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A Minnesota agency was supposed to limit nitrates a decade ago. Officials say they can't (startribune.com)

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A Minnesota agency was supposed to limit nitrates a decade ago. Officials say they can't

The Minnesota Pollution Control Agency spent \$600,000 studying the problem but decided regulations wouldn't work.

By **Greg Stanley** Star Tribune

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Retired state lawmaker Jean Wagenius, pictured while serving in the House in 2015, says the MPCA is flouting a legislative directive to regulate nitrate pollution.

The Minnesota Pollution Control Agency (MPCA) is supposed to protect fish and other aquatic life by setting limits on the amount of nitrate pollution flowing into rivers and lakes.

The MPCA hasn't done it.

It has now been 13 years since lawmakers gave the agency \$600,000 to study the problem and **directed it** to adopt a pollution standard. The process was expected to take three years.

Pollution regulators would need to come up with a way of keeping nitrates, which primarily come from big corn and soybean farms, below certain levels so they wouldn't degrade the state's waterways to the point where fish were dying.

MPCA leaders said recently that they have no plans to adopt such a standard anytime in the near future.

Without an enforceable limit, there is no reason to think that the nitrate pollution that has been harming groundwater, private wells and lakes and rivers for decades will improve, said Jean Wagenius, a former state representative for more than 30 years who helped write the bill funding the standard.

"It was obvious that nitrogen was a problem in 2010 and was getting worse," Wagenius said. "All we're hearing from the MPCA is that they're planning on just doing more of what they've been doing, which is not working."

Wagenius, who left the Legislature in 2021, raised the issue in a column she wrote last month in the [Minnesota Reformer](#), saying that state agencies weren't enforcing the law.

Agency leaders told the Star Tribune that as they did the work to develop the standard, it became clear that it wouldn't address the root of the problem.

Enforcing it would raise significant costs — potentially hundreds of millions of dollars — on small wastewater treatment plants across the state, which don't produce much nitrate pollution, said Dana Vanderbosch, assistant MPCA commissioner.

Meanwhile, it wouldn't do much to reduce nitrates from Minnesota's primary source. State studies have found that more than 70% of nitrate pollution comes from agriculture, especially manure-intensive row-crop farming. Less than 10% of the pollution comes from point sources such as wastewater treatment plants.

"When we have a standard, as soon as it is passed we start applying it to our permits," Vanderbosch said. "Those are for regulated sources like wastewater treatment plants. But the large majority of nitrate pollution comes from unregulated sources. Unregulated means we have no authority to impel to act in any way."

Nitrate is a dangerous byproduct of nitrogen that can come from farm fertilizers and manure and leaches into groundwater. Much of the concern over it has centered on human health.

It is particularly harmful to infants. Years ago, the federal government set a nitrate limit for drinking water of 10 milligrams per liter, or 10 parts per million. That limit applies to all groundwater and any surface water that people and cities use to drink.

It does not, however, apply to the rest of state's lakes and streams.

Nitrate pollution is also dangerous to aquatic life. It's a major cause of the dead zone in the Gulf of Mexico, where depleted oxygen makes it nearly impossible for creatures to survive.

Recognizing the threat, Minnesota pledged in 2014 to cut nitrogen pollution by 20% in the Mississippi River by 2025. However, it has only increased since then. By 2020, it jumped by as much as 62% in some parts of the Mississippi, according to a [progress report](#) from the MPCA.

What's particularly frustrating to Wagenius and other water quality advocates is that MPCA scientists did their job. They produced a report almost immediately, back in 2010, that showed that they believed that Minnesota fish would start to die if nitrate concentrations reached 4.9 parts per million in a water body for an extended period of time.

Agency leaders held off adopting the standard or setting a limit in order to wait for federal studies on the issue to wrap up at the U.S. Environmental Protection Agency.

They ended up waiting more than 10 years.

"They did this wonderful technical report in 2010 and then absolutely nothing happened," said Paula Maccabee, advocacy director for WaterLegacy, a Minnesota-based nonprofit that recently petitioned the MPCA to adopt the standard.

In October, agency scientists reviewed the completed studies from the EPA and updated their 2010 report, saying that fish could start dying in many Minnesota waters at 8 parts per million. Some sensitive species that rely on particularly cold waters, such as young lake trout, could die if nitrates reached above 5 parts per million for at least four days, the report found.

Rather than adopt the standard for aquatic life, the MPCA announced that it was going to postpone a decision indefinitely.

"We decided to focus on other tools and approaches," Vanderbosch said.

Those include incentives, studies and voluntary training programs to encourage best management practices on agricultural land.

"We're continuing those efforts and redoubling those efforts to approach this in a holistic way," she said.

Over the years, the MPCA has largely relied on education and voluntary programs, encouraging farmers to adopt best management practices such as growing cover crops, storing manure properly and paying close attention to when they apply fertilizer.

Those efforts have worked in cutting down some nutrient pollution, such as phosphorus. But the agency's own documents show that those practices have not been nearly as successful in reducing nitrates.

That's because phosphorus is carried into waters through runoff when heavy rains or snow melt washes soil away. Nitrogen, on the other hand, seeps straight through drainage tile lines and other pathways directly into the groundwater.

"Since the number of acres that are tile-drained and planted to row crops in Minnesota has increased over time, those changes may have offset some gains made in improved nitrogen fertilizer and manure management," the agency wrote in its 2020 progress report.

While row-crop farms don't have to follow permits limiting pollution the way that other industries and wastewater treatments do, permits aren't the only reason to adopt a water quality standard, Maccabee said.

"When there is no standard saying that rivers need nitrates below a certain level, then even when those rivers have high enough nitrates to kill aquatic life, the MPCA doesn't have to act," she said.

Wagenius said that ensuring water is safe for aquatic life is the best way to make sure it is safe for human health.

While municipalities and public water supplies are continually tested to ensure they remain under the 10 parts-per-million limit, private wells are rarely tested.

"People right now are drinking unsafe amounts of nitrates, and they don't even know it," she said. "The bottom line here is that it is the government's responsibility to keep citizens safe, and that includes drinking water."