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Opinion Exchange

MINNESOTA'S LAKES

FROM RUNOFF TO RUIN



If 75 percent of a lakeshore remains mainly forested, the chance of maintaining lake quality is good. But when natural cover falls below 60 percent, lakes begin to deteriorate.

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Land use did the damage; much of it can't be undone. In some parts of the state, however, there's still hope.

By RON WAY and STEVE BERG

No one can deny the mystical bond that ties Minnesota's people to its lakes. "Going to the lake" evokes sensations so vivid that they define who we are: the lapping of water, the wail of a loon, the tug of a walleye on the line, a breeze in your face, the sun on your shoulder. Memories pass from one generation to the next.

And yet, we Minnesotans are in deep denial about the critical condition of our lakes and the culpability we share. We are loving our lakes to death.

Agriculture has drained or poisoned the prairie lakes and potholes of southern and southwestern Minnesota. Forget about them; they're gone.

A similar fate awaits the heart of lake country — the thousands of recreational lakes clustered around Brainerd, Detroit Lakes and Alexandria in central Minnesota. It's not the crush of shoreline development by itself that's killing them; it's the reckless way in which development has been allowed to proceed.

Over the last half-century, quaint lakeside cabins have been transformed, by the thousands, into mega-homes with large fertilized lawns running to the water's edge. Nearby towns have been converted to suburban-style strips with vast parking lots. Add in all the golf courses, faulty septic tanks and riprap barriers that replace natural shoreline vegetation, and you begin to realize how an exponential increase in unfiltered runoff has remade these lakes into a nutrient soup that's quite literally suffocating fish and other native species within them.

This year's early halt to walleye fishing on Mille Lacs, the state's most popular fishing lake, is a particularly ominous example.



Source: Provided by Ron Way using information from the Minnesota Department of Natural Resources and the U.S. Environmental Protection Agency
MARK BOSWELL • Star Tribune

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See **LAKES** on OP3 ▶

“It’s death by a thousand cuts,” said Peter Sorensen, a fisheries expert at the University of Minnesota and one of a number of scientists who consider the damage irreversible, given the added realities of a warming climate and a stiff political resistance to land-use changes needed to restore central Minnesota’s lakes. Over the next few generations, those lakes will die, too.

The best we can hope for, then, is to preserve the still relatively pristine tier of forest-encircled northern lakes that stretches roughly from Bemidji and Park Rapids, through the Leech Lake region and into the Arrowhead. But saving those lakes will require two extraordinary acts of courage: first, an acknowledgment that the laissez-faire path we’ve followed for 50 years has failed, and, second, a new resolve to pass and enforce land-use regulations that diminish the impact of human settlement.

The aim shouldn’t be to inhibit future development but to change development’s character in ways that protect lakes and their surrounding watersheds.

Those are monumental tasks. Admitting we’ve been wrong is a hard thing. We are like fugitives with “stop me before I kill again” tattooed on our chests; we can’t seem to help ourselves. “Much of this has been unintentional and mostly inadvertent,” Sorensen said, and he’s right about that.

Local officials didn’t set out to kill the lakes of central Minnesota. But desperate for tax base, they’ve encouraged hundreds of projects that, when considered cumulatively, have marred the character of lake country and irreparably damaged water quality in the process.

It has been a gradual transformation that most people regard simply as progress. Beginning in the years following World War II, the expansion of prosperity to a broader middle class opened lakefront property to the masses. A home on a lake came to signify the good life. There are no reliable numbers to measure the surge in lakeshore dwellings between, say, 1950 and 2010. But to suggest a tenfold increase, both in the number of dwellings and the volume of runoff, would draw few arguments.

The damage came less from numbers, however, than from careless design. The real-estate market and local governments treated lake country not as a delicate ecosystem but as an ordinary template for suburban excess. The jarring retail strip along Hwy. 371 between Baxter and Nisswa offers an ironic example. Its lineup of big boxes fronted by barren parking lots replicates the suburban sprawl that vacationers go north to escape.

There’s no mystery about what’s needed: a built environment that harmonizes with nature rather than defying it.

Consider, too, the lakeshores themselves, now studded with triple-car garages and large-scale homes with broad, sloping lawns. We’ve rebuilt suburbia at the lake.

Understanding how this trend has affected lake water is crucial for any hope of avoiding similar degradation farther north.

If 75 percent of lakeshore remains mainly forested, the chance of maintaining lake quality is good, said Peter Jacobson of the state’s Department of Natural Resources. But when natural cover falls below 60 percent, lakes begin to deteriorate.

Here’s what happens: Runoff from farm fields and pavement creates a nutrient overload in nearby lakes. The process accelerates when natural buffers are replaced by lawns and riprap barriers at the water’s edge. When air temperatures rise in the spring, the upper layer of lake water heats up, causing algae blooms that decay and consume oxygen that otherwise sustains fish and their habitat. Climate change compounds the problem by keeping the water warmer for longer periods.

By mid- to late summer, mats of green scum can dominate the upper layers, forcing rotting algae to seep into deeper, colder parts of the lake, depleting oxygen for the feeder fish like the fatty cisco needed to grow large sport fish. The lake “crashes” when sport fish can no longer thrive. Invasive species — like zebra mussels and Eurasian water milfoil — further complicate the situation.

The economic impact can be stunning. Sport fishing in Minnesota is conservatively valued at \$2 billion per year. According to Tom Watson, president of the Whitefish Property Owner's Association, tourists annually spend \$125 million directly and \$140 million indirectly in Crow Wing County alone. Lakeshore property values statewide run into the tens of billions of dollars.

Can't sick lakes be restored? Not realistically, so long as local officials continue to resist changes in land-use practices. The state's sales-tax-supported Clean Water and Legacy Fund was supposed to make a difference, but much of that money is being spent on collecting data to document problems that are already well-known.

Like people, lakes have a life cycle, Sorensen explains. A 60-year-old human body wracked by smoking and reckless living can't be restored to that of an energetic 30-year-old, he said. Abused lakes are like that, too.

Instead, the focus should shift to keeping clean lakes clean, insists Bill Patnaude, Beltrami County's environmental services director, pointing to his County Board's "full commitment" to maintaining high quality in its 300 lakes.

Indeed, resolving to mend our ways in order to save the lakes farther north will take an entirely new mind-set, bolstered by rules that are enforced, not ignored. That will be the hardest part, not because the needed rules are difficult but because northern Minnesotans have a cantankerous attitude about outsiders telling them what to do, especially if it's "for their own good." Anyone with an ounce of political savvy knows the history of hard feelings. Often, it's portrayed as a battle over property rights or between environmentalism and economic development, but that's an obsolete frame of mind. Truth is, preserving the quality of lake water in northern Minnesota is a huge component of economic development.

There's no mystery about what's needed: larger setbacks for new lakeside homes, natural buffers between lakes and yards, a prohibition against nitrogen fertilizers, frequent inspections of septic systems, and incentives for traditional town design that limits the size of paved parking lots while encouraging native plants, rain gardens, maximum tree coverage and permeable pavers. In short, what's required is a built environment that harmonizes with nature rather than defying it.

For years, the state had a planning agency to lead such efforts. But Minnesota Planning was eliminated in 2003, and the state's Environmental Quality Board was gutted. There are laws still on the books aimed at helping guide local governments toward achieving "sustainable development." The state offers a "model ordinance" and a "milestone report" to evaluate progress. Gov. Mark Dayton has now launched a new citizens' advisory board to help fill the void. But local governments often ignore the sustainable framework, or override it when development comes calling.

Objections from seasonal property owners are also routinely dismissed, said the Whitefish association's Watson, largely because most lakeshore homeowners are nonresidents and don't vote locally.

The need for rules is perhaps best illustrated by a recollection from Jim Erkel, an attorney for the Minnesota Center for Environmental Advocacy. When, in 1996, officials in Two Harbors asked the owner of a new fast-food restaurant why he had cut down a grove of beautiful pine trees (planted by Boy Scouts in the 1930s) near his new store while he'd been far more careful about the environment and history around his Duluth store, the owner replied that Duluth had rules and Two Harbors did not.

"It was a light-bulb moment," Erkel said. "He cut the trees because the town let him. That pretty much explains everything."