

‘Our livelihood is in danger’: Lake Winnepesaukee has a bacteria problem, and locals are worried

‘If our lake is in danger, then our livelihood is in danger,’ said a local business owner who is raising funds and awareness

By [Amanda Gokee](#) Globe Staff, Updated June 25, 2025, 9:14 a.m.



Bob Manley is rowing across Lake Winnepesaukee in June to raise money for environmental conservation efforts. DAVID L. RYAN/GLOBE STAFF

CONCORD, N.H. — Bob Manley is waiting for just the right day.

He'll slip his scull — a long, slim rowing shell — into the water and row 21 miles clear across Lake Winnepesaukee, from one side to the other. But the weather has to be just right: no extreme heat, no torrential rains, no high winds to whip up 4-foot waves. And the level of bright green, potentially toxic cyanobacteria blooms, [made worse by climate change](#), has to be low enough not to cause problems.

Manley is rowing to raise awareness and money to address the environmental problems brewing in the lake he loves.

In 2024, Winnepesaukee saw [record cyanobacteria blooms](#), amid warmer temperatures and an increase in nutrients that feed the bacteria. It [closed parts of the lake](#) to swimmers for days at a time.

For some, the high levels served as a wake-up call about water quality issues threatening New Hampshire's largest lake, a beloved destination for locals and visitors alike and home to summer camps that families have attended for generations.

"This lake is the center of this region. It is the reason that people come here from all over the world," said Manley, an owner of [Hermit Woods Winery](#) in Meredith. "If our lake is in danger, then our livelihood is in danger."

Bob Manley of Meredith, N.H., is rowing across Lake Winnepesaukee in June to raise money for environmental conservation efforts. DAVID L. RYAN/GLOBE STAFF

Lake Winnepesaukee contributes about \$17 billion to the state's economy each year, according to [a 2021 study from Dartmouth](#). That includes tourism and recreation, resources for nearby towns, and the impact on real estate prices in the area.

“I don’t think you could stress enough how important it is for us to save this body of water,” said Manley. He is rowing to raise money for the [Lake Winnepesaukee Alliance](#), a nonprofit dedicated to protecting the lake through monitoring, education, stewardship, and lake management.

The organization has been tracking water quality at Winnepesaukee since the early 1980s. In that time, it has seen the levels of phosphorus increase and, with it, record-high levels of cyanobacteria blooms, according to Bree Rossiter, conservation program manager.

A view of Lake Winnepesaukee in Meredith. DAVID L. RYAN/GLOBE STAFF

Cyanobacteria is a naturally occurring algae-like bacteria found in low levels in all of New Hampshire’s lakes and ponds. It’s one of the oldest living organisms on Earth, but when it grows quickly, it can be toxic, causing skin rashes, respiratory and gastrointestinal distress, and in rare cases, death to people [and pets](#), according to the [Environmental Protection Agency](#).

“In 2024, we had the most amount of cyanobacteria blooms that we’ve ever seen on Winni,” including in parts of the lake that typically don’t harbor the potentially toxic blooms, Rossiter said.

Ice coverage on the lake has lessened in recent years, said Rossiter, noting that 2023 saw the shortest period of coverage since the 1800s. That has allowed sunlight, which helps cyanobacteria grow, to penetrate the lake earlier in the season. Intense rainstorms have created runoff flowing from lawns into the lake and bringing along nutrients that fuel the cyanobacteria’s growth.

Leavitt Beach on Lake Winnepesaukee, which had been closed in 2024 for pollution. DAVID L. RYAN/GLOBE STAFF

Thanks to climate change, the region is [seeing those conditions more often](#). In 2024, the amount of potentially toxic blooms more than doubled the average in past years, according to Rossiter.

“It’s just kind of a recipe for disaster,” she said.

Meanwhile, phosphorus levels in the lake are about 300 percent higher now than they were prior to European settlement, according to the alliance’s data. There’s been an uptick over the past 10 years, Rossiter said, and phosphorus levels in the lake’s water have grown to about six parts per billion. The more phosphorus in the water, the more algae and other plants can grow, often leading to murkier water.

Andrea LaMoreaux, president and policy advocate at NH Lakes, a nonprofit that works on lake preservation and restoration, warns that Lake Winnepesaukee is not alone in water quality issues. Around the state, she said, increased algae levels, decreased transparency, and large cyanobacteria blooms are signs that lakes are approaching a tipping point, where conditions could get much worse – and remediation could be significantly more difficult.

A gull on a dock piling at Lake Winnepesaukee. DAVID L. RYAN/GLOBE STAFF

As lakes age, they naturally start filling in thanks in part to materials carried in by streams. The amount of plants growing in the water increases, and clear water becomes murkier. Over time, lakes turn into ponds, then marsh, until eventually they become meadows and, finally, dry land. But people are accelerating that process by adding more nutrients to lake water from sources like agriculture, fertilized lawns, and storm water runoff, according to the [New Hampshire Department of Environmental Services](#).

Since the 2000s, LaMoreaux said, cyanobacteria bloom sightings have been on the rise, a trend that's been accelerating in recent years.

"What's new is that last summer, Lake Winnepesaukee bloomed almost lakewide two times," she said. "I think that's what caught people's attention. . . . The big pristine lake all of a sudden is having cyanobacteria."

Amanda McQuaid, director of the University of New Hampshire Lakes Lay Monitoring Program, said the tipping point for more algal growth and cyanobacteria typically happens when there's about 10 parts per billion of phosphorus in the water.

"Unfortunately, a lot of our lakes kind of dip in and out of that range," she said. (The Lake Winnepesaukee Alliance is trying to limit phosphorus to no more than eight parts per billion in that lake.)

McQuaid said human development around lakes can contribute to the problem, pointing to the flurry of development after the COVID-19 pandemic. Impervious surfaces like roofs, parking lots, and driveways deflect water instead of allowing it to be absorbed into the ground, and the runoff carries nutrients into the water, feeding algae, bacteria, and plants. Leaky lakeside septic systems are another culprit.

Winnepesaukee is a highly developed lake, with private properties dotting much of the shoreline. That limits where the Lake Winnepesaukee Alliance can conduct mitigation projects.

Bob Manley rowed in Lake Winnepesaukee. DAVID L. RYAN/GLOBE STAFF

But the alliance also works with property owners to provide recommendations about how to be more lake friendly, like getting their septic system pumped, avoiding fertilizers, or adding a buffer of native plants to their shoreline to filter polluted storm water runoff.

Still, the uptick in cyanobacteria blooms last summer disrupted small business on and around the lake.

Peggy Ames is the fifth generation innkeeper at Ames Farm Inn in Gilford, N.H. Last summer she had to explain to her guests why they couldn't swim in the lake.

She said that if the blooms continue, visitors could go elsewhere. "People don't want to come up here and not be able to enjoy the water," said Ames.

But, she said, the blooms caught people's attention, and it could push them to take action.

"It woke people up to knowing that this is a resource we do need to protect," she said.

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