wake action and protecting lake bottoms from prop thrust.

During the pandemic, more and more people bought lakefront property to self-isolate. More sales created a spike in the value of shoreline. The resultant increases in property taxes are now starting to show up on proposed property tax statements. This is resulting in a rise in market driven property taxes. ***MLR is working this session to create a state buydown to offset these market driven tax increases.***

MLR has gotten calls about both the cost and red tape lake associations must navigate to manage aquatic invasive species in infested lakes. The DNR does not typically take any action to treat AIS once they are in a lake, yet the DNR has stringent and costly permitting requirements. Local governments and lake associations bear the cost of lake management and are required to do the planning and execution of the work. Lake home and cabin owners like you pay the costs directly through contributions to your lake association or through local property tax levies. MLR acted, we:

- ***Surveyed Lake Associations about the DNR aquatic plant management programs*** to document the issues. You can find a report of the results on the blog on our website.
- ***Lobbied to create a \$850k grant program*** for lake associations working to control AIS.

MLR has launched four programs as well in our efforts to protect your lake and river heritage and investment. While COVID-19 disrupted our pilots last summer, we had good feedback and impact and will work this summer to expand them.

- ***Stop Starry*** - with funding from the Environment and Natural Resources Trust Fund, MLR is providing boat cleaning stations at the public accesses of lakes infested with Starry Stonewort so boaters can Clean, Drain and Dry as they leave. This will lower the risk of AIS spread to the lake you love.
- ***Lake Steward*** rewards and recognizes property owners who have preserved their shoreline and supports those who want to restore their shore.
- ***Up the Creek Meats*** connects lake associations with meat producers in their watershed that use regenerative agriculture practices and work to protect water in their operations. You can buy food directly from producers that farm in a way that protects the water in
- ***Project WET*** is a national program that trains people and provides curriculum so they can engage audiences from classrooms to fair booths to Chamber of Commerce events. Education is the first step in protecting our lake heritage.

MLR's mission is to, "Protect Minnesota's lake and river heritage for current and future generations by forging strong links among lakes, lake advocates and policy makers." ***Our strategy focuses on four legs: (1) advocacy at the Minnesota Legislature, (2) promotion***

***of aquatic science, (3) education and organization of lake home and shoreline owners to create a strong advocacy base, (4) professional media outreach to get your issues and accomplishments into local and state media.***

We cannot do this work without your generous contributions. Unlike most conservation groups, MLR receives the majority of its funding from individual members like you. There is no other group so focused on the issues important to you and we have a long track record of success.

By joining MLR you will receive communications on our legislative efforts, action alerts that make it easy for you to contact your legislators on important legislation, an invite to our annual “Water Connects Us All” annual meeting as well as free webinars and events. But more than that, you will be supporting the statewide lake group that does more to protect the lake and the good times you have for the future.

**JOIN Minnesota Lakes and Rivers Advocates NOW to protect the lake you love!**  
**You can contribute online at [www.mnlakesandrivers.org](http://www.mnlakesandrivers.org). Just click on the “JOIN” button.**

**Or, you can send a contribution to MLR, PO Box 22262, St. Paul, MN 55122**

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## *Lake Stewards Help Lake Associations and Lakeshore Owners Achieve Their Water Quality Goals*

By Jeff Forester, Executive Director, Minnesota Lakes and Rivers Advocates

Bart and Cyrus became Roosevelt Lake property owners after an extensive search. They wanted a property within a 2-hour drive of the Twin Cities and spent every weekend for 3 months searching. They finally found a place on Roosevelt Lake that was two and a half hours from their metro home.

Their new lake place is an A-frame style, log sided cabin. They started renovations inside, first updating the kitchen, then finishing the basement, building a garage and updating the septic system.



The steep driveway created a challenge especially in the spring with frost still in the ground and a slippery, sloppy, muddy thawed layer on top. It was a perfect recipe for gully washes with spring rains. The solution was constructing a small, paved driveway with a drain underground.

As they remodeled, they cut as few trees as possible and took steps to avoid soil compaction.

With their cabin in shape, they began to work restoring the land in their care. The grade sloped steeply down to the lake. After communicating with the RALALA lake association they became concerned about runoff from their two-acre lot and 107 feet of shoreline. They planted a variety of trees and planted native wildflowers and grasses in their upland zone.

They built a beehive and surrounded it with electric fencing to discourage bears from damaging it. They have noticed a huge change since converting the groomed lawn to native vegetation and eliminating use of pesticides, fertilizers, and insecticides on the property.

There are many more animals, birds and insects including the endangered native rusty patched bumble bee. They now hear cricket serenades at night. Their property is the perfect advertisement that natural, native, undisturbed vegetated spaces become wildlife sanctuaries and corridors. They enjoy an abundance of birds—all kinds of woodpeckers including the raucous pileated woodpecker, turkeys roost in their pines at night, and an amazing variety of





other birds visit their feeders. A barred owl has nested and raised young for the past several years in a dead tree on their lush acreage.

“Many people ask why Lake Stewards are encouraged to leave dead standing trees if they can safely do so,” said Jeff Forester, Executive Director of Minnesota Lakes and Rivers Advocates. “The reason is that standing dead “snag” trees are important habitat for many, many species that people value, including owls, pileated woodpeckers, porcupine, wood ducks and other cavity nesters.” When these trees fall, they add nutrients to the soil, promote mushroom and insects that birds and other animals rely on as food sources. If they fall into the water, they provide critical habitat for many fish species.

Bart and Cyrus enjoy watching and photographing their wildlife visitors which include cougars caught on critter cams, deer, skunks, raccoons, squirrels, chipmunks, coyote and a fox and woodchuck that have established an Air B & B arrangement by taking turns residing in a borrow abode.



On the shore they nurture a buffer of native plants. The bulrush bed in the aquatic zone has begun to expand now that the aquatic plants are not disturbed.

The two have made remarkable progress on their lake sanctuary, but still, they want to do more. Through the Lake Steward program coordinator on Roosevelt Lake, they reached out to Sheila Boldt, a Crow Wing Soil and Water Conservation District technician.

She made a site visit and has given them suggestions on how to further enhance the landscape. Even though Bart and Cyrus have exceeded all the Lake Steward criteria, they intend to implement Sheila’s suggestions and continue to find more ways to prevent runoff, improve habitat, and get greater value and enjoyment out of their dream property.

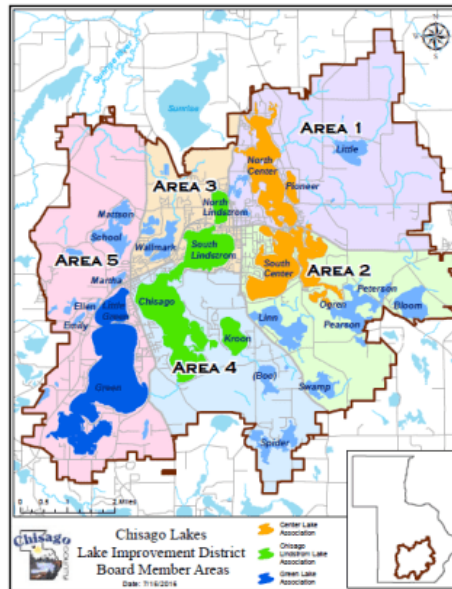
# *Civic Partnerships Key to Lake Preservation Center Lakes*

## *A Case Study*

By Jeff Forester, Executive Director, Minnesota Lakes and Rivers Advocates

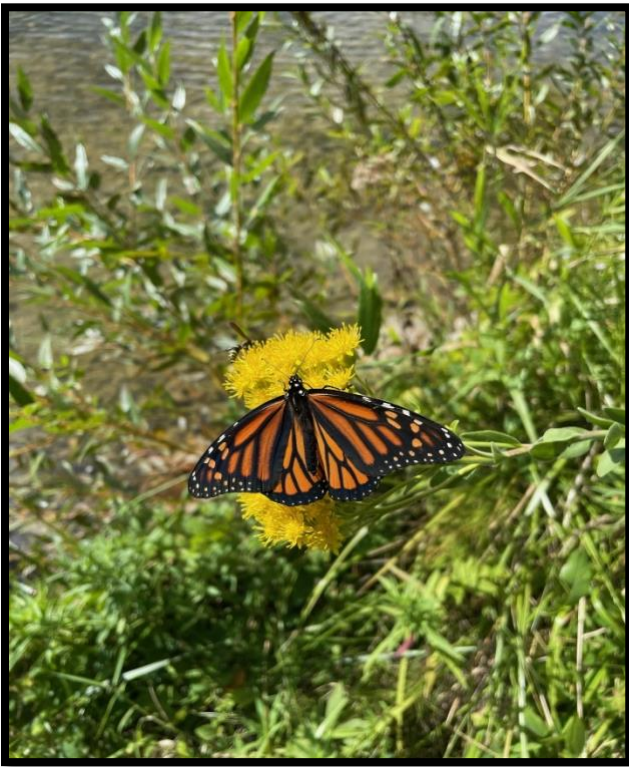
Last year the Minnesota Pollution Control Agency, MPCA released a list of impaired waters; 56% of Minnesota's surface waters are impaired to the point that the water quality limits fishing and swimming. There was a silver lining in this dark cloud, however, North Center and South Center Lakes in Chisago County. Back in 2011, when Center Lakes was listed, the naturally eutrophic lakes were nearing hyper-eutrophic, a point of no return. After a decade of effort, Center Lakes and 100 other lakes were removed from the impaired waters list.

Their success was built on Civic Partnership, where each organization had a role and worked within their different jurisdictions towards a shared common good, clean water. As Nancy Moe-Mergens, former President of Center Lakes Association said, "We're all in this together." It was a three-legged stool with the Chisago Lakes Lake Improvement District, CLLID, the Chisago Soil and Water Conservation District, CSWCD, and the Center Lakes Association, CLA.



The Chisago Lakes Lake Improvement District, CLLID had formed in 1984 to address flooding on over a dozen lakes in an effort to address flooding in the area, and this proved to be a happy accident. Said Casey Thiel, Water Resource Specialist for the CSWCD, "You can't fix it (water quality) from the lakeshore. You need a watershed approach."

The CLLID was the first Lake Improvement District in Minnesota, forming just after the legislation was passed. Most LIDs in Minnesota encompass a single lake, but the CLLID



includes most of the watershed, including over 20 lakes and fourteen thousand residents, making it not only the first LID in Minnesota, but also the largest. “ Said Jerry Spetzman, Administrator of CLLID, “We are very, very fortunate to have three very active lake associations in the CLLID. They have been critical partners.” Casey Thiel noted that a watershed approach manages not only the water in the watershed, but must include the people there, the urban areas, the farms, the rural areas. “You can’t get anywhere without broad community support,” she said.

In the mid-1980s, as the CLLID began to realize they had water issues beyond flooding, the Board made another decision that would be momentous. Said Jerry Spetzman, “They set aside \$40,000 as a fund

to use as a match for other grants. This fund, over the years, has leveraged millions for our work.” Said Casey Thiel, “With the CLLID match, I was able to write many much larger grants to access both federal and state programs.” When the CLLID or the Chisago SWCD or a lake association approaches a property owner to do a water quality project, the homeowner has no out of pocket expenses.

Restoring water quality in Chisago County was complex, covering three cities and four townships. The CLLID could provide the seed matching funds and focus, the Chisago SWCD could leverage much larger grants, do the necessary water testing, monitoring, mapping and the design and engineering of settlement ponds, culverts, and other water projects. They had everything they needed to achieve their goals but the most important and most often overlooked piece of a successful water quality project, public support, and relationships.

Most grants provide funding for equipment, planning and all kinds of on the ground projects. But very little investment is made in people, in building relationships, taking the time to understand the problem and hear from citizens what their concerns are. Without a relationship, there can be a lack of trust. Without trust there is no action.

Said Thiel, “Pointing fingers causes the whole effort to crumble. Relationships don’t happen overnight. We worked through the lake association to build relationships (in the community) and that takes years.” Jerry Spetzman added, “When I started (over 15 years ago, there was not strong support (for water quality projects) but now it is really strong.”



Even with unlimited funding, the best technology and a small army of scientists, water quality improvement is impossible without a community engaged in the work, and proud of it. Progress is only possible when citizens see clean water as part of their community identity. Thiel said, “Improving water quality is not a science experiment, it is a social experiment.”

The Center Lakes Association was a perfect partner for this work. Board members attend all the CLID meetings and keep in close contact with the staff of the CSWCD. And the lake association had a very engaged, active and astute President, Nancy Moe-Mergens. And with her leadership, the lake association led in the community. They started where they were, on the shoreline. Nancy did a restoration of her shoreline to reduce runoff and Phosphorus loading of the lake.

Said Nancy Moe-Mergens, “There wasn’t much interest at first. We worked with (the CSWCD) and talked three of our neighbors into doing shoreline restorations.” The SWCD provided grants in exchange for a 10-year covenant to maintain the shoreline restoration. “Depending on conditions that summer we get different flowers coming up.”



The Lake Association promoted the shoreline restoration grants widely both among their members, and the SWCD and CLID supported their efforts. Lake association officers staffed booths at community events, did outreach for local water quality projects by appearing at meetings of other local civic groups.

Said Nancy, “We do our best to support SWCD and CLID and they speak at our annual meetings, point people to the grants and expertise they can provide. From the time they (CLID and SWCD) partnered with the lake association, calls have increased. They don’t have the resources to do what they need to keep up.”

In the ten years since Center Lakes were listed as impaired, the district completed 88 rain gardens, 21 water/sediment basins, 13 lined waterways, 10 storm drain inlet protections, 9 vegetated swales, 8 grassed waterways, 7 gully stabilizations, 4 iron-enhanced sand filters, 3 stormwater pond retrofits, 2 diversions, 1 livestock access control, wetland restoration, enhanced street sweeping, and long-term hay planting. Many property owners followed Nancy Moe-Mergens’ example and restored their shorelines, but the lake association did not keep track. Jerry Spetzman said, “Thousands of tons of sediment and hundreds of pounds of Phosphorus are not going into our lakes each year.” After some years, even the casual user of the lakes began to notice the improved water quality, and that really ramped up the support.



Nancy Moe-Mergens and CLA mascot Rocky, left, awards Lake Steward to Kay and Monte Nienkirk

Said Ms. Moe-Mergens, “We succeeded because the three organizations are proactive. I don’t know where we would be without the LID and SWCD. They did the heavy lifting with design and engineering and received funding for these efforts. We promoted their work and the need for it.” As the lakes became cleaner, clean lakes became more and more central to the community. As their water got cleaner, they valued it more and took more action to continue to improve it.

In Chisago County the water resource professionals and residents all agree there is more work to do. When Minnesota Lakes and Rivers Advocates launched the Lake Steward program, Center Lakes Association began to actively promote it. Said Ms. Moe-Mergens, “We got off the impaired waters list, but we need to do more. That is why I am promoting Lake Steward. The LID and SWCD did their part. It is time for lake shore owners to do theirs and it repays them in the resale value of their properties. Lake Steward is an important piece of the puzzle.”

So, what is the secret sauce in lake and river protection and improvement? Said, Thiel, “I don’t think there is a secret sauce. It is a lot of years of work.”

MN Lakes & Rivers Advocates ~ PO Box 22262 ~ St. Paul, MN 55122

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## *MLR's Stop Starry Program is Critical Shielding Strategy to Protect Lakes and Lake Communities*

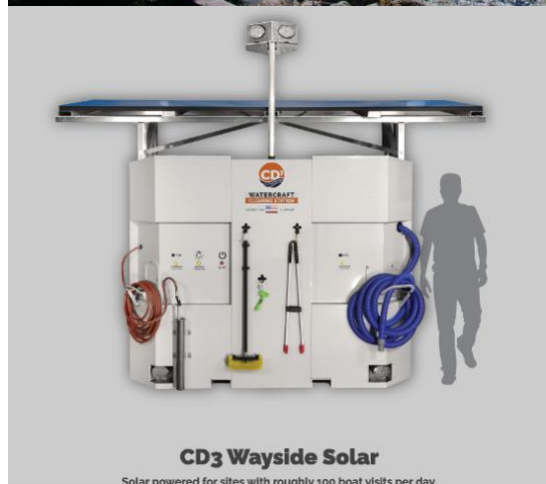
by Jeff Forester, Executive Director of Minnesota Lakes and Rivers Advocates

In 2015 the invasive algae starry stonewort was confirmed on the first Minnesota lake, Lake Koronis near Paynesville. Initial investments into treatments totaled over \$800,000, but

despite this aggressive and ongoing management, the infestation spread 7% a year. It now covers about 70% of the littoral area of the lake.



Starry stonewort is a fast-spreading invasive algae that can form dense mats on a lake's surface, choke out native species and overwhelm fish spawning beds. It is highly transferable and has now been confirmed in 19 water bodies in Minnesota. Lake Koronis, like many lakes in Minnesota, is a core community resource to Paynesville and Stearns County.



“Anything that impacts a Minnesota lake,” said Kayla Hanke, Program Manager and Civic Organizer for MN Lakes and Rivers, “impacts the entire community. One of the most important aspects of the Stop Starry Program is the work we will be doing to engage the entire community in lake protection.”

In 2021 the Minnesota Legislature awarded Minnesota Lakes and Rivers Advocates a \$1 million

dollar grant from the Environment and Natural Resources Trust Fund to give these communities a new tool to help fight against aquatic invasive species. The grant will allow MLR to install self-service boat cleaning stations at the public accesses on lakes infested with starry stonewort. The goal is to shield all the other lakes in Minnesota from this aquatic invasive species.



"Starry stonewort can move very quickly within a 50-mile radius of an infested water body," said Jeff Forester, executive director of the nonprofit Minnesota Lakes and Rivers Advocates. "So, it's local movement to adjacent lakes that's really the concern."



Multiple studies have found that while over 90% of boaters know the steps they need to take to prevent the spread of aquatic invasive species, only about half fully cleaned, drained and dried their watercraft every time they were leaving an access. The reason, according to this research, is that boaters do not have the tools they need when and where they need them so that they can fully clean, drain and dry their watercraft.

"The boat cleaning stations being provided by MLR, with funding from the Environment and Natural Resources Trust Fund," said Jeff Forester, Executive Director of MN Lakes and Rivers Advocates, "provides the tools boaters need; a wet-dry vacuum, high-pressure air hose, scrubbing brushes, grabbing tools and under carriage/overhead lights to help boaters see at night. Our goal is to prevent starry stonewort from ending up in hundreds or thousands of lakes in the state."

A Minnesota company, CD3 General Benefit Corporation, makes the best free standing boat cleaning stations in the country. Last month CD3 delivered stations to remote accesses on the Leech Lake Reservation. Five more stations were delivered to Beltrami County. "We hope to have twenty-eight stations in place and operational by open water, 2022," said Forester.



Clean water, and the wild river dependent on that clean water, is a primary resource for the Leech Lake Band. The starry stonewort infestation on Leech Lake threatens this critical resource. Said Kate Hagsten, Division of Resource Management (DRM) with the Leech Lake Band of Ojibwe, "By protecting our natural resources we are protecting our community, our cultural heritage and our future."

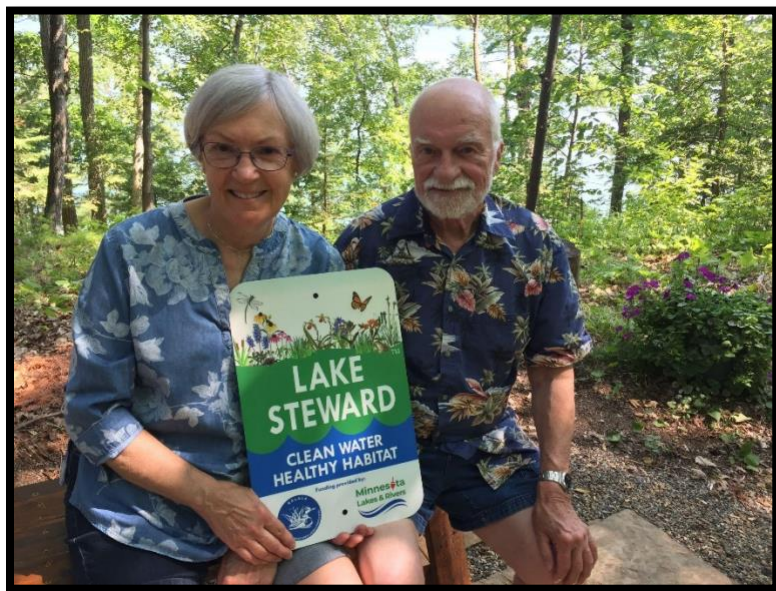
More stations are planned for later this year at lakes in Itasca, Beltrami, Meeker, Pope, Stearns and Wright counties. MLR will work with local partners to build support among boaters and the boating community to use the CD3 stations and Clean, Drain Dry their boats every time they leave a waterbody, but particularly when leaving a lake or river infested with starry stonewort. By protecting their lakes, they are protecting their local tax base, their heritage, and their way of life.

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## *MLR's Lake Steward Program: helping lake associations meet their water quality goals*

By Jeff Forester, Executive Director, Minnesota Lakes and Rivers Advocates

Two years ago, Minnesota Lakes and Rivers Advocates, MLR developed a program to improve water quality that allows individuals to be the change. The Lake Steward Program promotes shoreline restoration projects among lakeshore homeowners, making the restoration process easier through our team of helpful volunteers and resource guides that give property owners the direction they need for lake health improvement. In two short years, over two and a half miles of Minnesota's shorelines have been protected by the Lake Steward program and the efforts of dedicated, lake-conscious property owners. Minnesota Lakes and River Advocates hopes to continue this momentum, encouraging lake association members to earn their very own "Lake Steward" sign as a badge of honor for their commitment in protecting Minnesota water quality.



Lake Stewards are property owners, endorsed by their lake associations, who have taken the initiative to restore their shorelines to a native landscape. Many of our Lake Stewards enjoy visits from animals and wildlife that feel comfortable enjoying a natural habitat.

### **The Problem - Our lakes are in trouble, and it is getting worse**

Five years ago, the Minnesota Pollution Control Agency, MPCA listed 40% of our lakes and rivers as impaired. In 2020 the MPCA listed 56% of the lakes and rivers in Minnesota as impaired. The degradation of our lakes, mostly by phosphorus, is accelerating. Phosphorus drives eutrophication, excessive plant and algae growth, decreasing oxygen levels in the water column.

The sources and reasons for water degradation are both plentiful and complex, but degraded shoreline is one significant contributor. According to MN DNR Minnesota has lost approximately half of its natural shorelines. The rate of shoreline development is also



accelerating.

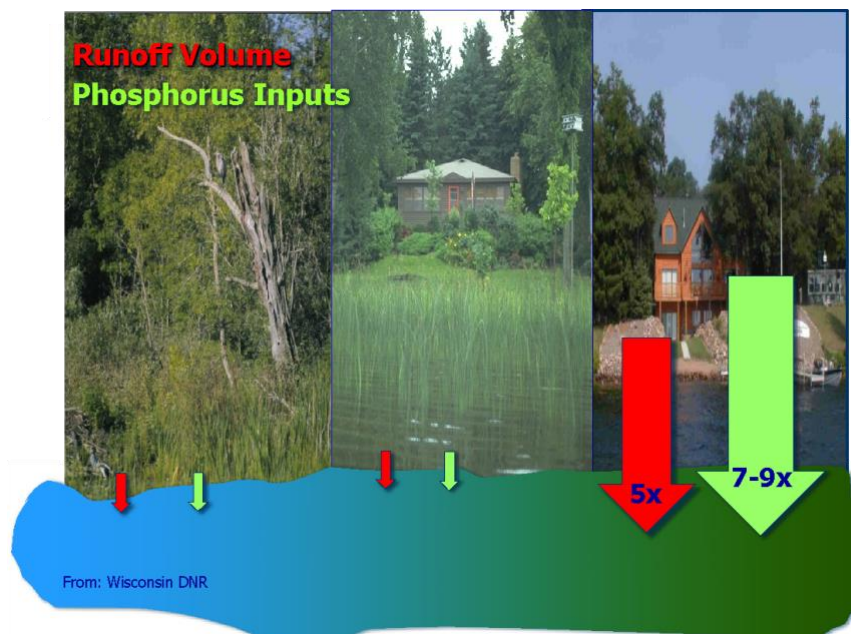
The good news is that lake shore management is within a lake association's jurisdiction. We own shoreline. We can reverse this trend. We can protect water quality, create habitat for shoreline nesting birds like loons, pollinators, and songbirds. Each one of us can become Lake Stewards. In addition, we can help build lake association membership, create stronger partnerships with professional resource managers and other local civic groups.

### **Past efforts have been largely ineffective**

Fifty-three years ago, Minnesota passed the Shoreline Management Act of 1969 and created a baseline set of minimum shoreline standards statewide. County Boards can set stricter standards, but not more lenient.

Five decades later it is clear that top-down rules, education, and enforcement has been only minimally successful. Rules are expensive to enforce or are circumvented through the variance process. The simple fact is that many shoreline owners make shoreline landscaping choices based on a common standard for a "good lawn," manicured grass down to the shoreline, sculpted bushes, trimmed trees, ornamental plantings. Many don't want to be the neighbor with a "wild" yard.

Lake Steward inspires a different aesthetic for shoreline. The Lake Steward sign recognizes that the most prestigious landscape is one that protects water quality and provides habitat for wildlife.



A poorly developed shoreline can deliver 7 to 9 times more phosphorus into a lake than a natural shoreline. One pound of phosphorus can create 500 pounds of algae in the lake.

## The Goal - Improving water quality in our lakes

The question is:

*How do we get from this?*



*to this?*



Natural vegetation is beautiful, and the deep-rooted native plants take up nutrients and provide habitat.



## Assessing the Problem

The Minnesota DNR has conducted lake shore surveys on 785 lakes across the state. Each site on the lake receives a relative measure of the extent of the natural shoreland present at the site<sup>1</sup>.

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<sup>1</sup> Given that the social norm for shoreland stewardship likely falls on a continuum from a preference for suburban/urban lawn to a deference for nature with a preference for a more natural setting and healthy shoreland, the average of the site scores is used to assign the lake's Shoreland Stewardship Quality class (a 'High' classification indicates a lake with a lot of natural shoreland present and a 'Low' or 'Very Low' score indicates a lake with little natural shoreland remaining).

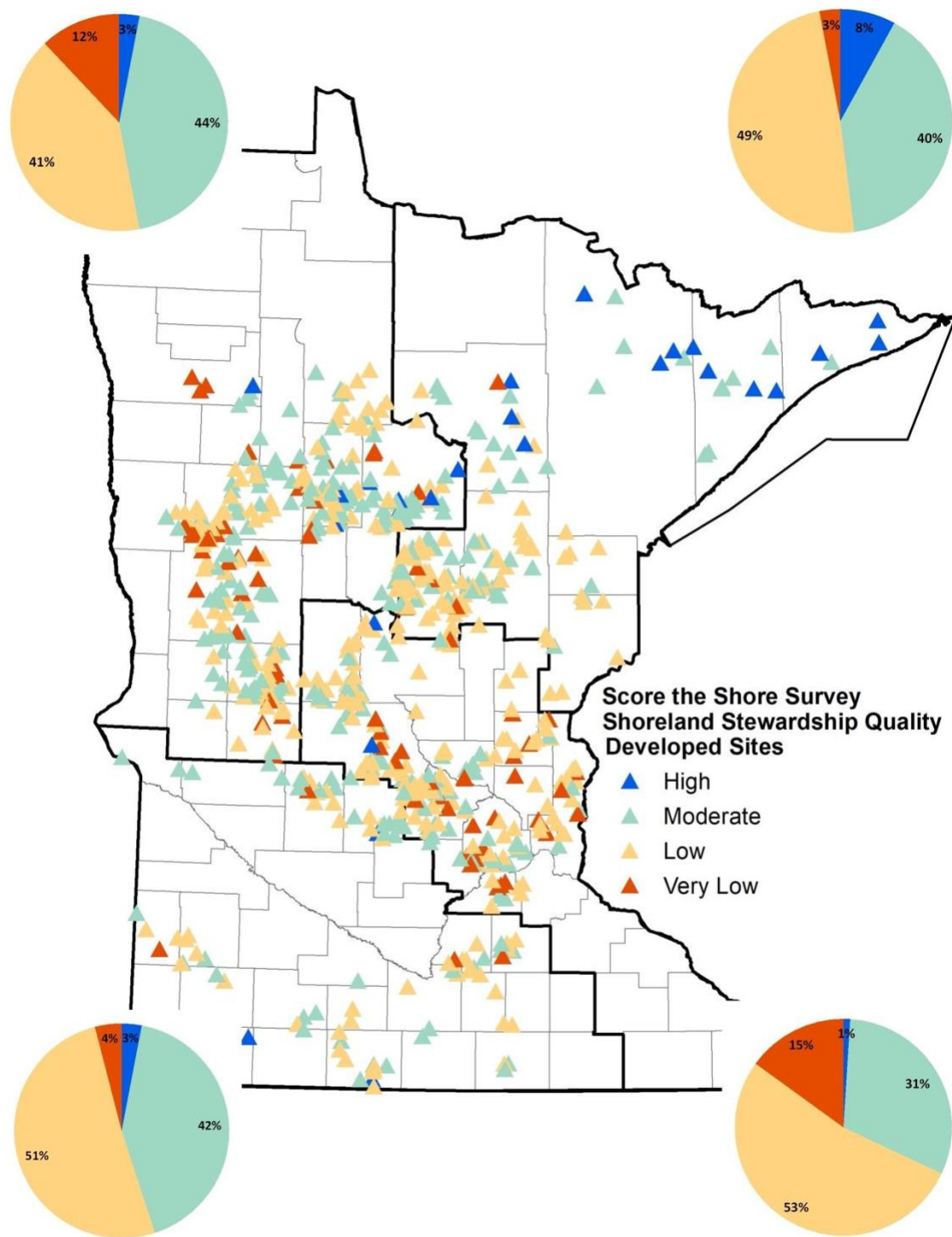


Figure 2. *Score the Shore* survey results by DNR administrative region rescored using only developed sites for each lake.



## **Solution - Lake Steward helps lake associations meet their water quality and membership goals**

We know that all lake home and cabin owners are passionate about “their” lakes. They are invested in them both financially and emotionally.

Minnesota Lakes and Rivers Advocates’ Lake Steward program leverages two simple truths:

- No one wants an impaired lake.
- Second, shoreland owners benefit from Lake Steward. They save money and effort on harmful practices. They get social standing, recognition, and the admiration of others because of the Lake Steward Award sign on the shore that designates the goal.

**The Lake Steward Program is simple - MLR makes it easy**

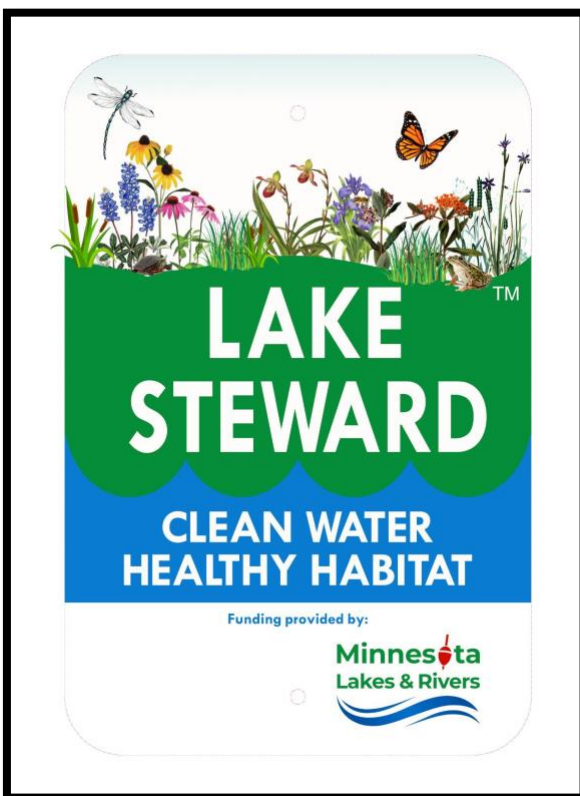
**MLR Member Lake Associations** can enroll by contacting MLR Program Manager Kayla Hanke ([kayla@mnlakesandrivers.org](mailto:kayla@mnlakesandrivers.org)) and designating a lead volunteer

for the program. MLR will provide the tools and support you need; training for your volunteer, ways to promote the program within your association, automatic data collection that allows for simplified organizing strategies amongst volunteers. This Lake Steward Lead Volunteer will be your lake association’s expert and primary contact with MLR for the program.

Many property owners will be surprised that their score was not higher. Most of us think we are protecting the lake we love but recognizing a need for different shoreline management strategies is the first step to shifting the aesthetic away from suburban type of landscaping towards more lake friendly landscaping choices.

Our committed Lake Steward Lead Volunteers will coordinate a site visit with property owners to conduct an evaluation of their property's shoreline. The evaluation is guided by MLR's

shoreline evaluation tool, and volunteers will receive the support they need to get started through a short, virtual training session for one or many Lake Steward Volunteers from your lake association.



Owners that meet the Lake Steward criteria will receive the Lake Steward Award sign for the end of their dock. The Lake Steward volunteer from your lake association can work with the owners that do not meet the criteria to better understand their goals and lead them to simple actions they can take to improve their shoreline. MLR will provide a Lake Stewards Shoreline Owners Guide to describe Best Practices and the impacts of runoff on lake health and connect them with local resources like grants or cost share programs. Many can take simple steps that might not have occurred to them like not mowing within 35 feet of the lake or eliminating fertilizer and pesticides to promote healthy habitat. Lake Associations can promote their Lake Steward Award winners in their newsletters and local media to recognize their efforts and encourage more owners to restore their shore.

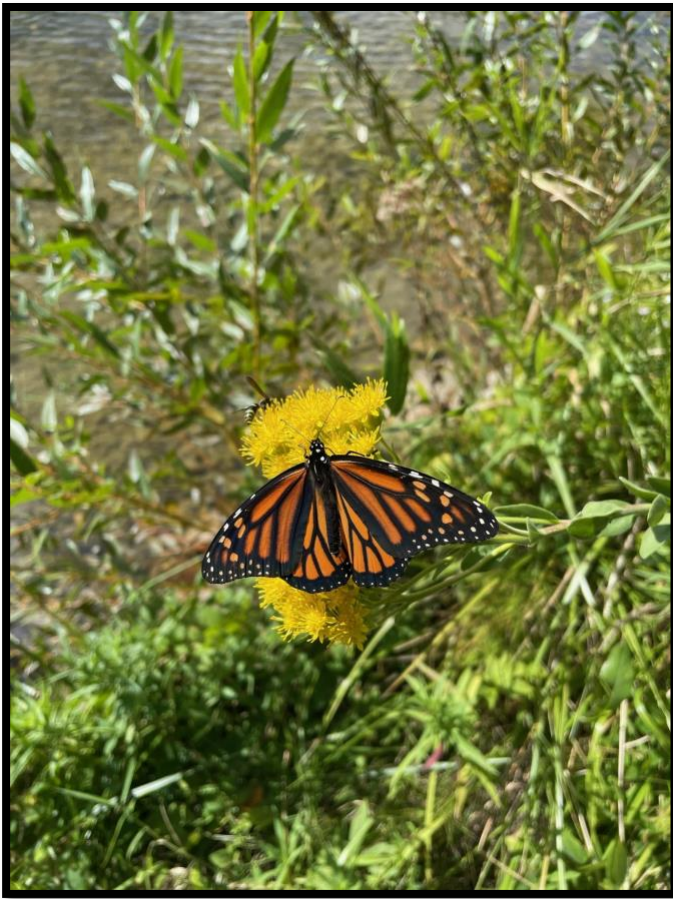


### **Tracking Progress of Lake Steward Benefits**

Minnesota Lakes and Rivers has created a phone-based App shoreland evaluators will use to document their site visit. The data from the site visit will be stored in a centralized database so that we can document how many miles of shoreline have been protected, number of acres per lake, pounds of phosphorus sequestered on land instead of ending up in the lake. This data will allow each lake association to pursue specific goals and provide statewide data MLR can use to promote the program to other lake associations, legislators, and policy makers. As the benefits of Lake Steward become clear, there is much that local governments and state agencies can do to further support this effort.

For instance, In the last three years Gull Chain of Lakes Assn (GCOLA) Lake Steward has had 238 quiz responses and made 108 property visits. There are an additional 54 candidates who have not yet had site visits. Over two and a half miles of lakeshore is under Lake Steward protection on Gull Lake. In response to this success the East Gull Lake Township added Lake Steward language to their shoreline development permit form.

Social science tells us that when 15% of a group adopts a new behavior it reaches a critical mass, or tipping point, for social change. After the first 15% of early adopters the rest of the of the general population accepts the change and begins to emulate it. Gull Lake hopes to make this 15% goal in the next three years.



Unlike other shoreline programs, Lake Steward is truly a grassroots effort, starting at the shorelines. As the program expands and more and more lake associations connect with professional resource management agencies like watershed districts, county resource departments and MN DNR, there is significant potential to expand the program. Some lake associations are having shoreland tours of the Lake Steward winners. Much of the work lake associations do, like water quality analysis, loon counts, and fish stocking, are invisible to non-member shoreline owners, but non-member property owners will see the Lake Steward signs, read the media stories, and connect the lake association directly to lake improvements. They will see the work the lake association is doing. In this way Lake Steward serves as an important branding tool and helps drive membership.

Minnesota Lakes and Rivers Advocates supports our Lake Steward Volunteers as well as property owners by offering additional education and training. Expertise and understanding of lakeshore ecology will grow among lakeshore owners, the program will expand and a new shoreland ethic will become the norm. As policy makers see the data and recognize the impacts of Lake Steward, MLR will push for greater incentives that have worked well in other areas, like property tax considerations for preserved shoreline. With a peer-to-peer grassroots base, Lake Steward can have significant impacts on water quality and your lake association membership efforts.

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## *MLR Strategy to address wake surfing issues focuses on science, partnerships, and advocacy.*

By Jeff Forester, Executive Director, Minnesota Lakes and Rivers Advocates

In 2019, MLR began receiving reports that large wakes were creating conflicts among different lake users, eroding shoreline, churning up lake sediments and creating other problems. During the pandemic lake-based recreation increased dramatically as did the sale of watercraft. Industry data shows that consumers gravitated to the ends of the boat spectrum.

*Sales of large, powerful watercraft like wake surfing boats and small paddle craft like kayaks and paddle boards exploded over 30% in 2020 and 2021.*

MLR works to bring together key advocates in the boating, lakes, and rivers communities to seek implementation of a mandatory boater education program for motorized boat operators in Minnesota. In the Land of 10,000 Lakes, we have more than 825,000 registered watercrafts, and it is vital to keep users safe on the water and be good stewards of our lakes and rivers.

### **MLR Protects Shorelines from Degradation**

With record levels of recreation participation on those lakes, rivers, and streams, it is more important than ever that we protect and maintain the safety and health of our aquatic ecosystems. Through a more formal boater education approach throughout Minnesota, we seek to unite the many stakeholder groups and create a **strong civic partnership** that will provide for recreational enjoyment, public safety, a strong lake-based economy, and the long-term health of our waterways.

MLR is advancing a boater's education, testing, and certification program to teach boaters why wakes and prop-thrust can put phosphorus and mercury into our lakes, and how to prevent it. This education will be informed by the best available science. We have had a number of productive hearings in the MN House and Senate with DNR, Minnesota Sheriffs, lake associations, boating industry advocacy groups, angling and outdoor recreation groups and marina owners all testifying in support.

If we are successful in convincing the MN Legislature to create a boat operator's certification program, we will be working to create the best possible training program.

**Research Documents the incredible power and energy of large wakes.**



Previously, wake energy and the impacts of large wakes were not well understood. There was little independent peer reviewed science on the power and energy of various wake profiles and the distance wakes must travel to dissipate to harmless levels. If we hoped to educate boaters on the Best Practices to protect our shared resource, we needed a much better understanding of wake dynamics.

In 2020 MLR and partners led a national effort to fund a wake energy study at the fluid dynamics lab at the University of Minnesota's St. Anthony Falls Laboratory within the Science and Engineering Department.

The full report on the findings was issued on Feb. 1, 2022 and will inform the creation of best practices so that boaters know how to operate in a way that does not damage the resource. These Best Practices should inform any boater's education curriculum and certification included in MN's boat operators certification program. You can access the full report and data here:

**[A Field Study of Maximum Wave Height, Total Wave Energy, and Maximum Wave Power Produced by Four Recreational Boats on a Freshwater Lake](https://conservancy.umn.edu/handle/11299/226190)**

**Here's the link: <https://conservancy.umn.edu/handle/11299/226190>**

In pursuing public policy solutions, MLR supports and organizes partners around the best available science. We work to understand the different points of view and concerns of the many stakeholders, use a media strategy to communicate the issues, educate and then organize to advance public policy solutions. Work on this issue will no doubt continue into the future, but there is significant movement towards increasing public safety, reducing user conflicts, and protecting our lake ecology.

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