

Weekend of Aug 2-4: Toxic algae bloom shuts down Toledo drinking water system 400,000 people in NW Ohio and SE Michigan lose water State of Emergency declared

After warnings from scientists for several years about the dangers of Harmful Algae Blooms in western Lake Erie, and urgent recommendations from researchers to cut Phosphorus runoff that feeds algae, the risk turned into reality. On Saturday, August 2, levels of the algal toxin microcystin tested 3X higher than acceptable for drinking water at Toledo's water plant. The order went out -- Do Not Drink. Ohio's Governor declared a State of Emergency.



7-31-2014 - Algae bloom visible in western Lake Erie, Maumee Bay at far left.



8-1-2014 - NOAA Harmful Algae Bloom forecast, red is highest concentration.

In Sept 2013, a smaller water system in Carroll Twp, OH, was shut down because of high levels of microcystin. Luckily, a back-up link to Ottawa County was possible. Since then, concerned water plant operators in NW Ohio have been speaking out about the risks of toxic algae, giving presentations to agricultural groups, to environmental organizations, to city leaders and legislators.

They feared that, with no back-up, a shutdown of Toledo's drinking water system, so much larger, could have dire consequences.

In this recent emergency, hospitals did cancel elective surgery, restaurants did shut down. A longer shutdown of Toledo's drinking water could have had devastating economic impact as well as serious health effects. Luckily this shutdown was 2 days, on a weekend, rather than 2 weeks.

Microcystin is a dangerous toxin. It can cause a range of health problems from nausea, diarrhea, skin irritation to liver and neurological damage, sometimes within minutes of ingestion.

Agricultural runoff

We know the culprit: Phosphorus. A nutrient in animal waste and fertilizer, Phosphorus feeds the algae. And unlike in the 1970s, when sewage discharges were the major source of Phosphorus in Lake Erie, recent studies show that agricultural runoff is now the primary problem.

Within the last year, both the International Joint Commission and the Ohio Lake Erie Phosphorus Task Force called for a reduction of 40% in Phosphorus input, and recommended important changes in agriculture's highest-risk practices.

High-risk ag practices

One of the highest-risk practices for Phosphorus runoff is application of manure to frozen or snow-covered ground. Both the IJC and Ohio Task Force recommended Michigan and Ohio ban winter application of manure. With no crop in winter to fertilize, there's extreme risk for runoff with any thaw or rain.

The Michigan CAFO General Permit is undergoing revision now – a crucial time to begin changing high-risk practices. Contact DEQ CAFO Permit Unit (bitondom@michigan.gov) and ask that the CAFO General Permit ban application of CAFO waste on frozen or snow-covered ground.

Application of liquid manure to tile-drained fields is another high-risk practice, since liquids can drain fast to sub-surface tiles. A few pilot projects are underway, to "capture" tile flow before it empties into streams, giving time for nutrients to settle out. We need many new strategies, new ag practices.

Ag practices have changed in the past, in response to markets or technology or science. Now they must change again, in response to science and environmental degradation and risks to public health.

Western Lake Erie CAFO Annual Manure Inputs

New – available for download

New spreadsheet includes updated 2014 data for all CAFOs in western Lake Erie Watersheds (River Raisin and Maumee River Watersheds, Michigan and Ohio), listing total CAFO animals by facility, by species; total CAFO manure, liquids and solids, by facility.

Download full Excel spreadsheet at: www.nocafos.org

**Total CAFO annual Manure in western Lake Erie Watersheds:
5,018,056,506 lbs**

**Total CAFO Animals in western Lake Erie Watersheds:
12,803,065**

Source: data was compiled by ECCSCM from individual CAFOs' reported information in Michigan DEQ 2013 CAFO Permits, and in the State of Ohio Livestock Environmental Permitting database.

How runoff & Phosphorus from here reaches Lake Erie



Field to catch-basin to sub-surface tile to streams to Lake Erie

Above left, runoff from CAFO manure-application field in June 2014. At right, same field in July, red circle showing a catch-basin, and close-up of the catch-basin, where water (and pollutants) can drain underground to a nearby stream to the Maumee River to Lake Erie.



New CAFO Violations (p.2)

Terrehaven Farms, Milk Source/Hudson Dairy, New Flevo Dairy

The Problem of Repeat Waste Applications to the same field...again...and again...



5-14-14 - Hudson Dairy spray-irrigating on alfalfa field ... and again, 5-27-14 ...



... and same field, draglining on 7-10-14 ...

...on and on, more than 30 days on the same field between mid-May and August, 2014, including 6 days in a row July 20-25.

On July 21, one neighbor said, "They ought to be getting enough on there pretty soon!"

Repeat waste application to the same field raises serious questions. Milk Source's Medina Dairy has spray-irrigated the same field several times, same with Hartland Farms and others. But Hudson Dairy out-repeated them all, spraying or draglining that Elm Rd alfalfa field at least 30 times this season.

CAFOs must apply their waste at the "agronomic rate" – that is, the rate at which the nutrients, like Phosphorus, can be used by the crop in that field. If Phosphorus levels are too high in soils, CAFOs are not permitted to apply waste there until P levels go down. CAFOs must keep application records, and calculate agronomic rates for the crop, but no one will know until the next soil test if excess nutrients have built up in the field.

Bray Phosphorus soil test

Soil tests are the only evidence the application rate is a functioning agronomic rate. In Michigan, the Bray Phosphorus soil test is used to show if excess Phosphorus has built up in the soil.

But soil tests are required for CAFOs **only every 3 years.**

Now that so much Phosphorus is reaching Lake Erie from agricultural fields, repeat waste application is a problem DEQ needs to address in our watersheds. Why not require soil tests more often, every 6 months?

"If the Bray P1 soil test result is 150 parts per million (ppm) or more, CAFO waste applications shall be discontinued until nutrient use by crops reduces the Bray P1 soil test result to less than 150 ppm."
 Source: DEQ CAFO Permit

DEQ cites 3 CAFOs for multiple violations

New Flevo Dairy - June 2014 - DEQ cited New Flevo Dairy (NFD), Forrister Rd, Adrian, for **stockpiling CAFO waste without incorporation for 7 days, a violation of the CAFO Permit.** DEQ inspected NFD on June 27, and found stockpiles in the field; NFD application records confirmed "stockpiles on the field had been present since June 19." The CAFO Permit requires incorporation of stockpiled waste within 24 hours.

DEQ Letter on Permit Violation (July 11, 2014)



6-17-14 -New Flevo Dairy dumping, stockpiling manure

Hudson Dairy - June 2014 - Milk Source's Hudson Dairy, US- 127, was cited by DEQ for **applying CAFO waste on 4 days on 3 fields not listed in its Comprehensive Nutrient Management Plan, as required by the CAFO Permit.** DEQ notes that "CAFO waste from Hudson Dairy had been applied to fields in Medina Dairy's CNMP ... on May 23-25, and May 27, 2014."

DEQ Letter on Permit Violation (June 18, 2014)



5-24-14 - Hudson Dairy manure tankers, hauling to field not in their CNMP

Terrehaven Farms - May 2014 - DEQ's CAFO Reconnaissance Inspection on May 27 of Terrehaven CAFO found **multiple violations, including stockpiling manure in fields for longer than 24 hrs;** stockpiles on one field had been in place from April 21 through the day of inspection. Other violations of the Permit included not incorporating manure within 24 hrs of application; and not incorporating because of saturated ground (CAFO waste may not be applied on saturated ground). In addition, according to its own CNMP, **Terrehaven does not have six months manure storage, a requirement of all CAFOs.** DEQ also noted Terrehaven submitted an "inadequate" plan to divert contaminated production area runoff, a plan required in a November, 2013 Violation Notice.

DEQ CAFO Reconnaissance Inspection Letter (May 30, 2014)

ECCSCM Meetings, 3rd Wednesday of the month, 7:30 p.m. Hudson Community Center (no meeting in September)

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We Support Sustainable Agriculture

- that preserves and protects our air, streams and lakes
- that raises animals in a healthy, natural environment, grazing, absorbing sunshine
- that avoids the steady diet of hormones and antibiotics given animals in the crowded, confined conditions of industrial facilities
- that values and protects farmland, the environment and the rural community