THE MICHIGAN
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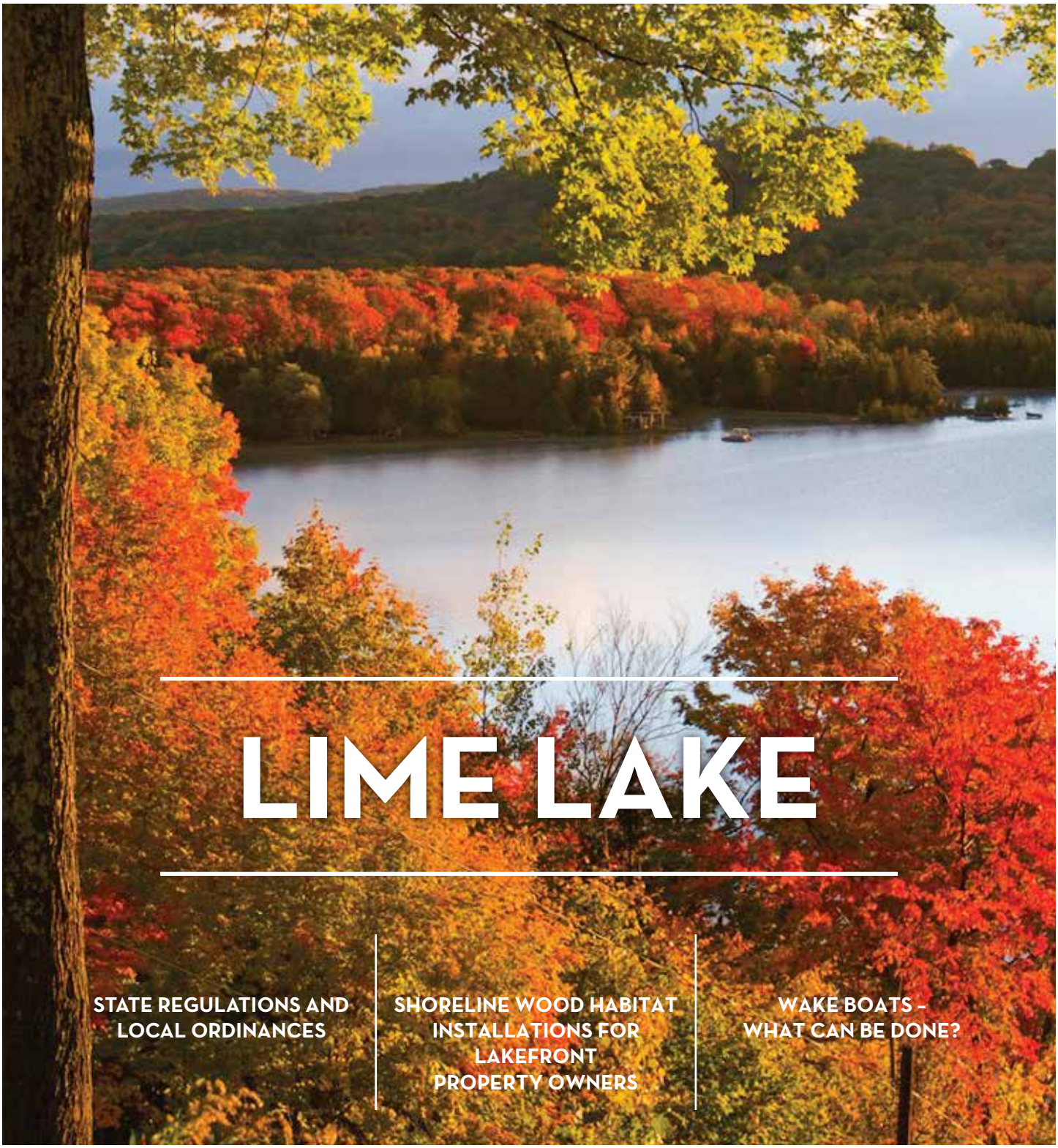
FALL 2023 | VOLUME 59 | NUMBER 4



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THE MICHIGAN RIPARIAN
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DIRECTOR'S NOTES

If I had to pick a theme for the summer of 2023, I would choose wake boats. By and large the concerns expressed via email and voicemail from riparians around the state during the summer season were about wake boat safety and environmental impacts. Many people are feeling frustrated and are looking for answers, solutions, and change.

The Michigan Department of Natural Resources Fisheries Division came out with their final, approved version of Fisheries Report 37 at the end of July 2023, after a review process that lasted almost a full year. We shared that report via email, and it can also be found on our website, along with other resources on this topic, on a brand new resource page: mymlsa.org/lake-and-watershed-management/boat-wake-resources/.

In this issue you will also find another article on the topic of wake boats by MLSA's attorney, Cliff Bloom. I think this article will provide you with more to think about on this topic and how you might be able to take some action on a local level. Additionally, you can do your part to enact change by helping to inform your legislators of the issue. Many of our government leaders are not riparians and may have never seen a wake boat or even know they exist. If you talk with them about the issue armed with Fisheries Report 37, you can help bring awareness to the situation.

For the time being, there are actions we can take as proactive riparians. Talking with our neighbors and associations can be intimidating, but many issues can be resolved when people discuss their views and experiences. As we have shown in previous issues of *The Michigan Riparian* magazine, there are things associations can do when people come together with the health of their waterbody at heart. Pine Lake shared the solution they created with all the different users of the lake in the Fall 2022 issue; this is a great option for associations that want to see change now.

Another important piece of this issue is excessive armoring of shorelines. In response to more wave action, we end up with frustrated lake residents who want to "protect" their shorelines with hard seawalls. In the vast majority of situations this is unnecessary but residents are unaware of the natural options that can help to preserve their property as well as the habitat of our nonhuman neighbors that live even closer to the problem, right on the shore itself. Working with neighbors to make the right choices on their shorelines for the long-term health of your water is so much more important than short-term protection that can have lasting negative impacts.

Please contact me if you want to talk about how you can help with local as well as statewide work to protect our lakes and streams.

Enjoy your water,

Melissa DeSimone

MELISSA DESIMONE | MLSA EXECUTIVE DIRECTOR

MLSA is a 501(c)3 nonprofit, statewide organization dedicated to the preservation, protection, and wise management of Michigan's vast treasure of inland lakes and streams.

WAKE BOATS – WHAT CAN BE DONE?

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Over the past decade, *The Michigan Riparian* has published numerous articles about so-called "wake boats" or "wave boats" (hereafter, "wake boats"), including concerns about their potential negative impacts on Michigan inland lakes and the ecosystems of those lakes. On July 28, 2023, the Michigan Department of Natural Resources (the "DNR") released an authoritative and comprehensive study about the impact of wake boats on the ecosystems of inland lakes. Pursuant to that report, the DNR recommends that the wave making apparatus of a wake boat should not be engaged within 500 feet from the shore due to adverse environmental impacts and fisheries. In addition, the DNR recommends that a wake boat's wave making apparatus not be engaged in areas on a lake in waters less than 15 feet deep. Logically, that data could also lead to the reasonable conclusion that the wave making apparatus of a wake boat should not be used within 500 feet of docks, swim rafts, swimmers, sailboats, and other vulnerable persons, property, or watercraft. The waves created by fully engaged wake boats can have a devastating impact on not only property and the lake ecosystem, but on boat and swimmer safety as well.

Ideally, a solution to the potential destructive aspects of the wave making capacity of wake boats should come at the state level. The Michigan Legislature could enact three regulatory provisions that would greatly help matters as follows:

1. Prohibit wake boats from engaging their wave making capabilities within 500 feet of the shore, docks, boat hoists, swim rafts, swimmers, sailboats, row boats, and similar items.
2. Prohibit the wave making capacity of a wake boat from being engaged in areas of a lake involving water less than 15 feet deep.
3. Ban wake boats altogether on lakes under a certain size (for example, under 200 acres or where a lake is less than 500 feet wide for more than 75% of the surface area of the lake).

Given the number of wake boats in Michigan and the strength of the watercraft industry, it is unknown whether any such legislation will ever be enacted by the Michigan Legislature.

Can local municipalities (townships, cities, or villages) enact similar legislation via local ordinances? At this time, it is not clear whether the courts would uphold local ordinances that would involve water depth, lake size, or non-wake distances for inland lakes.

In Michigan, local municipalities cannot enact and enforce ordinances that either conflict with state statutes or where state statutes have "occupied the field." That is often referred to as "preemption." Perhaps the biggest obstacle to local ordinances regulating the effects of the wave making capacity of wake boats is the Michigan Marine Safety Act, being MCL 324.80101 *et seq.* (the "Marine Safety Act"). The Marine Safety Act regulates a variety of different matters regarding motorized boats in Michigan waters, including, but not limited to, boat speed limits, buoys, licenses, vessel offenses, and towing. In addition, the Marine Safety Act sets up a procedure whereby the DNR and a local municipality can enact special regulations for specific lakes based on safety factors (MCL 324.80110). Those "special local watercraft rules" have generally involved prohibitions regarding any of the following:

A. Assisting in the propulsion of a person on water skis, a water sled, a surfboard, or another similar contrivance during certain hours.
B. Operating a vessel at high speed.
C. Towing a water skier, water sled, kite, surfboard, or other similar contrivance at any time or during certain hours.
D. Operating a vessel to exceed a slow or no-wake speed.
E. Operating a motorboat during certain times of the year.
F. Operating any motorboat.
G. Operating any vehicle propelled by machinery.

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H. Operating a boat with any motor except an electric motor.

I. Operating a boat in designated slow-wake areas of the lake.

J. Propelling more than two persons at a time on water skis, water sleds, surf boards, or similar contrivances.

If a township, city, or village were to enact a local ordinance regulating the wave making capacity of wake boats regarding lake depth, the minimum size of a lake, or distances, such an ordinance would likely be challenged as being preempted by the Marine Safety Act, and specifically by the local special watercraft rule procedures involving the DNR. A municipality would potentially have three defenses to such a preemption claim. First, there is nothing in the Marine Safety Act (or apparently any other state statute) that would expressly prohibit wave regulations involving wake boats. Nor does either the Marine Safety Act or any other statute appear to "occupy the field" because they do not have any boating regulations similar to wave regulations. Second, both the DNR and the Michigan attorney general's office has stressed for decades that the Marine Safety Act is concerned only with *safety* and not environmental or ecological impacts. Although local wave regulations could have a safety component, such regulations typically deal primarily with the environmental and ecological impacts of the wave making done by wake boats. Finally, in 1962 the Michigan Supreme Court held that the predecessor statute to the Marine Safety Act and its local watercraft rules did not preempt the ability of local municipalities to enact and enforce speed limits for individual inland lakes. See *Miller v Fabius Township Board*, 366 Mich 250 (1962). However, it should also be pointed out that not only is that appellate decision somewhat old, but the language of the Marine Act has changed somewhat regarding special local watercraft rules since 1962.

Absent state preemption, do cities, villages, and townships have the legal authority to enact wake boat regulations? Almost undoubtedly, yes. The Michigan Constitution gives townships, cities, and villages broad ordinance regulatory authority. See Article VII, Section 34 of the Michigan Constitution of 1963. The state-enabling legislation is also broad for local municipal ordinance authority. See MCL 41.181 *et seq.* (for general law townships); MCL 42.15 *et seq* (for charter townships); MCL 117.1 *et seq.* (for cities); and MCL 66.1 and 67.1 *et seq.* (for villages). See also *Square Lake Hills Condominium Assn v Bloomfield Twp*, 437 Mich 310 (1991) and *Hess v West Bloomfield Twp*, 439 Mich 550 (1992). Municipalities in Michigan also have broad ordinance powers to protect the environment. See Article IV, Section 52 of the Michigan Constitution. Any wake boat regulations would clearly be enacted primarily to protect the environment. Finally, municipalities likely have their greatest ordinance authority when regulating nuisances. Therefore, wake boat regulations could also be partially justified as nuisance abatement measures. Based on all the above, it is likely (although not certain) that local municipalities could enact wave making regulations that could withstand court challenge.

Should a local municipality attempt to enact wake boat regulations as a special watercraft rule together with the DNR under the Marine Safety Act? No, for a variety of different reasons. First, if the Marine Safety Act is concerned primarily with safety, most wave regulations would not involve safety. Second, it is highly unlikely that the DNR could agree to a wave regulation based special watercraft rule for any inland lake given the political realities in Michigan. Third and finally, given the strength of the boating industry, it is unlikely that the DNR would approve such local regulations in any event.

SHORELINE WOOD HABITAT INSTALLATIONS
FOR LAKEFRONT PROPERTY OWNERS

CRAIG KIVI | NATURAL SHORELINES FOREVER
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Prior to our development of lake shores, a natural lake had one or more large trees along the shoreline that had fallen into the lake about every 75 feet. They remained in the water, partially submerged, and resting on the lake bottom. Then, when we developed our shorelines, we removed all of those trees. They seemed unsightly and unkempt to us, and we wanted a clean look to our shorelines and lake bottom. As is typical with our human development of natural areas, we didn't understand how important these partially submerged shoreline trees were and thus, we couldn't imagine any unintended consequences from removing them.

Trees extending from the shore into the water contribute to the health of the lake in ways scientists are just beginning to communicate to the public. They have been an integral part of the lake's ecosystem, all the way up to that time when we developed the lakeshore, removed the fallen trees, and created our tidy lakefront landscape.

There are many benefits to fallen and partially submerged trees. They aid in sediment retention near the shore; provide shoreline protection; contribute to carbon sequestration, as well as the productivity of beneficial algae, invertebrates, and fish; provide protected spawning habitat; and provide a habitat for terrestrial plants and animals.

Of late, there are innovative conservation projects restoring this "wood habitat" to our lakes. One of

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> **"I can't wait to show my grandkids all the lake life that shows up after this project is done."**

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the largest in Michigan's history is on our own Portage Lake in Livingston County. It's a 2,700-foot shoreline restoration project on the northeast shore of Portage Lake completed by Natural Shorelines Forever, along with MSU, DNR, EGLE, and volunteers. Over 50,000 lbs. of stumps, trees, and logs were installed on the shoreline and in the water during the winter of 2021, and in less than a year by way of a re-visit by MSU and EGLE, significant and diverse native aquatic vegetation and a wide variety of juvenile and predator-sized fish were seen utilizing this new cover. We eagerly await an upcoming DNR, MSU, and EGLE repeat of the thorough bio-reserve assessment baseline study done just after project completion.

Equally exciting is the leverage many could use from this project, maximizing their wood habitat implementation success. Upon receiving the five-page "lessons learned" document from this project in addition to presentations and discussions with others around the state, lakefront property owners were able to gain confidence and increased public support, and accomplish their wood habitat projects faster and with more innovation and at less costs than if they had started from scratch – an especially pleasing outcome.

But that's not all. Recent wood habitat projects integrated with small private lakefront lots are getting all our attention. A very positive spinoff from the Portage Lake project is the emergence of individual lakefront property owners who are interested in getting simple permits and integrating wood habitat on their own shorelines, sometimes with as little as 35' of frontage. While most lakefront property owners are eager for wood habitat projects to be done "over there" (i.e. where there is no development) these property owners are open to the integration of wood habitat right in the middle of their shoreline, in and among their wading area, docks, boats, kayaks, and anything else along the shoreline.

Through a purposefully lengthy interviewing process of first thoroughly and exhaustively listening and understanding all of the lakefront owners' current recreational activities – until the lakefront owner knows they are understood – a connection and trust is created with the lakefront owner. At this point, assurance is given that the wood habitat installation will be done around their docks, boats, wading areas, etc. in a way that will not affect their daily activities. After all, lakefront property owners want to wade in the water, get in and out of kayaks, dock their boats, take docks in and out, make sandcastles on the beach, etc. We heard it all and we get it. Many of us have lived on lakes all our lives and have done, and are still doing, all of these things.

Another breakthrough to encouraging wood habitat installations on private lakefront lots is that of simplification. There are simple techniques an installer or even the lakefront owner can do themselves with basic hand tools. Standardization of manageable length, width, and type of small trees or tree branches, where to source them, techniques for anchoring the structure to the lake bottom, transportation methods, and techniques to maintain the installation are simple and repeatable. EGLE has worked hard to minimize the permit process, and there are standard,

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SHORELINE WOOD HABITAT

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easy-to-use templates, forms, and examples available to get these permits approved simply and inexpensively.

Our lake recreational activities and the introduction of wood habitat are not in conflict with one another, and must not be seen as such. It doesn't need to be one or the other. No one needs to give anything up. In fact, those who have installed a wood structure on their shoreline in the manner previously described now see them as fully integrated, quite beautiful, and an interesting feature of their property with terrific surprises in various and unanticipated ways.

Standing on one's deck, dock, or even walking right up to the edge of these wood habitat areas, we see minnows, crayfish, small bluegills, perch, and large predator fish using their new "hotel and restaurant" where there was once an empty, desert-like sand shoreline and bottom. Now it's alive and teeming with life. Herons and kingfishers feed. Ducks show up to eat. An Eastern Kingbird rests on a branch waiting for aquatic insects to emerge through the water column, shed their skin, and turn into delicious flying insects. Fish nest up against a submerged tree limb; a sunfish glistens in the sunlight with all her tropical colors. While science and biodiversity are certainly important, when it comes down to it, this, and the lake health promise, is the vision the small lakefront lot owner cares about when considering a wood habitat installation.

While discussing an upcoming wood habitat project with a lakefront owner, he said, "I can't wait to show my grandkids all the lake life that shows up after this project is done." This small change will make a big impact on the lake, and it will ensure future generations will be wading, swimming, and boating on a healthier lake for generations to come.

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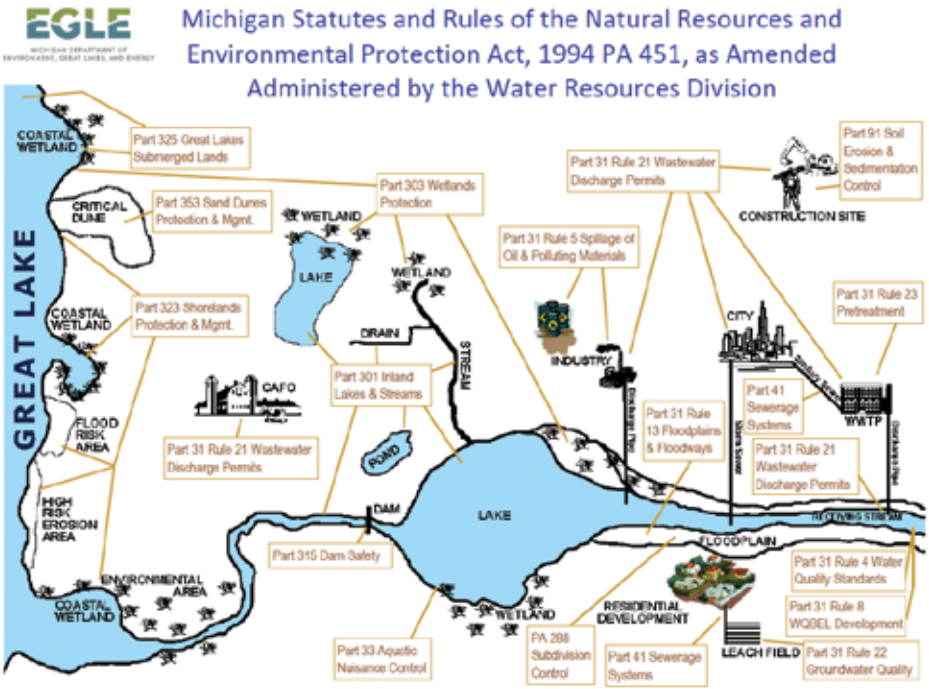
STATE REGULATIONS AND LOCAL ORDINANCES

BY POPULAR DEMAND, WE ARE CONTINUING THIS SERIES ON ZONING FOR WATER PROTECTION WITH THE FOLLOWING PERSPECTIVES AND MORE TO COME.

BY EGLE WATER RESOURCES DIVISION STAFF

ERIC CALABRO | INLAND LAKES POLICY ANALYST
KATE KIRKPATRICK | WETLANDS POLICY ANALYST
ANNE GARWOOD | WETLANDS, LAKES, AND STREAMS UNIT SUPERVISOR

The Michigan Department of Environment, Great Lakes, and Energy (EGLE) protects and monitors waters across the state including the Great Lakes, inland lakes, wetlands, streams, and groundwater. The Water Resources Division protects these resources through many of the permitting programs required by the Natural Resources and Environmental Protection Act (NREPA) (1994 PA 451, as amended), including impacts to and development of lakes, streams, and wetlands. Different resources are protected under various Parts of NREPA. For example, Great Lakes shorelands and submerged lands are protected under Parts 323 and 325; Part 33 (Aquatic Nuisance Control) regulates the chemical control of aquatic nuisance plants and algae; and Part 301 (Inland Lakes and Streams) and Part 303 (Wetlands Protection) require permits for certain construction activities within wetlands, lakes, and streams, including dredging, filling, structures, construction of marinas, interfering with the natural flow of water, or creating, enlarging, or diminishing an inland lake. However, there are some gaps in protection through the state regulations, and local governments are well suited to integrate local resource protection into land use decisions and site planning.



In general, projects that include dredging, filling, placement of structures, or interference with the natural flow of lakes or streams require a State permit under Part 301. Many of these common projects include shoreline protection, docks, boat hoists, fills for swim areas, and dredging. In many cases, inland lake projects may be regulated under multiple statutes. For example, wetland areas are often present on a lakefront property, and a project in a wetland area within the lake may be regulated under both Part 301 Inland Lakes and Streams and Part 303 Wetlands Protection.

Permitting on wetlands, lakes, and streams is implemented through a tiered permitting system where the level of permitting is related to the scope and extent of the project. At the

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lowest level are activities that are exempt from permitting. An example of an exempt activity would be a seasonal structure placed on bottomland to facilitate private, noncommercial, recreational use of the water assuming it does not unreasonably interfere with the use of the water by others or interfere with water flow. Seasonal structures typically include docks, boat hoists, and swim rafts at single-family residences that are removed at the end of the boating season. There are many other exemptions in the statutes; seasonal structures are just a common example on inland lakes. The next levels are the General Permit (GP) and Minor Project (MP) categories. These are project types that are considered to have minimal impact, and generally include best management practices to minimize impacts to resources if the criteria in the category is followed. If a project meets the criteria in a MP or GP category, it can be processed at a lower fee ($50 or $100) and on a faster timeline (i.e., no public notice period). All other project types that don't meet an exemption or MP/GP criteria are processed as a Public Notice Project. Public Notice Permits typically include a $500 application fee and have at least a 20-day public notice period. Local governments are allowed 45 days to comment.

EGLE is required to consider the possible direct and indirect effects of the proposed project upon the inland lake, stream, or wetland. This includes potential impacts on uses for recreation, fish and wildlife, aesthetics, local government, agriculture, commerce, and industry. EGLE must also consider whether the proposed impacts have been minimized to the greatest extent. If a feasible and prudent alternative to the project is available, EGLE is not able to issue a permit. Permit applicants and EGLE often

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STATE REGULATIONS

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work together to modify projects to reduce impacts to the water resources and allow for permitting. For more information on the permitting process visit www.michigan.gov/jointpermit.

State agencies have regulations to protect Michigan's inland lakes, however, there are gaps in lake protection because not all aspects or features of inland lakes are regulated under state or federal laws. Inland lake protection is a shared responsibility among all levels of government and citizens of Michigan. Local governments can fill these gaps in lake protection because they have the ability to develop future land use plans and to make land use decisions. For example, under Part 301 a permit is required for a project taking place at or below the ordinary high water mark (OHWM) of an inland lake or stream. In general, an upland project taking place above the OHWM of an inland lake would not be regulated by the state. Local protections can range in complexity, and there are many different tools which local governments can use to effectively protect lakes, streams, and wetlands, and to preserve the quality of life in their communities. Locals can protect critical or unique local resources and target local priorities.

One of the most effective ways to protect inland lakes is to require minimum setbacks with the maintenance of an undisturbed buffer of native vegetation along the shoreline of an inland lake. Because there are situations where the maintenance of an undisturbed buffer is not regulated under state laws, natural features setback requirements can be incorporated as part of a local zoning ordinance. There are many other tools available to local governments through inland lake and wetland ordinances that can provide protection in areas not regulated under state or federal laws. Site plan review regulations, stormwater management ordinances, open space zoning and conservation design, weed ordinances, watercraft, and keyhole ordinances are just some examples. State laws, local governments, and lakefront landowners all play a role in keeping Michigan's lakes healthy for future generations.

An interview with

JENNIFER MCKAY,

POLICY DIRECTOR,
TIP OF THE MITT WATERSHED COUNCIL

Tip of the Mitt Watershed Council has been active since 1979, protecting the water resources in Antrim, Charlevoix, Cheboygan, and Emmet Counties including lakes, streams, wetlands, and groundwater. The organization also supports research and advocates for a positive change for the future of our water.

WE SPOKE WITH JENNIFER MCKAY ABOUT ACTIVITIES INVOLVING ZONING. JENNIFER MADE SOME IMPORTANT COMMENTS THAT WE HAVE SHARED HERE:

We generally get four major kinds of calls about issues on lakes. First, we receive calls from lake area residents who are concerned about actions being taken or considered by their neighbors on the lakes, streams, and rivers. They usually ask *Is it legal to change the shoreline, damage wetlands, expand a home toward the water, and put docks, sand, or multiple boats into the water?*

The second is the type of call we really like. They are calls from home or business owners who contact us and other groups before they make commitments for any construction or upgrades in an effort to make sure that what they plan to do is legal and supports the environment. With these calls we help walk the waterfront property owner through the federal, state, county, and local laws, regulations, and guidelines, and educate them on required permits, as well as provide recommendations for what is best for the health of our waters.

Third, we receive contacts from federal or state agencies including DNR, EGLE, and local units of government and agencies. Their request often is asking our group to consult, answer questions, and provide education and assistance to home and business owners and construction firms on how to approach various land and shore projects. Their concerns are how to proceed in a legal manner and to protect the environment.

Finally, we are asked to be expert advisors and comment on possible violations that have already taken place. We are asked to address the proper procedures to follow

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to document the situation and suggest options to correct damage and return things to a better situation to protect the environment.

A good case example: We had a couple who bought a property with a lot of wetlands along the shore, and they had an initial plan, like many do, to remove the wetlands, push the yard right up to the lake edge, put down a sandy beach area for a nice ocean-like beach, and put in a massive dock with multiple watercraft. Our Watershed Council team met with them, explained the state and local wetlands ordinances, the required greenbelt, and other regulations, as well as why these are important. For example, if you put lots of sand on the beach, in a few months it will nearly all wash away. Also, destruction of the natural shoreline will stop filtration of contaminants and end a protected area for frogs, birds, and wildlife. Eventually the homeowners agreed and together we developed a plan where they got part of what they wanted but also met state and local guidelines, and the waters and wildlife are better protected by what they did.

Sadly we have had some ugly cases. A homeowner, a consultant, a builder, and subcontractors funded by a homeowner removed wetlands to the water's edge and made many other changes that violated state and local rules and regulations many times. Neighbors and our Watershed Council talked with the owners and the local zoning administrator. The zoning administrator said he was not going to do anything about the situation even though the efforts violated state, county, and local regulations. Once we contacted the township supervisor and planning commission to stop work, the contractor started threatening legal actions against everyone. However, the zoning administrator approved the permit request and then quit his job. The township was left unable to do anything about the violations.

JENNIFER MCKAY REFLECTS ON WHAT SHE SEES AS CURRENT TRENDS:

We see a lot of smaller lakefront, pond, and river cottages being knocked down and replaced with much larger homes. This is okay if everyone follows the rules and regulations and local townships keep up their zoning and enforcement efforts.

We all have lived the massive impact of having high Great Lakes. Did you know that this condition also has an impact on local inland lakes due to groundwater and the water table? The result has been inland erosion. Unfortunately, we were seeing an increase of homeowners installing large 3-to-5-foot boulders, rip rap, and seawalls. Hard surfaces can't absorb wave energy; rather, they deflect it downward or sideways to neighboring properties. These structures also cut off important habitat and land access for some of our favorite aquatic species. When a hardened shoreline is backed by turf grass, rather than native plant species, the water will often erode the shoreline behind the rock, eventually leading to the ultimate failure of the structure.

Through the use of bioengineering, we can restore our natural shorelines and the many benefits they provide. Bioengineering often offers an alternative approach, working *with* nature rather than against it. Bioengineering utilizes plants, fieldstone, and other natural materials to mimic a healthy, natural shoreline. The benefits of these shorelines are threefold: stabilization and erosion control, native habitat, and stormwater and pollution control. In the face of increasingly severe storms and high water levels, implementing natural shorelines is an important step that waterfront landowners can take to protect their land and their investments, as well as the water quality of the lakes, rivers, and streams that they love.

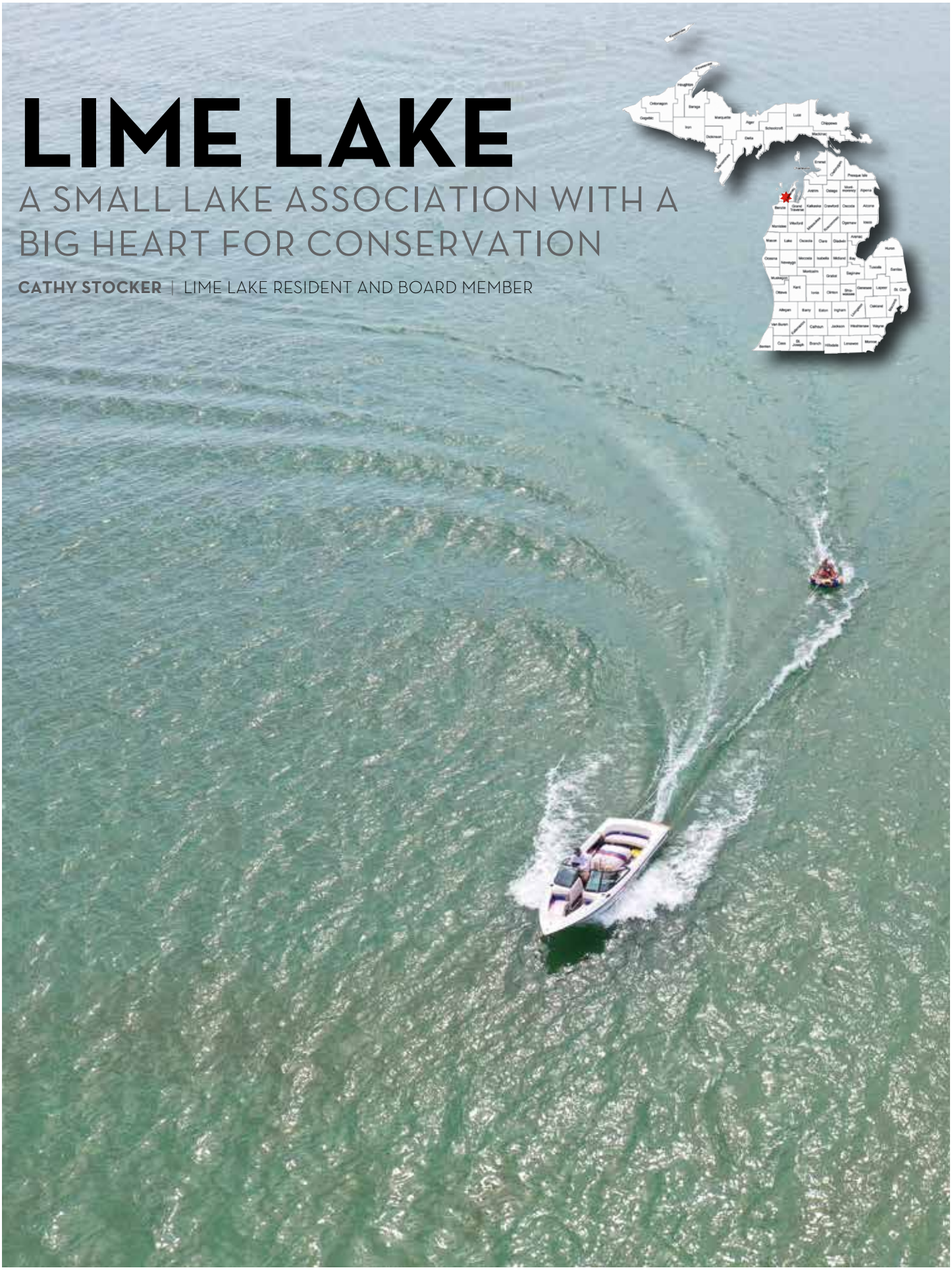
We have worked for years with local and county planning commissions and state agencies to make sure they were up to speed and have good and similar supportive laws and regulations. (See the report entitled "Enacting Shoreline Zoning Protection Around Lake Charlevoix" at lakecharlevoixprotection.org.) But no surprise, many home and business owners and contractors act first and do not ask permission, or are not aware or care if there are federal, state, county, and local laws and regulations.

We at Tip of the Mitt Watershed Council are meeting with planning commission members and zoning enforcement officers as well as boards in our area to suggest ways to adjust and explain the reasons for the regulations and provide counsel and guidance.

LIME LAKE

A SMALL LAKE ASSOCIATION WITH A BIG HEART FOR CONSERVATION

CATHY STOCKER | LIME LAKE RESIDENT AND BOARD MEMBER



Nestled within the rolling hills of Leelanau County, Lime Lake spans 660 acres and is surrounded by steep, forested hillsides and a stunning shoreline. It is considered a pristine gem within the Good Harbor Bay watershed. The 1.2-mile Shetland Creek guides excess water coming from springs that continuously replenish Lime Lake to its downstream sister lake, Little Traverse. From there, the water continues its path through Shalda Creek which, after many meanders, empties into Lake Michigan deep in the heart of Sleeping Bear Dunes National Lakeshore. Glaciers carved out this 67-foot-deep oligotrophic lake roughly 10,000 years ago from Limestone bedrock, thus leading to its name and beautiful color.

Lime Lake is unique for many reasons. At its northeast end, with Sugar Loaf Mountain as a dramatic background, there is an important area of lakebed that has been nicknamed the "wood floor". What was once the detritus of the Lime Lake Lumber Company, a mill that operated in the late 1800s, is now an essential habitat for a variety of fish, turtles, frogs, insects, and waterfowl. Visitors and lakefront owners alike kayak, canoe, and stand-up paddleboard across crystal clear water on this edge of the lake as minnows, perch, and

> **"The LLA stresses education over enforcement and they work hard to build personal connections among the lake and watershed community."**

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smallmouth bass dart in and out of the wood slabs beneath them. These slabs have been smoothed by gentle waves over the years and this rare aquatic "wood floor" is both mesmerizing and a serene place to visit.

Where once stood the wood mill, there is now the 40-acre Teichner Preserve managed by the Leelanau Conservancy and named for its generous donor, Martha Teichner, the CBS news correspondent known especially for her work on the Sunday Morning Show. Teichner spent her childhood at Lime Lake, and through her gift, honors her parents while protecting this fragile wetland ecosystem. It is home to two unlikely giants, an Elm tree and an American Chestnut tree that miraculously survived the diseases that nearly eradicated most of their species in the state. Also found in the preserve are a rare species of native orchid known as lady slipper, 13 rare varieties of fern, blue flag iris, shapely stands of northern white cedar, and the lacy tamarack that becomes a showstopper come October. Within the preserve there is a boardwalk across the marsh leading to a trail along the shore, a beloved refuge for those who spend their time on Lime Lake. Teichner is just one of two preserves on these waters.

On the south end of Lime Lake, Pat's Preserve is home to a meandering stream that conveys the largest source of surface water to Lime Lake, as well as to a sensitive wetland that acts like a giant sponge, stemming erosion, trapping pollution, and slowly releasing clean water back into the lake. The preserve is a haven for wildlife. Songbirds, red-shouldered hawks, and eagles live in the forest. In the spring-fed stream, brook trout spawn and thrive. Snakes, toads, ducks, and otters are also frequently spotted there.

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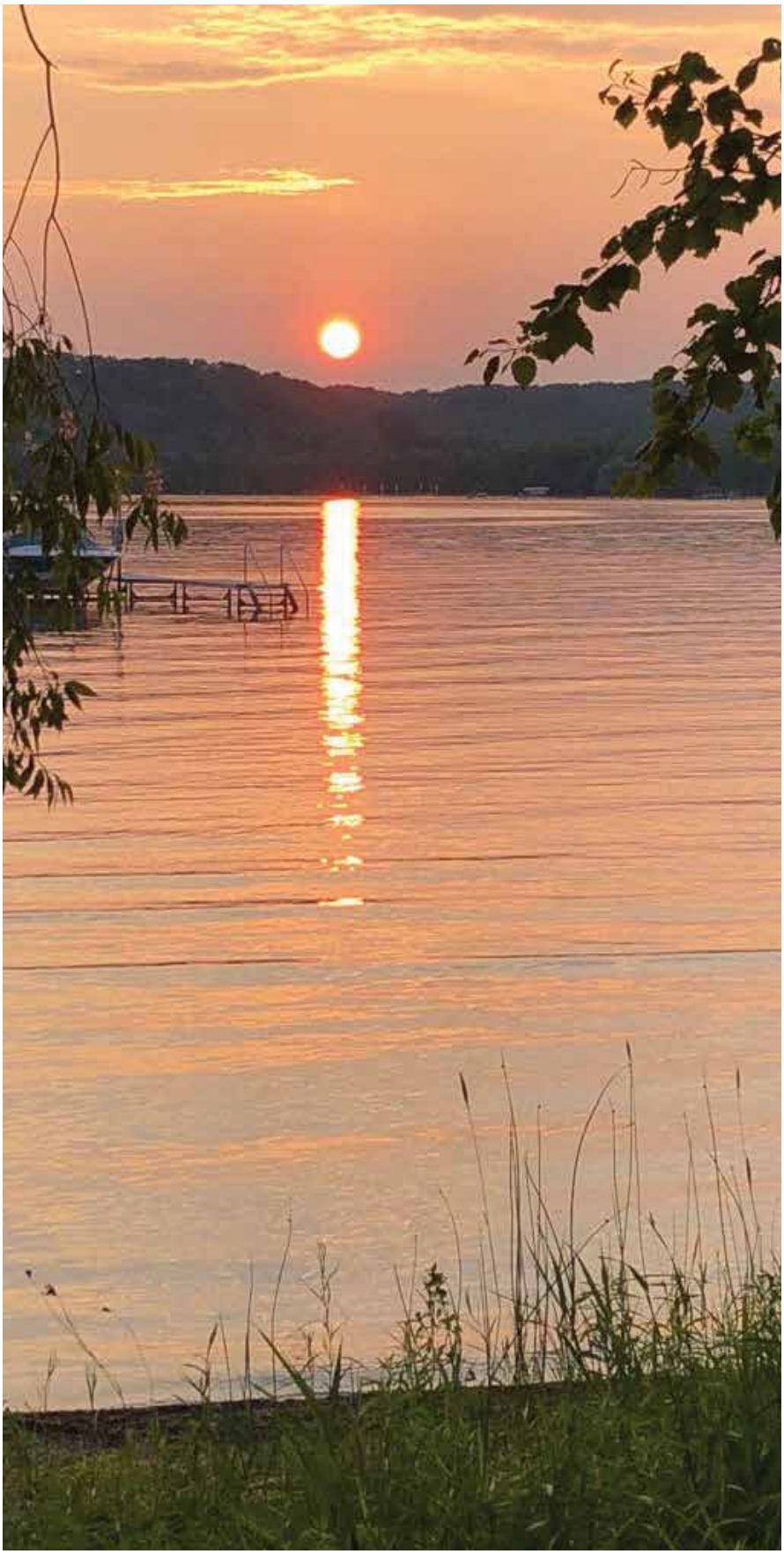

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The process of protecting this ecological gem began with an unlikely advocate: the owner of some of those acres who hoped to build a home on the lakeshore. Mark Fisher, a long-time local realtor, and his wife, Betsy, had purchased seven acres in what is now the preserve back in the early aughts. Because there were wetlands involved, however, it took nine additional years for the Fishers to receive a building permit. In that time, Mark had joined the Lime Lake Association and spent significant time on the property. "I became older and smarter," he said, "and knew even before the DEQ (Department of Environmental Quality) gave me the permit that to build there wouldn't be good for the property."

It took several years more for Mark, with help from the Lime Lake Association, to convince neighboring landowners to choose the protection of the wetlands over development, and to get the conservancy

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LIME LAKE

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involved. Finally, in 2020, with the support of many generous donors, the conservancy closed on the final two parcels. Today, the preserve is open to the public and protects approximately 26 acres of land and over 1,000 feet of shoreline.

These north and south preserves are like the front and back book covers to an unfolding story about the necessity of a conservation mindset, and the LLA and its volunteer board keep a close eye on this story's development. Their work can serve as an important example to inland lakes across the state. Although smaller than many lakes in the region with only 144 lakefront parcels, the LLA sets high goals and continues to be a leader in cutting edge research and discovery.

More than 35 years ago, when the current president of the LLA, Dean Manikas, moved with his wife into a charming cottage on the western shore of the lake, he was aware of just two speed boats on the lake. More likely to be noticed was an occasional 14-foot aluminum fishing boat passing by. Over the years, like every other lake in northern Michigan, Lime Lake has experienced growing pressure from an increase in

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LIME LAKE

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tourism, recreation seekers, bigger homes, and rentals. Yet the lake has far from succumbed. There are many reasons for the success of Lime Lake. According to Manikas, these include the LLA hiring a talented Lime Lake biologist, Kelsey Froelich, as well as close and long-term communication and collaboration with vested entities including the Leelanau Conservancy, the DNR, the Grand Traverse Band of Ottawa and Chippewa Indians, neighboring lake associations, and others. "Many of us residents and association members have also never stopped paying attention," said Manikas, "and over the years, if we hadn't been vigilant, there would have been degradation".

Additionally, the Lime Lake Association is known for its support of early and cutting-edge research on swimmer's itch, and those studies resulted in the discovery in 2018 of a new species of an itch-causing parasite, now known to be the most prevalent in Michigan. That work led to a paradigm shift away from lake-wide control to better methods of protection. The LLA also led the way in the creation of a new county-wide septic ordinance that requires septic inspections on all new home purchases, as well as at the time of transfer of title for homes that are passed on to family members. According to Manikas, "We knew no one was inspecting septic systems and began our study 4 years ago".

The LLA was also one of the Michigan lake associations to recognize early on that homeowner shoreline management greatly

impacts water quality, so they began offering free lakeshore consultations to riparians. According to Lime Lake biologist, Kelsey Froelich:

> We had an aerial drone survey of our shoreline conducted and analyzed in 2019 that was quite revealing. The analysis documented various parameters such as beach sanding, sea walls, rip rap, greenbelts, natural shoreline, detectable algal growth, and more. Our board set a goal of encouraging three new greenbelts each year for three years which we presented to our membership. The response was almost instant and very positive. I conduct several free consultations each summer and the LLA even offers up to $250 per property as incentive to install ecologically friendly greenbelts.

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Invasive species are another area of continual concern for many lake associations, and while zebra mussels and round gobies invaded most of our state's water bodies over a decade ago, there are many other invasives that the LLA has managed to either eradicate or avoid. Froelich explains:

> We have nearly eradicated all of our yellow-flag iris through diligent surveys and "digging" worker bees. We don't have purple loosestrife, coltsfoot, or phragmites and survey regularly for them. Fortunately, we also don't have Eurasian water milfoil or starry stonewort. We've begun, with financial help from the Grand Traverse Band of Ottawa and Chippewa Indians, an annual early detection protocol for these two highly invasive species that includes SCUBA diving in major aquatic gardens with GoPro videography and sampling key sites three times per season using the latest eDNA technology.

Lime Lake has been participating in a new project that utilizes environmental DNA testing. As explained by Froelich:

> Every living thing that lives in or visits our lake leaves some of its DNA in the water. And every living thing has a unique section of its DNA called a barcode, which is analogous to barcodes used in a grocery store. By extracting and then amplifying all the DNA present from a sample, we can learn a tremendous amount about the biodiversity of our lake, including what AIS species are present. We're actually part of a much larger study in collaboration with scientists from the University of Alberta in Edmonton, Canada. It's all very exciting and will likely change the way surface waters are tested in the future.

There is even more research and development that the LLA is committed to. The association recently undertook a complete overhaul of their website aiming to enhance

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communication with lake residents and community members, and to improve their ability to provide educational resources. To keep residents actively involved in the conservation of Lime Lake, they offer a plethora of resources from hands-on educational boat tours, to a guided stewardship program, to friendly reminders about best boating practices for the health of the lake, as well as those free greenbelt consultations. The LLA stresses education over enforcement and they work hard to build personal connections among the lake and watershed community.

The LLA is also awaiting the results of a recent fish survey conducted by the DNR, something they lobbied for the past two years; they would like to know more about PFAS (per- and polyfluoroalkyl substances) levels in the water. In addition, they are involved in the Cooperative Lakes Management Program (CLMP) run through Michigan State University. Volunteers take regular Secchi disk readings to assess water quality and sample for phosphorus. They then report their findings back to Froelich. The LLA and Froelich have access to data generated through water quality testing conducted by the Leelanau Conservancy, and Froelich regularly assesses the algal community using a plankton tow and microscope.

Kelsey Froelich's enthusiasm for her work as a lake biologist and the stewardship of Lime Lake is undeniable. She traces it back to her childhood memories of coming north from southwest Michigan to Lime Lake each summer so her father, also a biologist and teacher, could conduct research on swimmer's itch. She recalls running through fields with grass up to her waist, a butterfly net in hand, chasing after the elusive tiger swallowtail, as well as searching for lady slippers, or holding a garter snake and watching its tongue flick quickly in and out. She's thankful for the games of baseball played in the yard, and the night a bat flew into her bedroom. "These are memories that so many people today wish they could give to their children and they are all mine thanks to Lime Lake," she says.

Now, 30 years later, every summer Froelich brings her own daughters to Lime Lake, a place she affectionately calls "nature's playground". And isn't this the point of that vigilance described earlier by LLA president Dean Manikas? We want our children and grandchildren to experience the sense of magic that comes from time spent in nature, in ecosystems that are healthy and respected, in waters that are pristine. What might it mean if we all strived to set the example that Froelich sets for her daughters? "I want to foster in them a desire to conserve and preserve our beautiful lake so it is here, unchanged, for their kids someday," she says.

If more lakes follow the example set by Lime Lake, its lake association, and many of its residents and dedicated collaborators, the future for all our inland lakes could be so much brighter.

To learn more about Lime Lake, please visit their website at LimeLake.org.

ON A MISSION TO PROTECT OUR FRESHWATER RESOURCES

ANNIS WATER RESOURCES INSTITUTE, GRAND VALLEY STATE UNIVERSITY

CHARLYN PARTRIDGE, PHD AND ALAN STEINMAN, PHD | GRAND VALLEY STATE UNIVERSITY

FIGURE 1: AWRI'S LAKE MICHIGAN CENTER WITH ITS TWO RESEARCH VESSELS IN THE FOREGROUND (LEFT: D.J. ANGUS; RIGHT: W.G. JACKSON)

The 2024 MLSA Conference will be held at the VanDyk Mortgage Convention Center in Muskegon, MI. Located within walking distance of the convention center is one of the premier institutes for freshwater research within the Great Lakes region. The Robert B. Annis Water Resources Institute (AWRI) is a multidisciplinary research organization that is part of Grand Valley State University (GVSU). The institute was originally founded in 1986, with a director (Dr. Ron Ward), a secretary, and three staff members, and was located on the main campus of GVSU in Allendale. AWRI's initial goal was to provide information on the importance of water to the West Michigan community, and to provide local businesses, industries, and governments with information and technical resources. Over the years,

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FIGURE 2: RIBBON CUTTING AT THE OPENING OF THE LAKE MICHIGAN CENTER. FROM LEFT TO RIGHT: STATE SENATOR LEON STILLE, DR. BILL SCHROEDER, DOROTHY JOHNSON, COMMUNITY FOUNDATION OF MUSKEGON COUNTY PRESIDENT CHRIS MCGUIGAN, AND GOVERNOR JOHN ENGLER.

FIGURE 3: RIBBON CUTTING AT THE OPENING OF THE ROBERT B. ANNIS FIELD STATION

ON A MISSION TO PROTECT OUR FRESHWATER RESOURCES

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AWRI quickly outgrew the small 20 x 40-foot basement space it occupied in Allendale. The City of Muskegon initiated a $5.5 million fundraising campaign to build the Lake Michigan Center (Figs. 1, 2), which became the new home of AWRI in August, 2001.

The move to Muskegon coincided with an expansion in AWRI's mission and scope, and a new director (Dr. Alan Steinman), new research scientists, and state-of-the-art instrumentation were added. Today AWRI's mission is to integrate education, outreach, and research to enhance and preserve our freshwater resources, and it employs 10 full-time faculty and a staff that ranges in number from about 30 in the winter to about 65 in the summer. In 2013, again with the generosity of donors throughout the region, AWRI was able to add a second building (R.B. Annis Field Station; Fig. 3), which houses research laboratories, a mesocosm facility (Fig. 4), faculty offices, and graduate student space.

The current research conducted at AWRI is focused on the major issues facing the planet's aquatic ecosystems, with a particular lens on West Michigan and Lake Michigan, although projects also include ecosystems in China, Serbia, and other parts of the US. Faculty specializations include microbial ecology, ecological modeling, phycology, aquatic ecology, molecular ecology, toxicology, climatology, fisheries ecology, ecosystem restoration, and watershed hydrology. Students at GVSU gain valuable hands-on experience in these areas by conducting research at both the undergraduate and graduate levels. The faculty and students at AWRI work directly with local, state, and federal partners, including lake associations, MIDNR, EGLE, and the National Parks Services to help develop lake management plans, monitor water quality, monitor restoration efforts, and track the spread of invasive species.

Another highlight of AWRI is its Water Resources Outreach Education Program. This program provides scientific information about our freshwater resources to K-12 and college students, educators, policymakers,

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ANNIS WATER RESOURCES INSTITUTE

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and community leaders. Guided trips on one of the two research vessels, the *W. G. Jackson* or the *D. J. Angus* (Fig. 1), provide high-impact, experiential learning opportunities, as participants sample and compile water quality data from Lake Michigan and connecting water bodies. To date, the vessel program has hosted over 190,000 participants. Importantly, about 80% of the program's costs are subsidized through endowment earnings held at the Community Foundation for Muskegon County, significantly reducing the cost to schools and community groups, thereby helping the institute to reach as many groups as possible.

At the 2024 MLSA Conference, participants will have the opportunity to tour AWRI's facilities and experience a trip on the *W. G. Jackson*. More information about AWRI is available on their website: www.gvsu.edu/wri.

FIGURE 4: MESOCOSM FACILITY IN AWRI'S FIELD STATION. THE ROOM HOUSES 12 350-GALLON TANKS, EACH WITH A 1000-W METAL HALIDE LAMP FOR IRRADIANCE.

DISPUTE RESOLUTIONS

CLIFFORD H. BLOOM, ESQ. | BLOOM SLUGGETT, PC

With virtually any body of water in Michigan, there almost always are major legal disputes by and between property owners, local governments, developers, and others. Most people believe that the only way to resolve those disputes is via a lawsuit. Fortunately, there are alternate means of dispute resolution available.

Litigation in Michigan is usually expensive, time-consuming, and contentious. Most riparian lawsuits are filed in the Michigan county circuit courts. On occasion, however, a water-related lawsuit will be filed in one of the federal district courts located in Michigan. Absent unusual circumstances, win, lose, or "draw," each party pays their own attorney fees without reimbursement by the other side (except for limited "costs," which the prevailing party can recover). Although in the past, lawsuits through a trial could occur as quickly as between eight months to a year, that is unusual today where a trial is involved. Post-COVID, it is not unusual for a lawsuit in Michigan to take one to two years to go to trial, and that time period can sometimes be even longer. Appeals only add to the timeline. Furthermore, many Michigan courts remain backlogged as a residual effect of COVID and the difficulty of hiring new clerks or staff members in the current tight labor market.

Alternative dispute resolution proceedings can occur either before a lawsuit is filed or thereafter during a lawsuit. The two main types of alternate dispute resolutions are mediation and arbitration. In most instances, mediation involves an objective third party "facilitator" who practices "Henry Kissinger shuttle style" diplomacy and attempts to broker a resolution or settlement between the parties. Unless the parties reach a final written settlement, mediation does not resolve the dispute. Arbitration is akin to a "mini lawsuit." Typically, the parties also select a neutral and objective third party who reaches a final binding decision after a mini-trial. Although arbitration tends to be cheaper than conventional litigation, the costs of arbitration have also escalated dramatically over the years.

Pre-litigation, mediation, and arbitration are generally voluntary and will only occur if all parties involved agree to the process. Arbitration is sometimes mandatory in lieu of litigation if there is a contract between the parties requiring arbitration, although those situations are relatively rare in riparian cases. Once litigation has commenced, the judge involved frequently orders mediation (although the parties could then pursue binding arbitration and essentially "divert" the case out of conventional litigation).

In most cases, a mediator or arbitrator is a retired judge or an attorney. Such mediators and arbitrators are almost always compensated, with the bill split by the parties involved. However, there are a number of private mediation or facilitation organizations that will perform mediation at little or no cost.

Typically, what occurs during mediation is confidential, and the judge involved in the lawsuit does not know the details of the mediation

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process in a given case other than that the case did not settle via mediation and that the court will have to proceed to a final decision. If the parties settle a pending lawsuit via litigation or arbitration, the court will be so notified and the lawsuit will be dismissed. In Michigan, facilitative mediation has a good track record of settlement disputes, particularly if mediation occurs during a lawsuit and after discovery has been completed.

In summary, the general advantages of mediation or arbitration over litigation are as follows:

1. It tends to be less expensive overall.
2. In most cases, a final decision/settlement will be reached earlier than a court decision.
3. It allows the parties to essentially choose their "judge" (i.e. the mediator or the arbitrator). That is important in some Michigan counties, as some trial court judges are better than others.
4. There tends to be less long-term acrimony between the parties if they are able to mutually settle their differences.
5. It eliminates any need for an appeal to a higher court by the losing party.

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