

A woman with short grey hair and sunglasses is walking down a wooden boardwalk that leads from a grassy, wooded area towards a lake. The boardwalk is made of wooden planks and has a simple metal railing on the right side. The surrounding area is lush with green trees and bushes, some with small yellow flowers. In the background, a calm lake is visible with several boats docked at a wooden pier. The sky is bright and clear.

Shoreline Living

**Landscaping
with Nature**

**A Lake Yard
Goes Native**

**A Hunting
Tradition**

**Woody Habitat
for Fish and
Wildlife**

**A Lakefront
Preserved for
the Ages**

**Wild Wonders
of a Natural
Lakeshore**

Contents

ISSUE 2 | JANUARY 2022

- 3 | LANDSCAPING WITH NATURE
- 5 | A LAKE YARD GOES NATIVE
- 9 | A HUNTING TRADITION
- 13 | WOODY HABITAT FOR FISH AND WILDLIFE
- 17 | A LAKEFRONT PRESERVED FOR THE AGES
- 22 | WILD WONDERS ABOUND
- 27 | RESOURCES



Funding for this publication was provided through the Association of Fish and Wildlife Agencies as well as the Sport Fish and Wildlife Restoration Programs of the USFWS

CONTRIBUTING AUTHOR

Tom Springer

PHOTOGRAPHER

Mark Bugnaski

MAGAZINE GRAPHIC DESIGN

Catherine (Cat) Dobbs

PUBLICATION TEAM

Erin Fuller (Van Buren Conservation District)

Erick Elgin (Michigan State University Extension)

Julia Kirkwood (Michigan Department of Environment, Great Lakes, and Energy)

Joe Nohner (Michigan Department of Natural Resources)

Landscaping with Nature

INTRODUCTION

Lakes are natural magnets for anyone who loves to boat, swim, fish, sail, or simply watch waves and light dance across open water. But no matter how we enjoy them, it's vital to remember that lakes aren't oversized swimming pools, but rather living natural systems. And whether they're clean and healthy or murky and out of balance depends greatly on how humans treat the land around them.

Issue 2 of Shoreline Living tells the stories of property owners who use natural landscaping and conservation easements to enhance their property and protect their

lakes. Along the way, they have beautified their properties, cut down on lawn care, improved habitat for fish, reduced shore erosion, and strengthened their connection to the land and lake. As a bonus, their properties attract an enviable number of hummingbirds, butterflies and lightning bugs on summer nights.

The Midwest landowners featured here own properties ranging from large and modern homes to older and smaller cabins and cottages. While the plant varieties and terrain may vary, the valuable lessons shared here are universal.

The property owners depicted all rely on natural resources that have been here since at least the last Ice Age: native plants. Over time, native plants have evolved to survive anything the Midwest can throw at them: droughts, wildfires, floods, heat waves and bitter cold. They're resistant to disease and insect pests, and once established, never need fertilizer and rarely need watering.

Of course, when European settlers came to the Midwest all lakeshore plants were native. They offered food and shelter for creatures up and down the food chain, from





The deep, dense roots of native plants help prevent shoreline erosion.

dragonflies and otters to loons and northern pike. These days, the opposite holds true. Much of the landscaping seen on Midwestern lakes has been imported from suburbia, via commercial nurseries and big-box stores. Fertilized turf grass runs to the water's edge, with few trees on the lawn and few if any downed trees in the lake for fish and wildlife. This habitat desert discourages fish and wildlife from hummingbirds to herons and from butterflies to bass.

Seawalls of concrete and steel have been built to replace the work done by native plants whose deep, dense roots once prevented shoreline erosion. That's possible because native plants and grasses have roots that may extend down 12 feet or more. Compare that with turfgrass whose roots may only go down a few inches. While turfgrass has its place in the right setting, it didn't evolve to provide the same shoreline protection that native grasses do.

One misconception about native plants is that they require homeowners to turn their yard into an unkempt tangle. In fact, many homeowners say that native landscaping gives them the best of two worlds. They can maintain a smaller lawn near the house, along with beds of non-natives such as hostas, tulips and yew bushes. They can mow trails through plants and grasses for easy access to the lake. Plus, even a narrow buffer strip is a great place to turn a child (or grown up) loose with a magnifying glass and butterfly net. On a close-clipped lawn, there isn't much of anything wild to encounter.

With regard to lawns, native landscaping offers two other advantages over turf. For one, a native plant buffer strip along the shore will deter Canada geese (and the slimy mess they make) from entering a lawn. Geese naturally fear tall grass, since that's where predators such as foxes and coyotes wait in ambush.

Second, more native plants and less lawn can drastically reduce mowing time. This means more hours to enjoy the fun activities that draw people to lakes in the first place. For example, on Great Northern Lake, what had been a 10-hour weekly mowing job for Richard Gallea now takes 40 minutes, thanks to their native landscaping.

Moreover, where turf grass is either green or brown, native plantings change their appearance all year long.

Something new is always blooming, from irises in the spring to asters and goldenrods in the fall. "We're in awe of all the plants; it's so calming and beautiful," says landowner Mary Gallea.



Permitting requirements and shoreline laws vary by jurisdiction. Always consult your local natural resource agency staff for guidance and ensure you have the proper permits before making changes to your shoreline.





Lawn Rangers No More: **A Lake Yard Goes Native**

GREAT NORTHERN LAKE

When Richard and Mary Gallea bought their home on Great Northern Lake in 2004, they pictured restful weekends on the water, a respite from their workaday lives in the city. What they didn't envision was this: sitting for 10 hours on a riding mower each week to keep their mammoth yard trimmed. While the home's previous owners had done so, Richard said it "was a non-starter" for them.

These days, it takes 40 minutes per week to mow the small, neat lawn around the Gallea's front door and side yard. Yet their motivation hasn't just been a downsized yard, but what they've planted to replace it: a breeze-stirred meadow of native grasses that waves bright with orange, blue, red and yellow wildflowers. Where turfgrass once dominated, the ever-changing pallet of a miniature Midwest prairie now holds sway.

"We're in awe of all the plants; it's so calming and beautiful," said Mary Gallea. "There are monarch butterflies, and sometimes so many bees you can feel their vibration in your chest. Firefly season is my favorite time of year; you see hundreds from our dock."

At first, finding ways to escape the "lawn ranger" lifestyle wasn't the Gallea's top priority. The more urgent problem was a rotted,



sagging retaining wall made of old railroad ties. Because the wall stood on a steep bank between the house and lake, its removal required a permit from the Stearns County Environmental Services Department. Railroad ties are now discouraged for home landscaping as the creosote they're treated with has been ruled a carcinogen by the U.S. Environmental Protection Agency.

"We went to present our case for the permit, and Greg Berg from the Stearns County Soil and Water Conservation District (SWCD) said, 'Have you ever thought of native landscaping?' We didn't think that was an option," Richard said. As it

turned out, there were cash incentives that made this option appealing. SWCD proposed a comprehensive project to remove the retaining wall, grade and restore the slope, and plant native vegetation. Later, the Galleas expanded the planting to cover even more of their property. The project's total cost was \$23,710, yet thanks to State of Minnesota funds, the Gallea's share was \$5,910.

To prepare the site, contractors were careful to prevent erosion where the hillside drops to the lake. (That's why the railroad ties were embedded there in the first place.) Rather than scrape off the sod, they killed the grass and dug in hundreds of plugs – starter



"Not everything comes on at once; different plants assert themselves. One season it may be monarda (bee balm) and the next purple coneflower or Black-eyed Susans. That's the beauty."

– MARY GALLEA

native flowers and prairie grasses. The steep section of bank with old railroad ties was sculpted to a more gradual grade, and the contractor added a small set of steps to allow access to the lake and dock.

They soon found out that compared to unrolling blankets of new sod, a prairie yard takes shape on its own schedule. For the first year or two, it can look sparse, even scruffy. That's because young prairie plants



and grasses first spend their energy on deep roots that may plunge 6 to 12 feet deep in search of moisture. It's an insurance policy for survival that evolved on the drought-prone grasslands of the Midwest. Just as the plants had to master their new home, so too did the Galleas have to master their new prairie.

Eager to make their prairie thrive, the Galleas gave it too much irrigation the first year. The water-thirsty weeds loved that and almost crowded out the water-sipping natives. Once they cut back on sprinkling, the prairie took charge. There's little maintenance now except to pull thistle or quaking

aspen seedlings in spring. "Without a trained eye, you don't know what's a weed and what's not," said Richard. "We had the experts come out and help us with weed management." This ensured that native plants weren't mistakenly plucked out in the process. These days, when Richard has to irrigate (2021 was a droughty





KEY TAKEAWAYS

summer) he does so with nutrient-rich, “magic fish poop water” pumped straight from the lake. This spares his household well and the aquifer from which it draws.

While the prairie grows lush and thick, it’s easy to navigate on mowed trails and paths with brick pavers that lead to the waterfront. The Gallea’s spacious dock and boat overlooks a previously sterile rip-rap shoreline now gone native with overhanging grasses.

Meanwhile, in front of their home, a small, civilized patch of grass proves that yards still have their place. Except for one big difference: while a grass yard always sings the same tune, a prairie yard riffs in a different key from season to season.

“Not everything comes on at once; different plants assert themselves,” said Mary. “One season it may be monarda (bee balm) and the next purple coneflower or Black-eyed Susans. That’s the beauty.”

- Converting sterile landscaping into a blooming garden of wildflowers adds intrigue and beauty.
- At first, native plants may put energy into roots instead of stems and flowers.
- What could you do with all that time you spend mowing?



A Lakeside Farm Preserves a Hunting Tradition

LAKE CHRISTINA

When Lake Christina first became famous as America's premier place for duck hunting, the nation had yet to recognize the fragile limits of its natural abundance.

Then, as now, Christina was a crucial stopover for migratory birds in the spring and fall. Waterfowl feed and rest here en route to Canada, the Gulf states, Wisconsin, Michigan, and even Chesapeake Bay. And in the early 1900s, when hundreds of thousands of Canvasback ducks arrived, trainloads of hunters were ready for them. Sometimes too ready. Unregulated

market hunters used cannon-like punt guns that could kill 100 ducks with a single shot. The tasty birds were packed in brine and shipped by rail to restaurants in far off Chicago and New York.

By the 1960s, Lake Christina's fortunes had severely declined. While Christina covers 4,000 acres, it's also shallow – four to six feet in many places. Schools of invasive carp had muddied the waters, which hampered the growth of pondweeds that feed ducks and keep the water clear. Farm runoff from the surrounding



landscape also added excess phosphorus and nitrogen, a bad combination for water clarity, aquatic plants that sustain the lake, and native fishes.

Great strides have since been made to clean up Lake Christina. This includes a \$2 million pump system to lower lake levels in winter, kill off the carp, and enhance plant growth. Yet Dan Gahlon has found a surprising way to assist the lake's comeback: he bought a lakeside farm.

"We're trying to bring the lake back to its heyday as the shallow lake diving duck headquarters of North America," said Gahlon, an avid duck hunter and conservationist. With his farm, Gahlon works to demonstrate a vital principle of watershed management. Namely, that a lake's health depends greatly on the health of the land around it.

"We're trying to bring the lake back to its heyday as the shallow lake diving duck headquarters of North America." – DAN GAHLON

Gahlon doesn't live on the lake, but he's a member of the Christina Hunt Club. There are 12 such clubs on Christina, a venerable tradition here. But without clear water and no sago pondweed (a duck favorite) that tradition could fade away.

So, in 2014, Gahlon bought an 80-acre farm with nearly a mile of frontage on Christina. He placed a Ducks Unlimited conservation easement on the property that ensures the farm will always provide wildlife habitat. The easement will stay in place in perpetuity, even should the property be sold.

"We planted prairie forbs and grasses that have really taken hold," Gahlon said. "We did controlled burns in 2014 and 2020 and it's great to see how thick everything came back."

"The conservation easement on this farm protects and provides valuable wildlife habitat along nearly a mile of lake frontage."



Then in 2016, he bought a second 120-acre parcel nearby. It had been farmed for corn and soybeans, but now it's used strictly for grazing. An easement held by the U.S. Fish and Wildlife Service requires that it be maintained as a natural prairie. Although to achieve that, Gahlon has had to turn back the ecological clock.

"We looked at aerial photos taken in the 1930s and that's been our blueprint," Gahlon said. "We wanted to see what it looked like before there was so much soil erosion and invasive tree growth."

What disappeared when the land was cropped for corn and soybeans were the wetland basins. They were seasonal wetlands, only two to three feet deep, that absorbed rain and kept runoff from the lake. But they no longer functioned that way after farmers planted red pines and invasive trees grew in.

"We took out about 1,000 trees to restore the basins," Gahlon said. "We sold the cottonwood to a pallet maker, and sold the red pine to a lumberyard. The ash, willow and box elder we chipped up and sold to a biomass plant."

With the trees gone, they scraped out the basins to their original depth. Then they reseeded the second grassland with a variety of prairie grasses and wildflowers – all hearty natives that can thrive there and keep the wetlands viable.

To turn back the clock even further, they brought cows onto the landscape. Granted, a cow herd might not sound like a good environmental neighbor for a sensitive lake. But, in fact, the cows mimic a long-lost denizen of the landscape: the buffalo.

"Like buffalo, cows leave hoof marks that allow water penetration into the sandy, rocky soil we have here," said Gahlon. "Over time, their manure builds a more organic soil and that benefits everything."

The trick is to prevent too much of a good thing. In ages past, buffalo were always on the move, literally in search of greener pastures. Gahlon now partners with a local organic farmer who uses rotational grazing to achieve the same effect. Using moveable sections of fence, he herds the cows and calves to fresh growth before they can harm the pasture.





KEY TAKEAWAYS

- A lake's health depends greatly on what happens on the land around it – whether residential or agriculture.
- Look at natural features around a lake and restore those – such as wetlands – that are important for wildlife habitat and water quality.
- Old aerial photos can be good guides for understanding how a lake's ecology has changed over time.



"It's working," Gahlon said. "Shortly after the cows came off, I walked the pasture and saw cow pies with wildflowers coming out of them."

As a farmer and hunter, that's how Gahlon hopes to become a duck's best friend.

"This is about trying to build a more sustainable landscape to support waterfowl, upland game, butterflies, and bumblebees," he said. "If I never shoot another duck in my life, I'd be fine with that."



Fish Sticks in Lakes

Help Put Fish on the Stringer

LAKE NEBAGAMON

Alan Yoshimoto has become a fish stick connoisseur. Only they're not the frozen-food staple served up by the platter at Friday night potlucks in the Midwest. His are tree-sized versions that stretch out from the shoreline of his home on Lake Nebagamon.

"I don't fish, but I want to enhance the lake for people who do," said

Yoshimoto. "Since we've put in the fish sticks, we've seen a lot more bait fish. And the first year, we had a family of otters who'd catch fish and use the downed logs as their picnic table."

For the record, the fish sticks along Yoshimoto's waterfront are sections of downed trees that were placed in the lake as habitat. With so many

recreational lakes devoid of what's called "woody habitat," the fish sticks provide crucial places where fish can feed and take shelter.

"The fish sticks act like a coral reef in the Caribbean," said Scott Toshner, fisheries biologist for the Wisconsin Department of Natural Resources. "Small fish get into the trees for protection from predators.





“The fish sticks act like a coral reef in the Caribbean.” – SCOTT TOSHNER,
FISHERIES BIOLOGIST, WISCONSIN DEPARTMENT OF NATURAL RESOURCES

Then the bigger fish wait outside for the small fish to make a mistake.”

The fish sticks program is funded by the Wisconsin Healthy Lakes & Rivers initiative. Homeowners can apply for a state grant of up to \$1,000 which covers about 75 percent of the fish sticks’ installation costs. Landowners and lake associations typically pitch in for the other 25 percent.

The fish sticks replace a crucial element of lake ecology that nature once provided for free. For eons, when a shoreline tree fell into a lake it remained there undisturbed. Fish would move in quickly to occupy the tree’s refuge of submerged roots

and branches. The downed tree became a nursery and cafeteria for creatures up and down the food chain, from algae and insects to ducks, songbirds, and turtles that sunned on its trunk.

Yet modern residential development has deprived lakes of this nourishment. To a human eye that favors golf-course style greenery, a fallen tree in a lake looks messy and out of place. It’s something to remove post-haste; not a natural artifact that’s essential to a lake’s well-being.

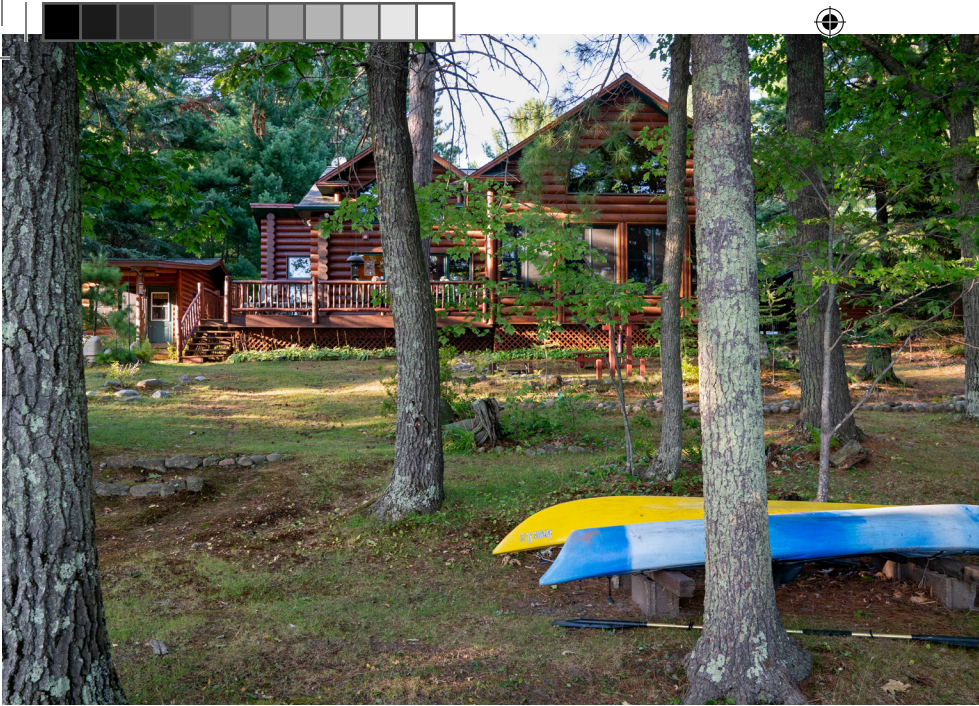
“Our lakes have taken on this urban aesthetic that interrupts the natural flow of nutrients from land

to the water,” Toshner said. “That energy transfer from dead trees is super important, but our style of development has truncated that.”

The fish sticks project replicates nature, but does so by adding woody habitat to places where it won’t interfere with docks and beaches.

The installation takes place in winter, when contracted loggers and volunteers cut down trees in wooded areas near the lake. They prefer live trees less than 18” in diameter because they’re easier to move and will sink when placed in water. Workers move the trees with trucks and skid steers over the frozen lake and drop them in clumps of three





to five near the shore. Then, they anchor the downed trees with steel cables that connect to a live tree or steel post on land. In spring, the fish sticks gradually settle to the bottom as the ice melts.

“On a natural lake, you’ll find 600-800 dead trees per mile of shoreline,” Toshner said. “On developed lakes, we’ve found between 20 to 200 trees per mile. The fish sticks help move us toward that natural abundance.”

While state officials coordinate the effort, volunteers are crucial to its success. On Lake Nebagamon, Alan Yoshimoto works with the Nebagamon Lake Association to recommend properties that qualify for Healthy Lakes & Rivers funds. And as a native of Hawaii, he embraces the Japanese tradition of making gardens that combine artful form with function.

“The downed tree became a nursery and cafeteria for creatures up and down the food chain, from algae and insects to ducks, songbirds and turtles that sunned on its trunk.”

“I’m not a green grass type, so I prefer my landscape natural,” Yoshimoto says. On his lot, he created a bed of cobblestones with graceful curves that acts as a swale to absorb rain runoff. He’s used fish sticks on his property to continue this natural landscaping aesthetic into the water. There are



KEY TAKEAWAYS

"I'm not a green grass type, so I prefer my landscape natural," says Alan Yoshimoto



also fish stick installations on his neighbors' properties, which are among the 60 on Lake Nebagamon. In 2022, the Nebagamon Lake Association plans to add two more installations.

And Toshner, who says there's a "huge social component" to Healthy Lakes & Rivers' projects, has begun to see new acceptance. "The biggest eye opener is when people start to value natural vegetation," he said. "That means when a tree falls in the water, they don't yank it out right away. We've found that people are more likely to have a natural shoreline if their neighbor has one."

- Woody habitat can be safely placed in areas where it benefits fish and wildlife, yet doesn't interfere with docks or beaches.
- Adding fish sticks is a fairly low-cost way to enhance fish habitat and attract popular wildlife such as ducks, great blue herons, song birds, and turtles.
- Consult your local natural resource agency staff for guidance, assistance, and potentially permitting to install fish sticks.





A Lakefront Preserved for the Ages

DUGOUT LAKE

The Fuller family retreat at Dugout Lake hardly looks threatened by the onslaught of civilization.

Their main cabin is the only dwelling on a 24-acre lake, its wild shores fringed by arrowy white pines and white birch. It's a modest, 90-year-old structure with no insulation

that uses Coleman lanterns for light. There are three other 10'x 10' "screen houses" for sleeping, but they make the 600 square-foot cabin seem palatial by comparison. By family decree, no motors are allowed on the lake – just rowboats, canoes and kayaks.

"Growing up, I spent two weeks here every summer," said Nate Fuller, who was raised in a Chicago suburb. "It's where my family was the happiest. I was just a kid in the woods on a lake; fishing, whittling, catching salamanders, and picking berries."





Today, that summer ritual continues with Nate's own family during the two weeks they spend on Dugout Lake. It all seems timeless, right down to the weathered picnic table that's hosted multitudes of outdoor dinners. Yet what will the rest of the 21st or 22nd Century bring? Despite good intentions, the fate of undeveloped land can be tenuous. Will the small human footprint that protects Dugout Lake now remain that way for another 90 years?

For the Fullers, the best solution has proven to be a conservation

easement. The easement is a legal deed restriction that permanently protects the property from development. It will remain in place even should they sell the land and buildings to someone else. While the Fuller clan's six families still own and have full use of their private 120-acre retreat, the easement is held by the Northwood Land Trust (NWLTL).

"The Fuller family treasures their unique property, so they've chosen to prioritize protecting it over the monetary gain that could come from subdividing it," said Kari Kirschbaum, land protection coordinator for NWLTL. "Placing a conservation easement on the property is a way to ensure that their stewardship of the land continues in future generations."

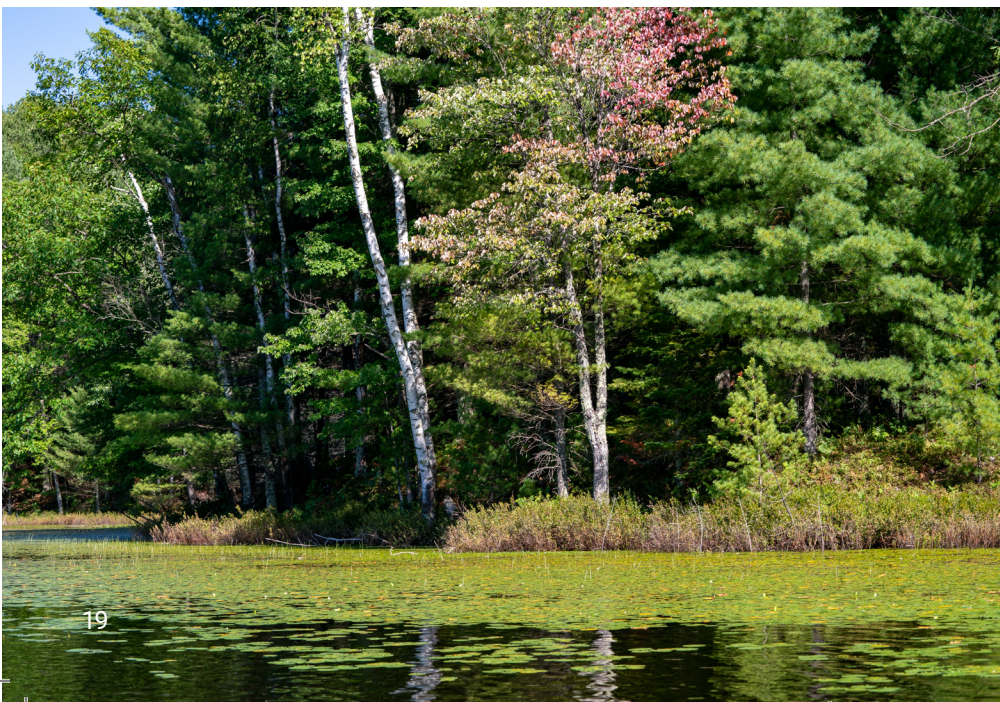
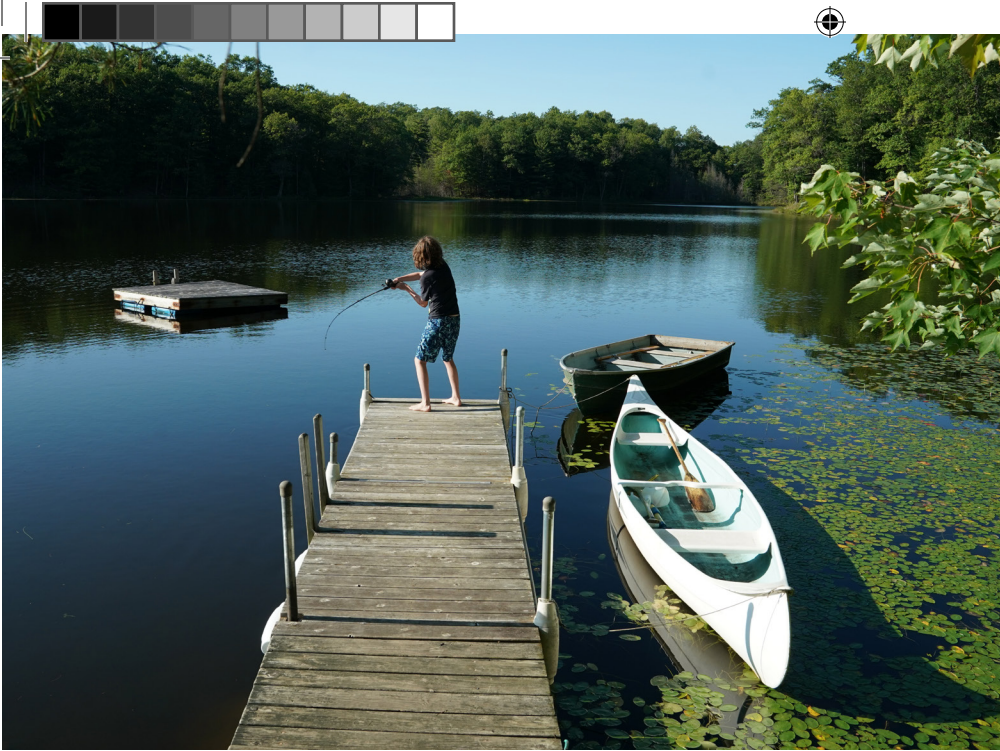
There are 1,363 land trusts in the United States, local nonprofits that work with private landowners to protect land. Together, they protect 56 million acres – twice the size of the national park system. Under federal law, land owners may receive

a tax deduction when they place an easement on their property. Yet the tax savings doesn't equal what landowners could make if they sold their land for development. That's because easements aren't designed to maximize profits; they're meant to convert the hope of conservation into a promissory note for the future.

"My great-grandma used the settlement from her husband's life insurance to buy a place 'up north,'" Nate said. "In summer, she suffered terribly from hay fever in the city."

Years later, Nate's grandparents used the cabin for their honeymoon. His grandpa, who died in his early 60s, spent many happy hours clearing brush from around seedling pines. He let a grove of aspens grow "so he could hear their leaves rattle in the wind."

Then, in 2015 came a reckoning of sorts. Fittingly, it happened during a celebration of Grandma Fuller's 100th birthday. "We asked ourselves,



‘How do we preserve our family’s legacy and tradition?’ said Nate Fuller. “We have 20 first cousins who love this place passionately. But for how many generations will that land ethic continue?”

While the conservation easement idea surfaced at Grandma Fuller’s centennial, the family didn’t seriously pursue it until 2020. They finalized the deal in December 2021.

“This doesn’t change the way we use the land. We’ve just memorialized it with a partner that will help us look after it.”

– NATE FULLER

The easement prohibits most development, yet it doesn’t tie the family’s hands completely. They can selectively cut timber and the easement designates a few acres where they can build another house if they choose.

“We try to write easements that are flexible, and don’t remove tools from a landowner’s toolbox for managing the land,” said NWLT’s Kirschbaum. “It’s hard for anyone to imagine the challenges that landowners may face 50 or 100 years from now.”

But Kent Fuller, Nate’s father, is an 82-year-old retired EPA scientist. As much as anyone, he can picture what the forest might become in the decades ahead.



"There's already been enough climate change that mixed hardwoods will be dominant," he said. "But we'd like to see some of the white pine super-story move in. These are the big, towering trees that take the better part of 100 years to grow."



Three generations of the Fuller family agreed to protect their private 120-acre retreat forever with a conservation easement.





Under the conservation easement, there could well be Fullers around to see them.

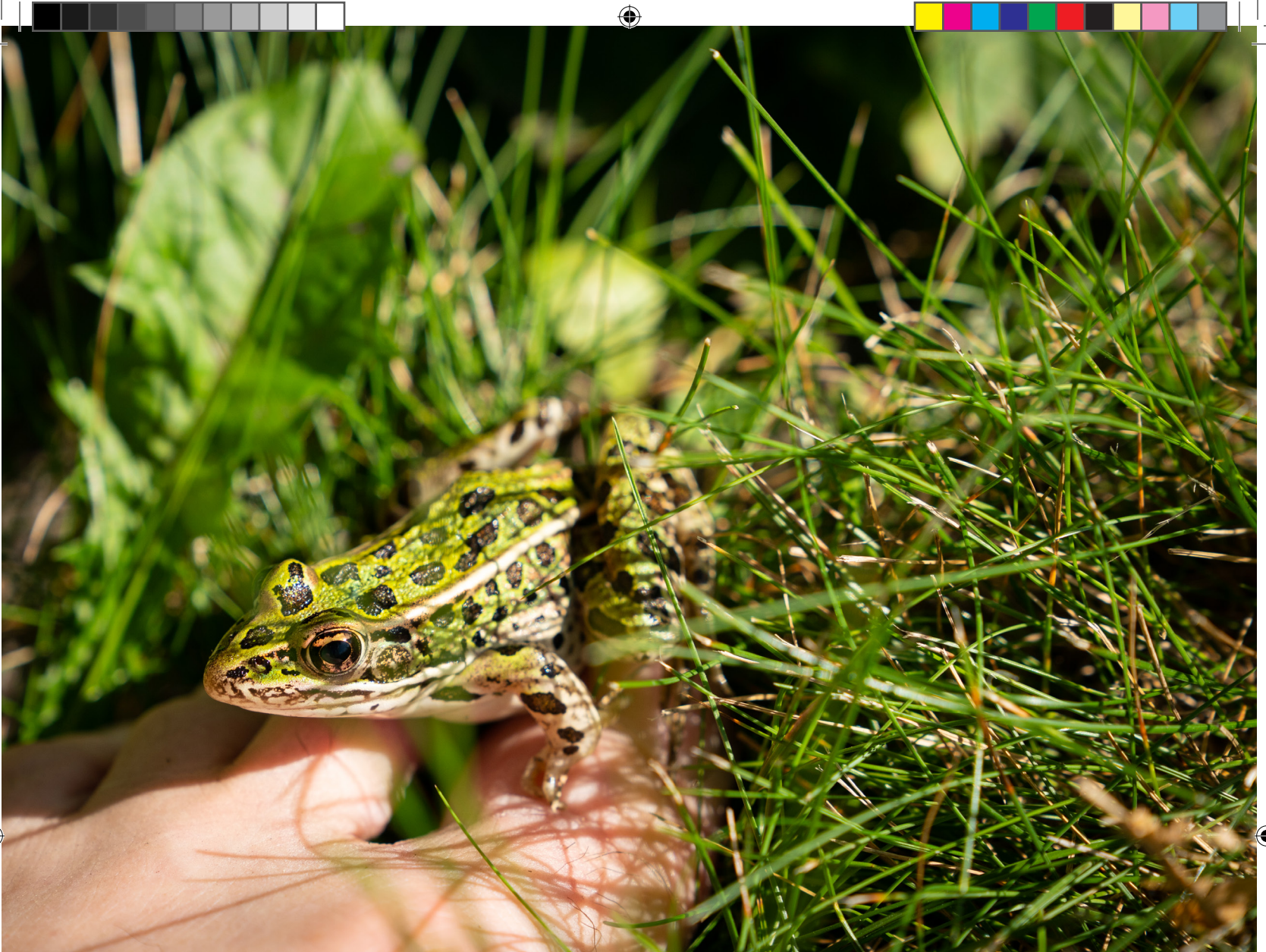
“At Grandma’s centennial, we had people hugging each other over our common love for this place,” Nate Fuller said. “The easement doesn’t change the way we use the land. We’ve just memorialized it with a partner that will help us look after it.”

“Easements can be flexible and don't remove tools from a landowner's toolbox for managing the land.”

KEY TAKEAWAYS

- Land trusts have a proven ability to help families secure their land’s legacy.
- Conservation easements often protect forested and natural land cover, which also protects water quality, fish, and wildlife.
- Good conservation easements allow some flexibility for land management.





For Kids and Adults, **Wild Wonders Abound on a Natural Shore**

LAKE KAMPESKA

You can plant wildflowers and grasses along a lakeshore and watch them change and grow as the wheel of seasons rolls across the sky. But with children in the picture, something else can grow, too. Nine-year-old Emmitt Schulz could tell you that.

“Our grandson Emmitt can run free here,” said Margaret Schulz, of her family home on Lake Kampeska. “He looks for bugs to collect and monarch chrysalises. He knows all about different kinds of silk moths and where the turtles lay their eggs. And he wants to be a scientist when he grows up.”

In a yard gone native, an Emmitt (or Emma) can discover multitudes more than in a lawn where only common grass or stray dandelions prevail. While Lake Kampeska is no Yellowstone, the milkweed and monarchs, the blazing star and big bluestem are things curious and memorable. Which is why they inspire kids like Emmitt to memorize butterfly species, or study clouds and stars without a teacher's prodding.

"This is a wonderful, wonderful thing to expose him to," Schulz said. "Out here, he's so cognizant of nature – he loves to watch the sky. Every year here things look different."

"Our grandson can run free here. He knows all about different kinds of silk moths and where the turtles lay their eggs. And he wants to be a scientist when he grows up."

– MARGARET SCHULZ

Margaret and Ron Schulz have done all this on a lake lot that's 125 feet wide and 200 feet deep. It no doubt helps that Margaret has gardened for 55 years. She knows her hyssop and dill, and that her homegrown wolfberries have off-the-charts levels of antioxidants. Building this fund of natural knowledge has increased the Schulz's enjoyment. It may even prove life-changing for their grandson.

Yet it doesn't take a gardener or botanist to reap the benefits and protection that a natural waterfront offers. A case in point is Kampeska, a 5,250-acre lake where 90 percent of the shoreline is developed. It's prone to catastrophic floods, most famously in 1997, which left 5,000 people homeless and prompted a visit by Vice President Al Gore. While periodic floods degrade the shore, the ongoing urbanization causes nutrient-rich runoff that fuels algae blooms.

"The Schulz's home is prone to flooding and that's the kind of property we want to lock down with protection," said Rhet Russell, habitat and access biologist for





South Dakota Game, Fish, and Parks. "You can really see erosion where people have Kentucky bluegrass yards that run down to the lake. We have terrific winds out here, and when big waves come, they start losing their real estate."

"But during the last flood, the Schulz's house did just fine even though their neighbors had issues. After the water receded, we could see where their deep-rooted native plants were still in good shape."

The Schulz family has owned their Lake Kampeska property for 25 years and rebuilt what was a small cabin into a four-bedroom, all-season home. With a gardener's eye for proportion, Margaret changed the home's orientation so that its axis faces the lake. But when the first big flood came 10 years ago, even her feng shui skills couldn't stop it.

"I was at a meeting of the Izaak Walton League (a conservation nonprofit) and heard a talk about natural shorelines," she said. "I took the speaker's business card afterward and said, 'this is what we need to do. Immediately.'"



Along with lush beds of undulating grasses and flowers, what stands out from the lake are large rocks on the Schulz's beach. Installed by a contractor, their irregular shape helps break up waves in ways that a straight, rigid seawall will not. A bed of smaller cobblestones behind the boulders further softens the waves' impact.

"On most prairie pothole lakes like Kampeska, there's rocks on the shore. Mother Nature rolls them from the bottom and deposits them to the edge over time," Russell said.

While a natural shoreline has served the Schulz family well, Russell doesn't want it to stop there. He says the lake's health would measurably improve if only 10 percent of its property owners planted a natural shoreline. And that's where positive peer pressure comes in – prompted by the "wow factor" of gorgeous, unusual flowers, low maintenance costs and kid-friendly encounters with nature.

A lake's health can measurably improve if even a small percentage of property owners plant a natural shoreline.





KEY TAKEAWAYS

"When we put in a new natural shoreline, it's common to see two or three neighbors do the same in either direction," he said. "One selling point is that it gives them more time to enjoy the lake. They don't have to work in their yard all the time."

As an extreme example, Russell cites a landowner on the steeply banked side of Kampeska. He put in a natural shoreline after he realized that it was the safer, saner alternative to turf grass.

"The bank was so steep that he needed cleats to walk on it," Russell said. "Finally, he said, 'This is crazy. If I'm going to wear cleats it's going to be on the golf course – not while I'm mowing my yard.'"

- Deeply rooted native plants protect your shoreline from erosion.
- Natural landscaping creates an ideal playground for kids.
- Rocks and cobblestones can be a natural alternative to seawalls to soften the impact of waves.





Learn More

WANT TO LEARN MORE ABOUT HOW YOU CAN BENEFIT YOUR LAKE THROUGH A PROJECT ON YOUR PROPERTY? CHECK OUT THE RESOURCES BELOW IN YOUR STATE.

ILLINOIS

Program: **Illinois Nonpoint Source Management**

Website: www2.illinois.gov/epa/topics/water-quality/watershed-management/nonpoint-sources/Pages/default.aspx

Program: **Illinois Department of Natural Resources District Fisheries**

Website: Contact the Biologist for your county at <https://ifishillinois.org/FAQS/biologists.html>

INDIANA

Program: **Lake and River Enhancement Program**

Website: <https://www.in.gov/dnr/fish-and-wildlife/wildlife-resources/lake-and-river-enhancement/>

IOWA

Contact the **Iowa Department of Natural Resources District Fisheries Biologist** for your area:

Spirit Lake District - **712-336-1840**

Clear Lake District **641-357-3517**

Black Hawk Lake District **712-657-2638**

Website: <https://www.iowadnr.gov/About-DNR/DNR-Staff-Offices/Fisheries-Management>

MICHIGAN

Program: **Michigan Natural Shoreline Partnership**

Website: www.mishorelinepartnership.org

MINNESOTA

Program: **Restore your Shore**

Website: www.dnr.state.mn.us/rys

Program: **Forest Stewardship**

Website: <https://www.dnr.state.mn.us/foreststewardship/index.html>

NORTH DAKOTA

Program: **Save Our Lakes Program**

Website: gf.nd.gov/plots/landowner/sol

Program: **Watershed Management Program**

Website: deq.nd.gov/WQ/3_Watershed_Mgmt/1_NPS_Mgmt/NPS.aspx

OHIO

Program: **Ohio Department of Natural Resources Division of Water**

Website: <https://ohiodnr.gov/wps/portal/gov/odnr/discover-and-learn/land-water/inland-lakes>

Program: **Soil and Water Conservation Districts**

Website: <https://agri.ohio.gov/divisions/soil-and-water-conservation/find-a-local-swcd>

SOUTH DAKOTA

Program: **South Dakota Game, Fish & Parks Shoreline Restoration Program**

Contact: Jason Jungwirth, **605-223-7610**

Jason.Jungwirth@state.sd.us

WISCONSIN

Program: **Wisconsin Healthy Lakes & Rivers Program**

Website: www.Healthylakeswi.com



