



## **State Joint Information News Clips**

Tuesday, August 5, 2014 – PM

## Ohio's water crisis is a warning to all states

By Neena Satija, The Texas Tribune August 4

The harmful toxin found in Lake Erie that caused a water crisis in Ohio's fourth-largest city this weekend has raised concerns nationally. That's because no states require testing for such toxins, which are caused by algal blooms. And there are [no federal or state standards](#) for acceptable levels of the toxins, even though they can be lethal.

In Toledo, Ohio, where [voluntary](#) tests at a water treatment plant found elevated levels of the toxin [microcystin](#), which is produced by blue-green algae, the city is [urging residents](#) and the several hundred thousand people served by its water utility not to drink tap water, even if they boil it. Exposure to high levels of microcystin can [cause](#) abdominal pain, vomiting, diarrhea, liver inflammation, pneumonia and other health problems, some of which are life-threatening. Restaurants have closed, and there are shortages of bottled water as far as 100 miles away.



Above is a sample of Lake Erie water near the City of Toledo water intake crib. More tests are needed to ensure that toxins are out of Toledo's water supply, the mayor said Sunday, instructing the 400,000 people in the region to avoid drinking tap water. (AP Photo/Haraz N. Ghanbari)

In Texas, which has battled blue-green algae problems at several of its lakes, surface water data has “not demonstrated levels of algal toxins that show any cause for alarm,” said Terry Clawson, the spokesman for the state's Commission on Environmental Quality. But he said the agency “considers it important to continue screening available data to determine if additional monitoring and evaluations are needed” and is screening selected reservoirs for blue-green algae and microcystin. It is also waiting to review data collected over several years by the U.S. Geological Survey on many Texas lakes.

The crisis in Ohio is likely to prompt policy changes there. That's because algal blooms are becoming increasingly common in [Lake Erie](#), the water supply for 11 million people living around the Great Lakes.

In Texas, [state guidelines](#) suggest notifying the public of potential swimming hazards if microcystin levels in recreational waters are found to be above 20 parts per billion. But regulators have no plans to draft standards that address algal blooms by requiring testing or identifying acceptable levels of the contaminants in water, even though the state has identified algae and its resulting toxins as an emerging concern.

After a scare over algal blooms and water quality for recreational users of Lake Texoma, local officials last year asked for [input](#) from several different Texas agencies about their views on blue-green algae. Clawson said that cell counts for blue-green algae in Texoma, which the agency is now monitoring, are sometimes elevated but that “microcystin occurrence has been relatively low.”

Recently, [Houston had issues](#) with blue-green algae in Lake Livingston and the Trinity River, which caused elevated levels of naturally-occurring chemicals that were not toxic or unsafe for drinking but prompted a foul odor. Even though those chemicals were nontoxic, scientists say they know little about when and why algae produces toxic vs. nontoxic chemicals.

Waco, Tex., has also [struggled](#) with blue-green algal blooms for years, and the problems there may be more serious. The city already spent tens of millions of dollars to lower concentrations of nontoxic chemicals that changed the taste or smell of the water. More recently, however, microcystin has been detected in Lake Waco, but Waco says its treatment plant so far has the technology to address the problem. Treatment plants have a limited ability to get rid of such toxins, but it is expensive, and there is no standardized method.

The most recent data on microcystin testing in Texas is from a 2007 [federal assessment](#) that included many Texas reservoirs. They showed levels of microcystin that were very low, under 1 part per billion.

*This [article](#) originally appeared in the Texas Tribune.*

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## The New York Times

### Behind Toledo's Water Crisis, a Long-Troubled Lake Erie

By [MICHAEL WINES](#) AUG. 4, 2014

TOLEDO, Ohio — It took a serendipitous slug of toxins and the loss of drinking water for a half-million residents to bring home what scientists and government officials in this part of the country have been saying for years: Lake Erie is in trouble, and getting worse by the year.

Flooded by tides of phosphorus washed from fertilized farms, cattle feedlots and leaky septic systems, the most intensely developed of the Great Lakes is [increasingly being choked each summer by thick mats of algae](#), much of it poisonous. What plagues Toledo and, experts say, potentially all 11 million lakeside residents, is increasingly a serious problem across the United States.



Algae-infested water from Lake Erie on Monday washed up onshore at Maumee Bay State Park in Oregon, Ohio, near Toledo. Credit Joshua Lott for The New York Times

But while there is talk of action — and particularly in Ohio, real action — there also is widespread agreement that efforts to address the problem have fallen woefully short. And the troubles are not restricted to the Great Lakes. Poisonous algae are found in polluted inland lakes from Minnesota to Nebraska to California, and even in the glacial-era kettle ponds of Cape Cod in Massachusetts.

Algae fed by phosphorus runoff from mid-America farms helped create an oxygen-free dead zone in the Gulf of Mexico last summer that was nearly as big as New Jersey. The Chesapeake Bay regularly struggles with a similar problem.

When Mayor D. Michael Collins [told Toledo residents on Monday that it was again safe to use the city's water](#), he was only replaying a scene from years past. Carroll Township, another lakefront Ohio community of 2,000 residents, suspended water use last September amid the second-largest algae bloom ever measured; the largest, which stretched 120 miles from Toledo to Cleveland, was in 2011. Summertime bans on swimming and other recreational activities are so routine that the Ohio Environmental Protection Agency maintains a website on harmful algae bloom.

Five years ago this month, the federal Environmental Protection Agency and state water authorities issued a joint report on pollution of the nation's waterways by phosphorus and other nutrients titled "[An Urgent Call to Action](#)."

"Unfortunately, very little action has come from that," said Jon Devine, the senior lawyer for the water program at the [Natural Resources Defense Council](#) in Washington.

"When we bring this subject up for conversation with the regulators, everyone sort of walks out of the room," Donald Moline, the Toledo commissioner of public utilities, said in an interview on Monday. "The whole drinking-water community has been raising these issues, and so far we haven't seen a viable response."

Lake Erie's travails — and now, Toledo's — are but the most visible manifestation of a pollution problem that has grown as easily as it has defied solution. Once the shining success of the environmental movement — Lake Erie was mocked as dead in the 1960s, then revived by clean-water rules — it has sunk into crisis again as urbanization and industrial agriculture have spawned new and potent sources of phosphorus runoff.

In Lake Erie's case, the phosphorus feeds a poisonous algae whose toxin, called microcystin, causes diarrhea, vomiting and liver-function problems, and readily kills dogs and other small animals that drink contaminated water. Toledo was unlucky: A small bloom of toxic algae happened to form directly over the city's water-intake pipe in Lake Erie, miles offshore.

Beyond the dangers to people and animals, the algae wreak tens of billions of dollars of damage on commercial fishing and on the recreational and vacation trades. With conservationists and utility officials like Mr. Moline, representatives of those industries have for years called for some way to limit the phosphorus flowing into waterways.

There are practical and political reasons, environmental activists and other say, why it has not happened. The biggest, perhaps, is that the government has few legal options to impose limits — and voluntary limits so far have barely dented the problem.

The federal Clean Water Act is intended to limit pollution from fixed points like industrial outfalls and sewer pipes, but most of the troublesome phosphorus carried into waterways like Lake Erie is spread over thousands of square miles. Addressing so-called nonpoint pollution is mostly left to the states, and in many cases, the states have chosen not to act.

Beyond that, the Supreme Court has questioned the scope of the Clean Water Act in recent years, limiting regulators' ability to protect wetlands and other watery areas that are not directly connected to streams, or that do not flow year-round.

Wetlands, in particular, filter phosphorus from runoff water before it reaches rivers and lakes. A federal Environmental Protection Agency proposal to restore part of the Clean Water Act's authority has come under fire in Congress, largely from Republicans who view it as an infringement on private rights and a threat to farmers.

Some efforts to control pollution have found powerful opponents in agriculture and the fertilizer industry, which, for example, has fought limits on lawn fertilizers in Florida towns and on overall pollution of the Chesapeake Bay. The principal industry lobby, [the Fertilizer Institute](#), is part of a coalition of industry and agricultural interests that are opposing federal efforts to restore some coverage of the Clean Water Act.

With Lake Erie in peril, both Ohio and federal authorities have taken some steps to rein in phosphorus pollution. Some of the \$1.6 billion that Congress has allotted for a [Great Lakes Restoration Initiative](#) has gone to create wetlands and teach farmers ways to reduce fertilizer use and runoff. The Ohio government runs a Lake Erie Phosphorus Task Force that brings together interests from conservation to agriculture to industry to devise solutions to rising pollution.

But as in many places, Ohio has stopped well short of actually ordering the sources of phosphorus runoff to cap their production. A hefty Nutrient Reduction Strategy paper issued last year cites sheaves of demonstration projects, voluntary phosphorus reduction goals and watershed plans, but makes no mention of enforceable limits on pollution.

A spokesman for Gov. John R. Kasich, a Republican, did not return a call seeking comment on the state's phosphorus initiatives.

The legislature this year passed a law requiring farmers and other major fertilizer users to apply for licenses and undergo certification, but limits control of pollution to voluntary measures.

All mention of one contributor to the pollution problem — so-called confined animal feeding operations, the industrial-size feedlots that produce manure en masse — was stripped from the version that was enacted.

Environmental advocates say they agree that voluntary measures to limit phosphorus pollution, such as targeting fertilizer to precisely the locations and amounts that are needed, are a big part of any solution.

“We’ve worked with farmers, and we know it works,” said Jordan Lubetkin, a Great Lakes spokesman for the [National Wildlife Federation](#). “Voluntary programs will take you so far. But at the end of the day, you need numeric standards. You’ve got to limit the amount of phosphorus coming into the lake. That’s why you see what we’re seeing in Toledo.”

# The Columbus Dispatch

## A threat from our faucets

Toledo water crisis illustrates need for more emphasis on algae fight

Tuesday August 5, 2014 4:18 AM

Toledo's weekend without water was a trial for a half-million people in northwestern Ohio and southeastern Michigan, but the real wake-up call is sounding a few hours south — here in Columbus, where lawmakers yesterday pledged to make Ohio's plague of algae blooms a top priority.

That's appropriate; taking steps to ensure that Ohioans can continue to count on clean, safe drinking water should be Job One.

Massive algal blooms in Ohio lakes have become an annual phenomenon, and people who had to drive for miles and stand in line to buy bottled water over the weekend, and who worried about whether their children might have ingested toxins during their last bath, are on the front lines of a battle that has been brewing for years. But they're dependent on legislators to fight it, because the problem is bigger than any single community.

Unlike millions around the world, most people in the United States have been able to take clean drinking water for granted for decades, thanks to billions of dollars in public investment. But when a major metropolitan area finds itself facing a water emergency, it is time to shed complacency. Ohio should respond to the warning in Toledo before more communities are threatened.

Studies conducted by the National Center for Water Quality Research at Heidelberg University in Tiffin have found a direct link between farming and high levels of phosphorus in watersheds. When enough phosphorus is washed into streams and flows into lakes, warm summer temperatures and relatively shallow depths make for ideal growing conditions for the algae and its toxins.

Grand Lake St. Marys, a shallow, manmade lake in rural Auglaize and Mercer counties, is a petri dish for algae development and has been the poster child for the problem. But since 2010, algae has closed beaches at a number of other inland lakes.

Central Ohio isn't immune; last winter, an algae bloom in Hoover Reservoir made some Columbus tap water foul-smelling and -tasting, requiring the city to spend nearly \$800,000 to clean it up.

Ohio hasn't ignored the algae threat; a state law passed in May creates standards and offers training with which farmers can establish voluntary plans to manage the nutrients they put on their fields. And, starting three years from now, it will require anyone applying fertilizer for agricultural production to be certified by the state Department of Agriculture. The department must create rules and standards for the certification program.

A good guide for that might be a separate, voluntary, "seal of approval" program developed by an advisory committee made up of state governments, farm groups, environmental organizations and the fertilizer industry. Fertilizer companies earn the so-called 4R Certification (for the right nutrients, applied at the right time, in the right amount and in the right place) by taking rigorous training. Independent auditors monitor certified companies to make sure they're following the approved practices.

Republican Sen. Rob Portman, who co-sponsored a recently signed bill reauthorizing federal funding to help states and communities prevent and clean up harmful algae blooms, spoke to reporters yesterday,

pledging to work to bring more federal resources to bear. He also urged local communities and the state to work together toward a solution. This is good advice.

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## Celina official: No water problems here

Last updated: August 04, 2014 6:49PM - 434 Views

By [Lance Mihm](#)

CELINA — Officials at the Celina Water Department have received an overwhelming number of calls concerning the city’s drinking water in light of the drinking water problems in the Toledo area.

Residents in the northwest corner of the state were flocking as far south as Lima in search of drinking water after algae blooms polluted the water source in Toledo. However, Celina officials have maintained that the water is 100 percent safe for residents. The city uses Grand Lake as its water source, which has encountered the same problems with the algae blooms and the toxins they release since 2009.

“Our water is 100 percent safe,” said Todd Hone, assistant superintendent of the water department in Celina.

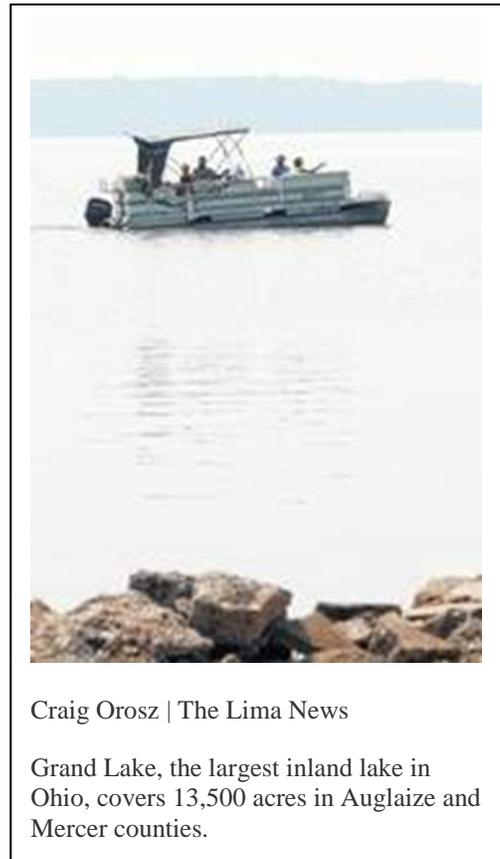
Hone said Celina encounters no problems like Toledo is facing because of an updated treatment system.

The city uses two methods of treatment to make its water safe, ozone and granular activated carbon treatments. Ozone is one of the most powerful water treatment compounds available to systems managers today. It is a technology that has been in continual commercial use for more than 100 years and has distinct properties that allow disinfection of even heavily compromised water streams. Ozone is a powerful oxidant with high disinfectant capacity.

The GAC treatment is an extremely versatile technology and in many cases has proved to be the least expensive treatment option. GAC absorption is particularly effective in treating low concentration waste streams and in meeting stringent treatment levels.

GAC is known to remove a wide variety of toxic organic compounds to non-detectable levels below 99.99 percent. Its suitability on a specific application normally depends on costs as they relate to the amount of carbon consumed.

“Basically, these treatment systems break down the algae and their toxins and make them inert,” Hone said.



Craig Orosz | The Lima News

Grand Lake, the largest inland lake in Ohio, covers 13,500 acres in Auglaize and Mercer counties.

Additionally, Celina has done random testing for problems with the water supply on a weekly basis since June 2009 without any problems detected.

Hone said he didn't want to speak for the city of Toledo, but that the problems likely were coming from water treatment methods that weren't as advanced as those in Celina. He said cost could be a factor.

"Just like anywhere else, they likely are having budget problems," Hone said. "It's a treatment system that is not cheap. I don't envy Toledo right now and their problems. If they don't have an advanced process, it will be between them and the" Environmental Protection Agency.

While the treatment Celina uses is effective, Hone said the same method could not be used to treat the lake in general.

"Both the ozone and GAC treatments are site specific," Hone said. "The treatment beds have to be on site."

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08/04/14

## **Celina and St Marys Mayors Assure the public the city's drinking water is safe**

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RESIDENTS IN THE CITY OF TOLEDO AND SURROUNDING AREAS, INCLUDING PARTS OF MONROE COUNTY IN MICHIGAN, WERE ORDERED THIS WEEKEND NOT TO USE CITY WATER DUE TO HIGH LEVELS OF TOXINS FOUND IN THE DRINKING WATER SUPPLY DUE TO ALGAE BLOOMS IN LAKE ERIE. LOCALLY, THE CITY OF CELINA'S WATER SUPPLY IS SAFE. MAYOR JEFF HAZEL EXPLAINS.

[CLICK TO LISTEN](#)

ST MARYS MAYOR PATRICK MCGOWAN COMMENTS:

[CLICK TO LISTEN](#)



# THE DAILY STANDARD

Monday, August 4th, 2014

By Kathy Thompson

## Could algae toxin contamination happen here?

CELINA - Despite Grand Lake's algae problems, Celina water customers do not face the same problems as those in Toledo, water plant superintendent Mike Sudman said.

The nearly \$7 million granular activated carbon filtration system added in 2008 to eliminate trihalomethanes has prevented any contamination from entering the drinking water of the 11,000 homes served by the system, Sudman said.

"We've had the water tested prior to the filtering system and it's been anywhere from 100 ppb to 35 ppb (of microcystin)," Sudman said. "But that all ends after the water is run through the system." The Ohio Environmental Protection Agency sets a limit of 1 ppb for drinking water, he said.

In fact, Sudman said Grand Lake is more contaminated than Lake Erie, but Celina's system has so far eliminated the contaminants.

Sudman said he has been on the phone with Toledo and OEPA officials regarding Toledo's blue-green algae or cyanobacteria problem. Toledo has been under a water ban after a massive algae bloom contaminated the city's drinking water last week.

"But I've only been on the phone to answer any questions I can," Sudman said. "I'm not an expert or a biologist. I can tell them what we're doing and what we've done. I have had no calls from any customers that we have."

Sudman said Celina's water treatment plant uses a different process than Toledo's does.

"As far as we can tell, Toledo did their testing properly," Sudman said. "They just have a different system than we do."

For the past six years, Ohio Environmental Protection Agency has placed a recreational water advisory on Grand Lake due to unsafe levels of toxins produced by blue-green algae or cyanobacteria. The advisory is posted when microcystin toxins exceed 6 parts per billion.

## Algal blooms not a major threat to Newark drinking water

Emily Maddern, emaddern@newarkadvocate.com 9:06 p.m. EDT August 4, 2014

**NEWARK** —Ohio Gov. John Kasich declared a state of emergency after toxins from algal blooms were found in the Toledo-area water supply, forcing residents to forgo drinking or bathing in tap water for nearly three days.

The likelihood of algal blooms causing similar problems with Newark's drinking water is minimal, according to the Ohio Department of Natural Resources.

Whereas Toledo draws its water from Lake Erie, the drinking water in Newark comes from the Licking River. ODNR spokeswoman Heidi Griesmer said lakes are more susceptible to algal blooms because of their lack of current.

"When you have water that is maybe not stagnant, but isn't moving as much, you'll see algae," Griesmer said. "Rivers tend to move faster than lakes, so they don't really provide the right environment to grow algae."

Although it's not impossible for algal blooms to form in the river, it is highly unlikely, she said.

Despite the low risk of algal blooms causing any problems in the Newark water supply, Utilities Superintendent Roger Loomis is still keeping an eye on Toledo.

"We're watching that situation pretty closely and trying to learn about things that could cause problems here, but it's not something that's high on our radar because it's a different situation than we have," he said.

The Toledo-area water supply was declared safe for use Monday morning.

The Newark water supply is constantly monitored for contamination, with scheduled water quality tests performed as mandated by the Ohio Environmental Protection Agency.

Water is drawn from the Licking River through mechanical screens located along the river banks, which prevent fish, leaves and other debris from entering the pumping station. The water then travels to the water treatment plant for processing.

Through a series of basins, chemicals such as potassium permanganate, chlorine and powdered activated carbon may be applied to control odor and taste. Then the water is softened, clarified and filtered.

Those treatment processes are put in place to protect the water against any contamination that could be harmful.

In the event of an incident in which mass contamination occurred, Loomis said, there are procedures in place that could help protect the water from being further affected.



2011 File Photo

For example, if there were some kind of spill, the water treatment plant could simply shut itself down to prevent contaminated water from entering the system. The water could then be treated with activated carbon to reduce the levels of the contaminants before being brought into the plant for further treatment. In Newark, the main contamination concern is runoff from agricultural sites, Loomis said. Runoff from farms could result in higher levels of ammonia and nitrates in the drinking water.

"Any source of water has a potential for some contamination, whether it's coming from well water, a river, a reservoir. Everybody's got their own unique problems they have to deal with," Loomis said. "We're not having any water quality issues right now at all, really ... nothing outside the norm."

In Heath, there is not such a concern because of the source of the city's water, Mayor Mark Johns said.

"We get all of our water from a deep-well aquifer," Johns said. "Heath does not receive any water from ground-level sources, and it's ground-level sources that could have the fertilizer leak into it."

"It's hard to imagine that becoming an issue for us."

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# THE PLAIN DEALER

## Toledo water ban is an indictment of state failure to address toxic algal blooms: Editorial

August 4, 2014

The 11 million people who rely on Lake Erie for their drinking water got a taste of their possible future over the weekend.

It should make them gag.

Toledo was Ground Zero but the toxic news that 400,000 Toledo-area residents woke up to Saturday morning -- that their water supply had been poisoned when *Microcystis aeruginosa* biomasses infiltrated a water treatment plant -- could happen again.

And it could happen all along the lakeshore and inland, to the millions who rely on lake drinking water, if Ohio doesn't get serious about stopping the agricultural runoff that is feeding the toxins and their visible symptom, algal blooms.

There have been **ample warnings**: Blue-green algal blooms hit the headlines during the summer of 2010 when state health officials determined that the blankets of phosphorus-fueled undulating scum – which contain a liver toxin – were responsible for 13 people falling ill and several dogs dying in Grand Lake St. Marys, right next to the western basin of Lake Erie.

And then there was the mega-bloom of 2011 that slimed an area of Lake Erie six times the size of New York City.

A team of ecologists, environmental scientists and other researchers undertook a "forensic analysis" of that disaster. They determined that the amount of phosphorus flowing down the Maumee River into the western basin had increased 218 percent between 1995 and 2011.

They also concluded that the bloom was not an anomaly but a harbinger of the scum to come.

Last September, 2,000 residents in Carroll Township, just west of Toledo, had their drinking water contaminated.

In lifting the Toledo water ban Monday, Toledo Mayor D. Michael Collins said, "Families can return to normal life."

No, they can't.

Gov. John Kasich needs to take the lead in forming a bipartisan committee to recommend emergency legislation that requires farmers, livestock producers and homeowners to adopt best practices in fertilizer application and the handling of livestock excrement.

The legislature **needs to pass the restrictions** and fund comprehensive monitoring programs to ensure compliance.

The lesson of Toledo: Time is not on our side.

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# THE PLAIN DEALER

## Toledo water crisis must be a wake-up call to fix Lake Erie: Susan Glaser

on August 04, 2014

I was on my way to Lakeside, about 45 miles east of Toledo, when I heard the news on Saturday: More than half a million people in northwest Ohio were without safe drinking water after toxic algae in Lake Erie made its way into the water supply.

My first thought: I hope my parents, who get their water from nearby Port Clinton, have safe drinking water (they do).

My second: Maybe this is the crisis we need to finally deal with this problem.

The **water ban was lifted Monday** morning, but the underlying cause of the crisis isn't any closer to being resolved. This weekend's disaster in Toledo is the not-so-surprising result of our failure to deal with an issue we've known about for more than a decade.

And while there's been plenty of talk about solutions, the proof was on display in Toledo these past 48 hours:

Our government's tempered, wait-and-see, more-research-is-needed response is clearly failing its citizens.

The 100-plus people in the Toledo area who showed up at regional hospitals over the weekend – with stomachaches, dizziness and vomiting – ought to provide motivation enough to our leaders to front burner the issue and not let up until long-term solutions are in place.



Lake Erie is ill -- as this glass of water, held by Collin O'Mara, president of the National Wildlife Federation, clearly demonstrates. It's time to treat the illness -- not just the symptoms. THE BLADE/DAVE ZAPOTOSKY  
(Dave Zapotosky)

We know what's causing the problem: Primarily, phosphorus-choked run-off from western Ohio farms that flows into Lake Erie, particularly via the Maumee River, which promotes the bacteria's exponential growth. (Yes, overwhelmed sewage treatment plants also contribute to the problem, but not nearly to the extent that farm run-off does, according to most recent scientific studies.)

And we know how to fix it: Force farmers to change the way they do business, by both reducing the amount of fertilizer they use and altering the way it's applied.

The only question that remains: Will we?

We all have a huge stake riding on the answer.

As a travel writer, I get paid to think about issues related to the state's tourism industry. This problem unquestionably threatens Ohio's \$11 billion tourism trade, which boosts commerce in seven lakeshore counties, from Lucas to Ashtabula.

In northwest Ohio this weekend, the water crisis shut down the popular Toledo Zoo, as well as restaurants and businesses across town. Meanwhile, the lovely Lake Erie beach at Maumee Bay State Park continues under a public health advisory warning -- issued 10 days before the drinking-water ban -- which cautions swimmers to stay out of the water because of high levels of algal toxins.

Left uncorrected, this problem could affect popular lakefront attractions from Cedar Point to Put-in-Bay to Geneva-on-the-Lake.

Who wants to go swimming or boating or even walking along a lake that is clogged with thick, poisonous algae?

The problem, though, is bigger even than the economic viability of one of the state's most important industries.

Anyone who gets their drinking water from Lake Erie -- and there are 11 million of us, according to the U.S. Environmental Protection Agency -- should be concerned.

Yes, Cleveland's water is safe (for now). Yes, this is a problem that primarily affects the western basin of Lake Erie (for now).

But if we don't get a handle on this issue, this week's crisis in Toledo will become some other community's problem next week, next month or next year.

Last September, Ottawa County's Carroll Township had to shut down its water treatment plant for 12 days after dangerous levels of microcystis algae were detected in its water supply.

Which city will be next? Oak Harbor, Port Clinton, Sandusky -- Cleveland?

I had a hard time avoiding such thoughts as I tried to enjoy a couple of days in one of my all-time favorite spots, Lakeside, the 141-year-old lakefront community that offers educational and recreational programming during a 10-week summer season.

I walked the beautiful lakefront path, watched kids swim in the warming water off the 800-foot pier, and rehydrated straight from my parents' faucet after a tennis game with my daughter.

And all the while I worried -- about my friends in Toledo, about the apparent insecurity of our water supply, and, most of all, about the future of our fragile great lake.

## **Algae's Return Deals Setback to Lake Erie's Revival**

08/05/2014

Wall Street Journal, Gallo, Andrea

Lake Erie was declared dead in the 1960s and '70s, and then scientists championed it as one of the environment's biggest revival stories. But bright green algal blooms have been returning to the lake since the early 2000s, and scientists say the toxic blue-green algae indicate that Lake Erie needs a second comeback.

Lake Erie is the shallowest and smallest Great Lake by volume, which makes it especially sensitive, according to scientists. Phosphorus and nitrogen from farm runoff, livestock runoff and sewage systems contributed to the algal bloom that led to restrictions on drinking water for 500,000 people in and around Toledo, Ohio, this weekend, scientists say. They say the added nutrients might not affect the other Great Lakes as intensely.

Geography and bad luck are also hurting Toledo, which is near Lake Erie's shallow, western basin. Isabel Escobar, chemical and environmental engineering professor at the University of Toledo, said winds can sometimes break up the blooms or blow them out into the middle of the lake, where they don't menace water supplies. But this year, winds have been too gentle to break up the blooms and have generally been pushing them toward Toledo's water intake crib, she said.

Lake Erie's problems decades ago were the results of industrial pollution and phosphorus, which used to be widely mixed into laundry detergents and ended up in the lake, according to Jennifer Caddick, engagement director at the Alliance for the Great Lakes, a group that advocates for healthy lakes for a variety of users. Around the same time, the Cuyahoga River in Ohio famously caught fire from pollution problems.

"We're right back to where we were in the '70s," said Jeff Reutter, director of the Ohio Sea Grant College Program and Stone Laboratory at Ohio State University. Dr. Reutter said he worked to cut back phosphorus in Lake Erie the first time around, and that the lake needs at least a 40% phosphorus reduction to be healthy again.

Ms. Caddick said the Clean Water Act, which regulated pollutants entering U.S. waterways, and restrictions on phosphorus in detergents helped to clean Lake Erie decades ago. Dr. Reutter said improved sewage treatment also helped curb the added nutrients at the time.

Scientists say a transition from small farms to industrial-sized operations has increased runoff in recent years, and that climate change, with more intense storms and warmer temperatures, has created an ideal environment for algae to grow.

"Imagine you're at an all-you-can eat buffet, and you gorge yourself," Ms. Caddick said. "That's what's happening with this algae."

While Lake Erie seems the most susceptible of the Great Lakes, other waterways aren't immune, scientists say. Green Bay, part of Lake Michigan, is also a narrow and shallow area where algal blooms have been occurring, according to Ms. Caddick.

Timothy Davis, a research ecologist for the National Oceanic and Atmospheric Administration's Great Lakes Environmental Research Lab, said algal blooms have been detected on every continent aside from Antarctica. "Lake Erie is kind of the most dramatic example of those conditions," Ms. Caddick said.

# The Columbus Dispatch

## Algae may spur new limits in Ohio on fertilizers

By Laura Arensfield *The Columbus Dispatch* • Tuesday August 5, 2014

As Toledo lifted the ban on its drinking water yesterday, some lawmakers, environmentalists and farmers called for tighter restrictions on the agriculture industry, which scientists say probably caused the algae toxins that made the city's water unsafe for about 500,000 people.

But other agencies argued that existing laws might be enough to protect people from the algal blooms that have plagued Ohio's beaches and lakes for years.

Ohio officials have known since 2009 that toxic algae are a problem, after a national study assessed, among other things, levels of the toxin microcystin, which caused the Toledo's city-water shutdown over the weekend.



Paul Sancya | Associated Press

Toledo Mayor D. Michael Collins drinks tap water after his city lifted a water-use ban.

Blue-green algae, which produce the toxin, feed on phosphorus, a key part of chemical and manure fertilizers that farmers spread on their fields.

The same type of algae inundated Hoover Reservoir last winter, causing nontoxic but foul-smelling water in Columbus' city-water supply and [costing taxpayers almost \\$1 million to remove](#).

Blue-green algae also have [contaminated Grand Lake St. Marys in western Ohio](#) and polluted Buckeye Lake and other inland lakes around the state. In 2010, algae toxins sickened 48 people and killed five dogs in Ohio, the U.S. Environmental Protection Agency report says.

In Toledo over the weekend, 69 people — from babies to an 80-year-old — went to area hospitals because of concerns that they had been poisoned by the water, according to the Ohio Department of Health.

Earlier this year, state lawmakers passed a law meant to encourage farmers to reduce the flow of runoff containing phosphorus into Ohio's watersheds. Participation is voluntary for farmers for the next three years. After that, it will be mandatory.

Joe Logan, president of the Ohio Farmers Union, which lobbies on behalf of small-scale farmers, said the law doesn't do enough.

"We can't put the rest of our fellow citizens in this sort of situation that the citizens of Toledo find themselves in," said Logan, who farms in Trumbull County in northeastern Ohio.

"If we as agricultural producers have to change our systems in order to do things in a more judicious way, then maybe that needs to happen. I would hope it would happen voluntarily, but I think history tells us to be suspicious of that."

The algae that shut down Toledo's water were fed by phosphorus flowing through the Maumee River, which has long been polluted by farm and sewer runoff. The bloom [spread on Friday across Maumee Bay, directly over where the city of Toledo collects its drinking water](#). No one was allowed to drink or cook with the water for more than two days, and boiling only increased the tap water's risk.

Toledo residents got the all-clear yesterday, after workers at the water-treatment plant pumped carbon into the water to eliminate the toxin.

It was the second time that algae toxins have resulted in the closing of a public water system in Ohio. In September, the same toxin led to a [shutdown of public water in Ottawa County's Carroll Township](#), which is about 25 miles east of Toledo on the Lake Erie shore. About 2,000 people were told not to drink or cook with public water for two days.

U.S. Sen. Rob Portman, R-Ohio, said he thinks farmers want to "be constructive partners" to help reduce farm runoff. [Portman said additional laws governing manure and fertilizer on farmland could help](#) solve the problem.

U.S. Sen. Sherrod Brown, D-Ohio, said more regulations of agricultural runoff are probably necessary. He said he hopes the crisis in Toledo will prompt change.

"I think it's going to make everybody realize we've got to do better," he said. "I would hope that when 500,000 people lose their drinking water for a couple, three days, that it would have an impact on public policy, not just in Ohio, but around the country."

Rob Nichols, a spokesman for Gov. John Kasich, and representatives of the Ohio Department of Natural Resources said the state is trying to solve the problem.

But Adam Rissien, director of agricultural and water policy for the Ohio Environmental Council, which lobbies on environmental issues, said the state isn't doing enough.

Rissien said the three-year voluntary period in the new state law shows that the state is kowtowing to the farm lobby.

"I don't think people want to wait that long for action," he said.

The council advocates restricting when and how farmers may spread manure on their fields. Both manure and chemical fertilizers add phosphorus to watersheds if they run off farmland into streams and rivers.

Nichols said the Kasich administration is taking steps to protect Lake Erie, including the law passed this year. But he said the law needs time to work.

“It is wildly premature to start judging the efficacy of (the law) when it’s not even in effect yet,” Nichols said. “You don’t just change the rules overnight.”

The state legislature also is [preparing to debate a bill that would limit the ways farmers spread manure](#) on their fields.

State Rep. Dave Hall, R-Millersburg, who is chairman of the House Agriculture and Natural Resources Committee, plans to hold hearings on the algae bloom, probably in the Toledo area.

“An incident like this, people are going to want to know how you fix it real quick,” Hall said. “I don’t know if I have an answer on a quick fix.”

People in Toledo are frustrated, said Lisa Ward, a spokeswoman for the city. Ward said preventing algal blooms in Lake Erie will take both federal and international regulations because other states and Canada contribute to pollutants in the lake.

The silver lining from the weekend’s crisis, she said, is that the world is finally watching.

“Nobody got hurt; nobody got seriously sick,” Ward said. “And it’s going to bring attention. People aren’t going to be able to ignore this anymore.”

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## Toledo drinking-water ban lifted, but residents wary

Robin Erb, Detroit Free Press 8:51 p.m. EDT August 4, 2014

To view video: <http://www.lancastereaglegazette.com/story/news/nation/2014/08/04/toledo-mayor-says-water-is-safe/13602357/>

The water advisory [might be lifted](#) on Toledo, Ohio's drinking water, but Caren Mohn wasn't taking any chances.

She was among the last-minute rush of Toledo-area residents Monday who brought jugs, pans and other containers to a temporary potable water station the Ohio National Guard set up outside a local high school. An hour earlier, Toledo Mayor D. Michael Collins had deemed the water safe during a news conference, downing a clear glass of water in front of cameras.

Several tests conducted by the Ohio and U.S. environmental agencies and the city after the advisory was announced Saturday confirmed that the level of microcystin is at less than 1 micron per liter — a standard determined as safe by the World Health Organization, Toledo officials said.

Microcystin, which can damage the liver, is believed to be from a large algae bloom in Lake Erie. Residents were told not to drink or bathe in the water and not to give it to pets on Saturday.

"I don't care. Even without the ban, I don't trust it. Haven't for a while," Mohn, 56, said of the water. "It's just toxic stuff."

The more than 48-hour advisory left residents in northwest Ohio and southeast Michigan wondering what might be in the tap water they've trusted enough to drink, to shower in and to prepare baby formula. And even if it's clean now, what about the rest of the summer? they wondered.

"I don't like it," said Nevetta Fisher, 44, a food service employee at Toledo Public Schools.

"You wonder: Algae? What the heck? Is it really gone? Ugh," she said.

On Saturday, residents of Toledo and the southeastern edge of Michigan were warned not to drink the water after crews detected microcystin in the water.

It is believed to have been released by a large mass of algae nourished by phosphorous and nitrogen from farm runoff. Residents were told not to ingest the water and not to let animals drink it.

Boiling and regular filters would not help, and the toxins could cause a rash on contact, city officials said. All that triggered a massive rush on bottled water and ice in stores nearly an hour north into Michigan. At the same time, Ohio Gov. John Kasich declared a state of emergency.

Not everyone was worried, though.

Along a stretch of Lake Erie's Maumee Bay east of Toledo, residents are used to seeing the pea-colored, algae-filled water that develops nearly every summer, several workers said. The state park pulls its water source from the city of Oregon, near Toledo, and was unaffected by the advisory.

"It's thick but it's been worse. It's nothing really to be concerned about," said Tyler Kwiatkowski, 18, who was working the jet ski rental booth on the beach at Maumee Bay State Park.

In front of him, the beach was empty, except for a few gulls.

In the nearby marina and along the shoreline, thick shades of green swirled slowly around rock outcroppings and boats.

Kwiatkowski said he has been in the water on a jet-ski. Co-worker Steve Nowicki, 18, of Toledo, said he drank the water Saturday before hearing about the advisory, and "nothing happened."

Separately, Doug Waldmannstetter shook his head. A groundskeeper at the park, he said visitors had asked him several times whether they could swim. He told them he wouldn't.

"But people are going to do what they want to do," he said.

## Third day is the charm: Toledo can drink its water

John Bacon, USA TODAY 4:03 p.m. EDT August 4, 2014

An aging water treatment plant, a nasty algae in Lake Erie and weeks of dry, still weather conspired to sabotage Toledo's drinking water, experts say.

Mayor D. Michael Collins lifted the ban on drinking tap water Monday, saying tests showed the water is once again clear of the toxins that had sent more than 400,000 northwestern Ohioans scrambling for drinkable water since Saturday morning.

"Our water is safe," Collins said. "Families can return to normal life." Collins said carbon and other chemicals were used to clean the water of toxic microcystin. Lucas County, with a population of 440,000 including Toledo, advised residents to flush hot water faucets for 15 minutes and cold for five minutes before drinking the water.



(Photo: Haraz N. Ghanbari, AP)

The water ban had been complicated because boiling the water, a common tool to combat contamination, only serves to make microcystin more concentrated, officials said. Stores sold out of bottled water quickly. Toledo opened a half-dozen bring-you-own-container water distribution sites. Fire stations helped out.

"We would like to thank our community for their patience and their support during this water emergency system as well as all of those who assisted during our community's moment of challenge," Collins said in a statement.

The all-clear was issued publicly at 9:29 a.m. ET. Six hours earlier, Collins announced that federal and state tests had indicated the water was fine, but city tests in two neighborhoods showed lingering, questionable levels of the toxin. Collins said he waited for more test results because he did not want to isolate those neighborhoods and because he wanted to wait until he could "put my head on a pillow and be comfortable with my decision."

Toledo's water woes were not the first involving algae in Lake Erie. Last year, about 2,000 residents of nearby Carroll Township were prohibited from drinking water from their taps for a few days because of toxins linked to the blue-green algae.

"We sit with 20% of the fresh water supply of the entire planet at our doorstep," Collins said of the Great Lakes. "If we hesitate to respect that then we are going to jeopardize this entire corridor of the United States and the future of our children."

Water treatment plants aren't required to test for microcystin under federal and state regulations. But Patrick Lawrence, a geography professor at the University of Toledo, credits Toledo with starting to test for the toxin last year amid concerns about the increasing algae growth in Lake Erie, which supplies the city water plant.

Lawrence said algae bloom has been a growing problem in the Great Lakes for years. That made Toledo ground-zero for the problem.

"Warm, shallow water is perfect for the algae," Lawrence said. "Lake Erie is the shallowest lake and the western basin (near Toledo) is the shallowest part of the lake."

The algae grows under water, floats to the surface and releases toxins as it decays. Weeks of little wind or rain exacerbated the situation, he said.

Adding charcoal to the treatment process is a short-term fix, he added. The city's 70-year-old plant needs upgrading, which could cost hundreds of millions of dollars. And there are the issues of wastewater treatment discharges, agriculture runoff and even yard fertilizers.

"We have reached a real tipping point," Lawrence said. "When it affects our drinking water, it's something you can't ignore."

Charles Haas, a professor of environmental engineering at Drexel University in Philadelphia, agreed with Lawrence that expanding the cleaning capacity of the water treatment plant and controlling the levels of phosphorous and nitrogen in Lake Erie will be key to curbing the problem. And he said the problem is a national one.

"With climate change at our heels, I think we will see more of this — and not just in Toledo," Haas said.