

CINDY LANE
IOWA ENVIRONMENTAL COUNCIL

IOWA'S RECREATIONAL LAKES

Economic & Health Impacts



“

There are these two young fish swimming along, and they happen to meet an older fish swimming the other way, who nods at them and says,

‘Morning, boys. How’s the water?’





...‘What the hell is water?’”

- David Foster Wallace



THIS IS WATER.

**This is unfortunately
not water in Iowa.*

THIS IS WATER IN IOWA.

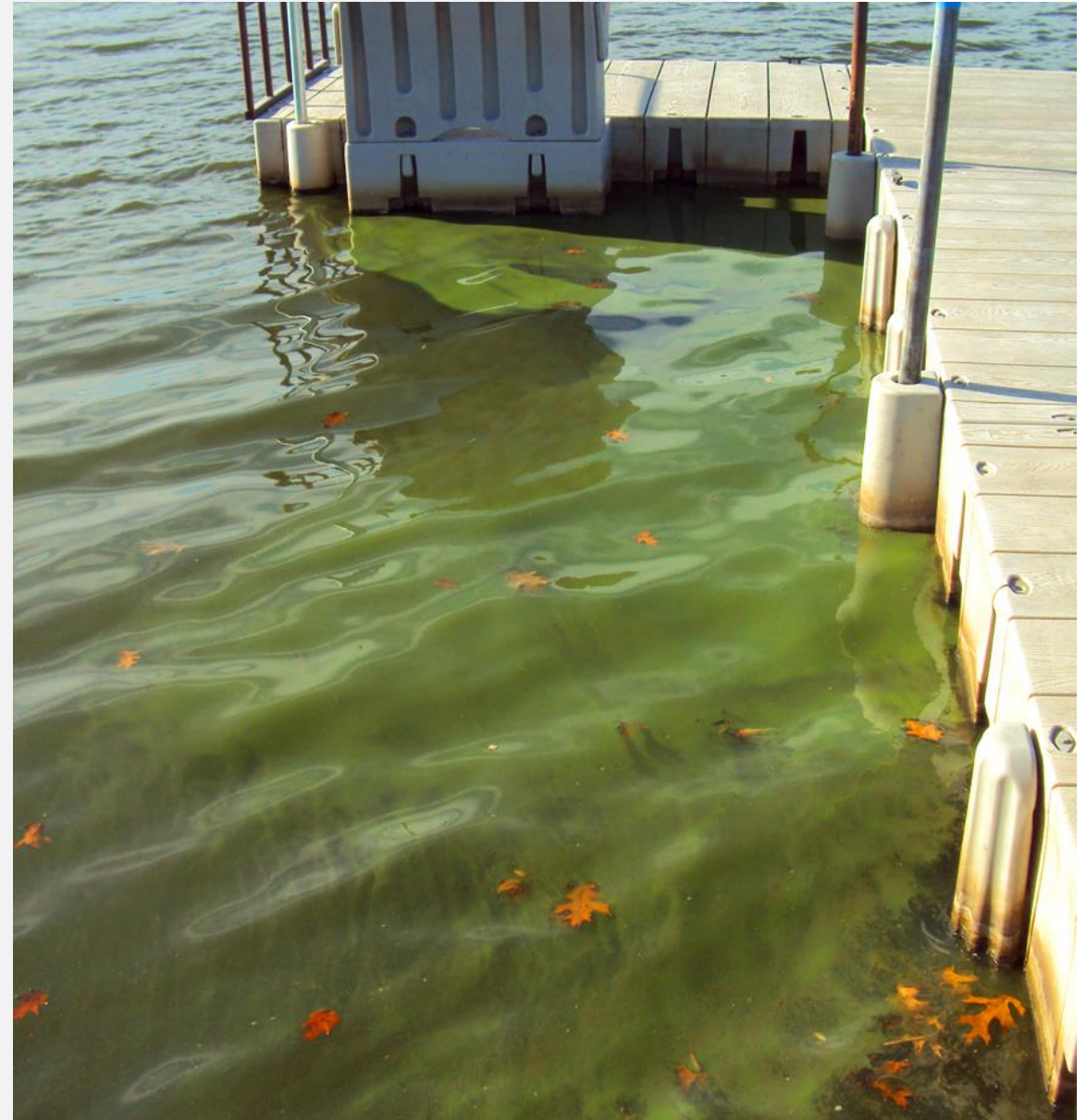


Image Credit: Clarke County Life.com,
<https://clarkecountylife.com/late-algae-bloom-hits-osceola-water-works/>

THIS IS WATER IN IOWA.



Image Credit: USGS,
https://toxics.usgs.gov/highlights/algal_toxins/algal_faq.html

THIS IS WATER IN IOWA.



Image Credit: Lauren Mills, IowaWatch.org,
<http://www.iowawatch.org/2015/08/15/severity-of-algae-in-iowa-lakes-is-on-the-rise/>

THIS IS WATER IN IOWA. THIS IS A PROBLEM.

- Excess nutrient pollution, primarily from agricultural sources, can cause harmful algae or cyanobacterial blooms.
- Under certain conditions, cyanobacteria can produce cyanotoxins (e.g., microcystin)

Microcystin is a dangerous toxin that can cause significant health threats to both humans & animals.

See, Iowa Department of Public Health, Harmful Algal Blooms, <https://idph.iowa.gov/Environmental-Health-Services/ReportableConditions/Harmful-Algal-Blooms>



Image Credit: Jennifer L. Graham, USGS. See, <http://awesomeocean.com/dolphins/algal-blooms-make-for-sick-dolphins/>

THIS IS A HEALTH THREAT.

Exposure to microcystin can cause:

- Gastrointestinal symptoms (nausea, vomiting, and diarrhea)
- Cough, runny eyes and nose, sore throat, and asthma like symptoms
- Skin rashes.
- In severe cases, liver failure can occur (and even death in animals).

*See, Iowa Department of Public Health, Harmful Algal Blooms,
<https://idph.iowa.gov/Environmental-Health-Services/ReportableConditions/Harmful-Algal-Blooms>*



THIS IS A DRINKING WATER THREAT.

- Microcystin and other dangerous cyanotoxins can pass through standard treatment practices for drinking water.
- When disinfectants (e.g., chlorine) are used to treat drinking water, they can “react with organic carbon produced by algae” and form harmful disinfection byproducts (DPBs).
- DPBs have been linked to bladder/rectal/colon cancers; reproductive health risks; and liver/kidney/CNS problems

See, EPA, Proposed Water Quality Standards for the State of Missouri's Lakes and Reservoirs, 82 FR 61213 at 61216 (December 27, 2017), citing Carmichael, W.W. 2000. Assessment of Blue-Green Algal Toxins in Raw and Finished Drinking Water. AWWA Research Foundation, Denver, CO, and also citing USEPA. Drinking water Requirements for States and Public Water Systems, Public Water Systems, Disinfection Byproducts, and the Use of Monochloramine. U.S. Environmental Protection Agency. Accessed <<https://www.epa.gov/dwreginfo/public-water-systems-disinfectionbyproducts-anduse-monochloramine>>



THIS IS A RECREATIONAL THREAT.

DNR conducts weekly beach monitoring for microcystin at:

- 39 state park beaches
- From Memorial Day- Labor Day
- If sample monitoring results are greater than 20 micrograms/liter, a warning is issued, discouraging recreational uses

*See, Iowa Department of Natural Resources, State Park Beach Monitoring,
<http://www.iowadnr.gov/Environmental-Protection/WaterQuality/Water-Monitoring/Beaches>*

*See also, U.S. Environmental Protection Agency, Guidelines and Recommendations,
<https://www.epa.gov/nutrient-policy-data/guidelines-andrecommendations>*



THIS IS A THREAT TO THE HEALTH OF OUR STATE.

When recreational use of lakes is discouraged by microcystin warnings or poor water quality caused by nutrient pollution, our broader public & economic health suffers.



THIS IS A THREAT TO THE HEALTH OF OUR STATE.

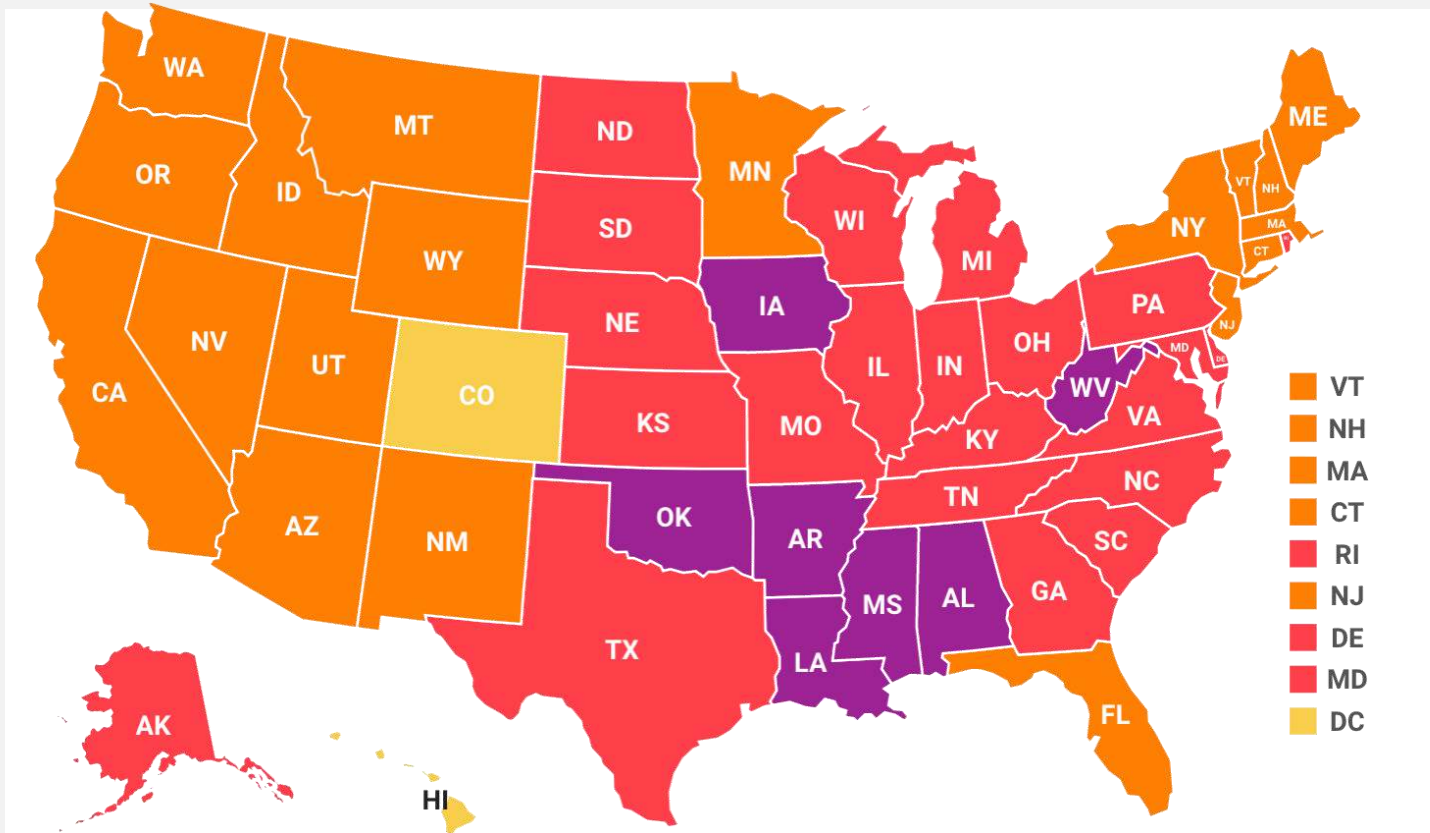


Image Credit: State of Obesity: Better Policies for a Healthier America Report

Iowa Ranks:

- 47th in publicly owned land.

See, US Bureau of the Census, Statistical Abstract of the United States: 1991 (11th ed.) Washington, DC, 1991, p.201.

- 4th highest adult obesity rate in the nation.

See, The State of Obesity, <https://stateofobesity.org/states/ia/>

THIS IS A THREAT TO THE HEALTH OF OUR STATE.

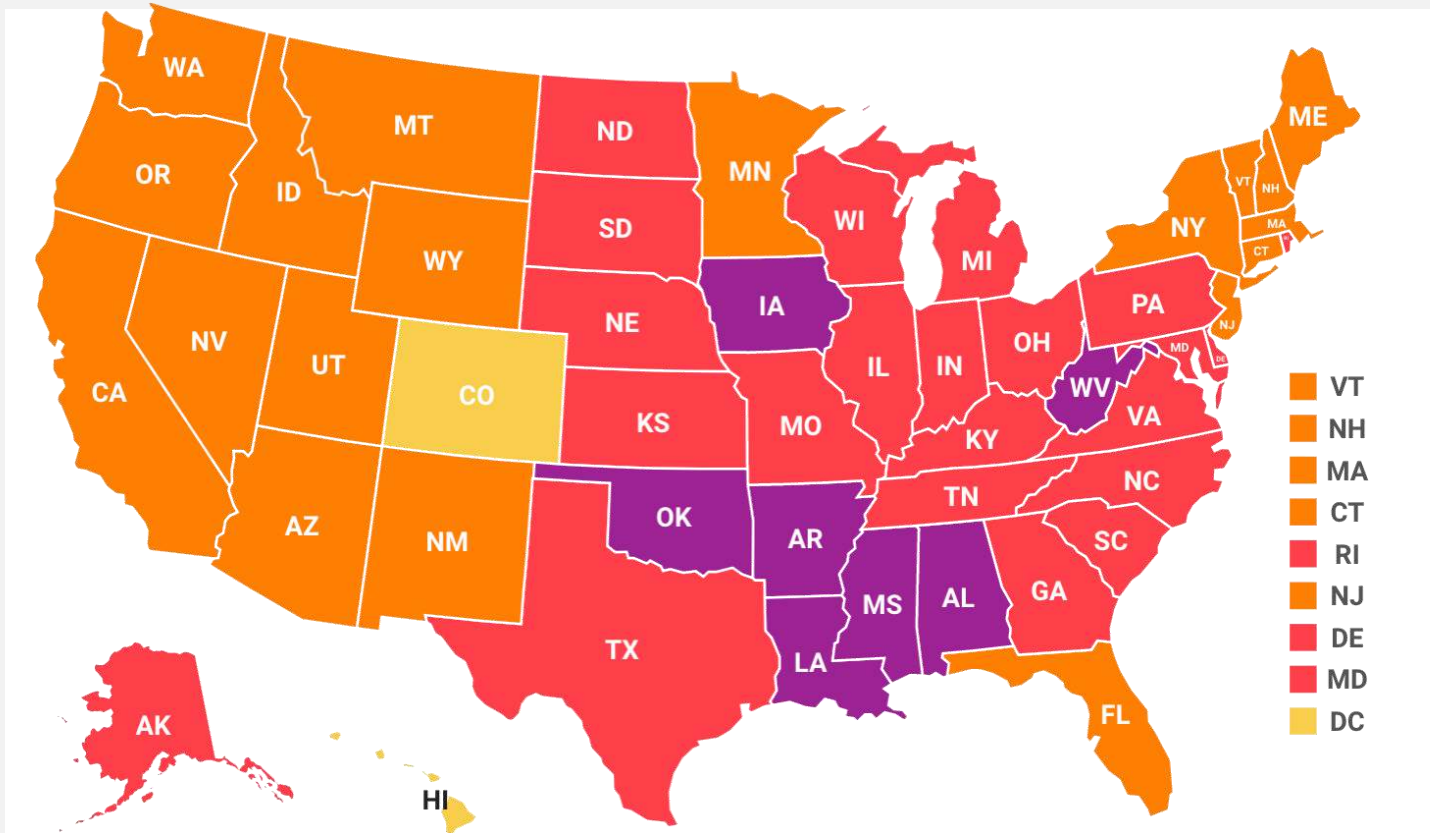


Image Credit: State of Obesity: Better Policies for a Healthier America Report

Physical inactivity already costs the state:

- \$5.3 billion through lost worker productivity, increased medical costs, and increased workers compensation.

Economic Value of Outdoor Recreation Activities in Iowa, Daniel Otto, Kristin Tylka, and Susan Erickson, Iowa State University, Center for Agriculture and Rural Development, pg. 17

THIS IS A THREAT TO OUR ECONOMY.

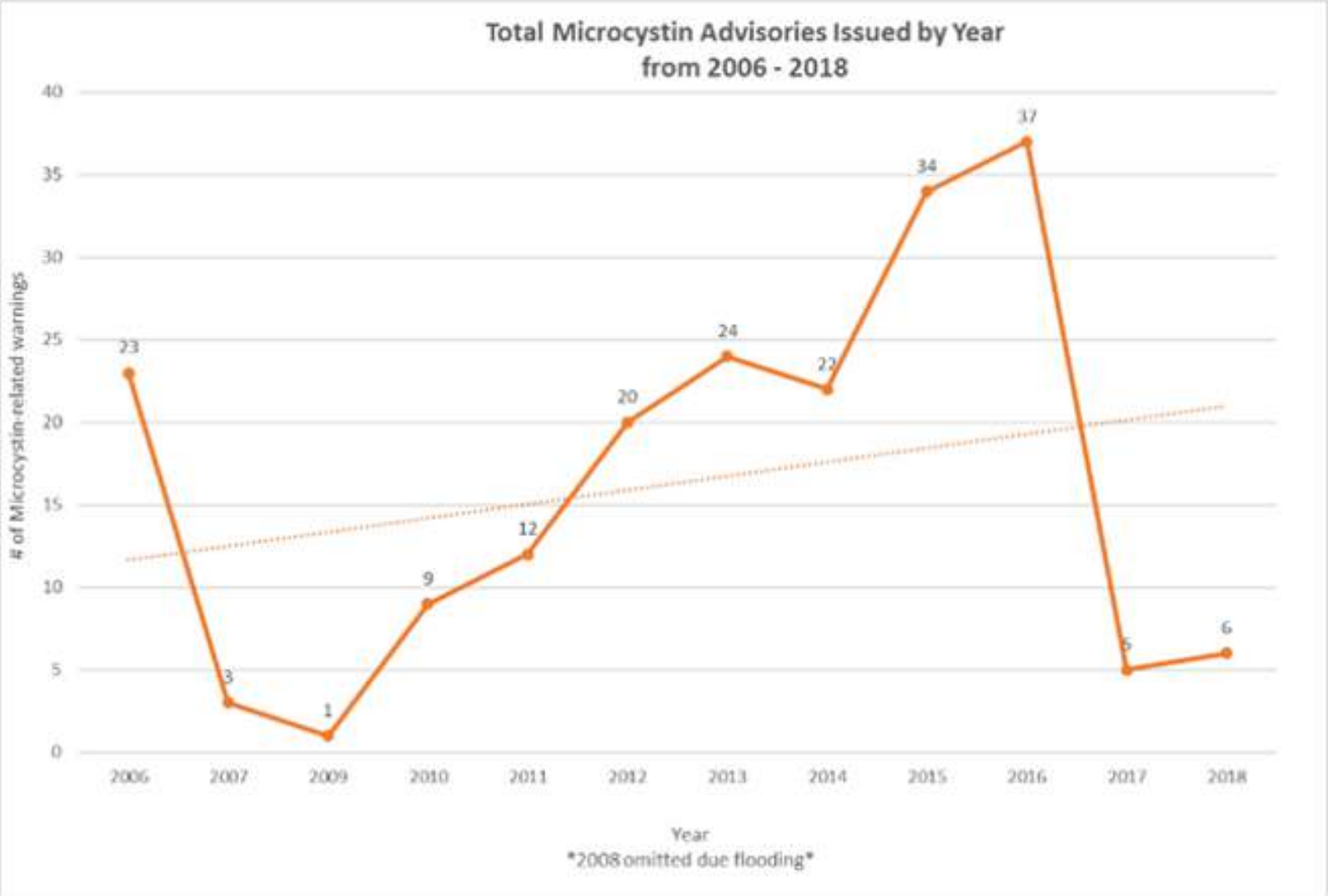
Visits to Iowa's 139 lakes:

- Provide over \$1 billion in direct spending in the state
- Provide, on average, an estimated \$7 million in direct spending annually per lake.
- While some lakes generate significant spending (e.g., several Iowa lakes generate spending of over \$40 million annually), even small lakes in rural Iowa can generate spending of over \$2 million annually.
- Support over 12,000 local jobs

Source: Center for Agriculture and Rural Development, Iowa State University



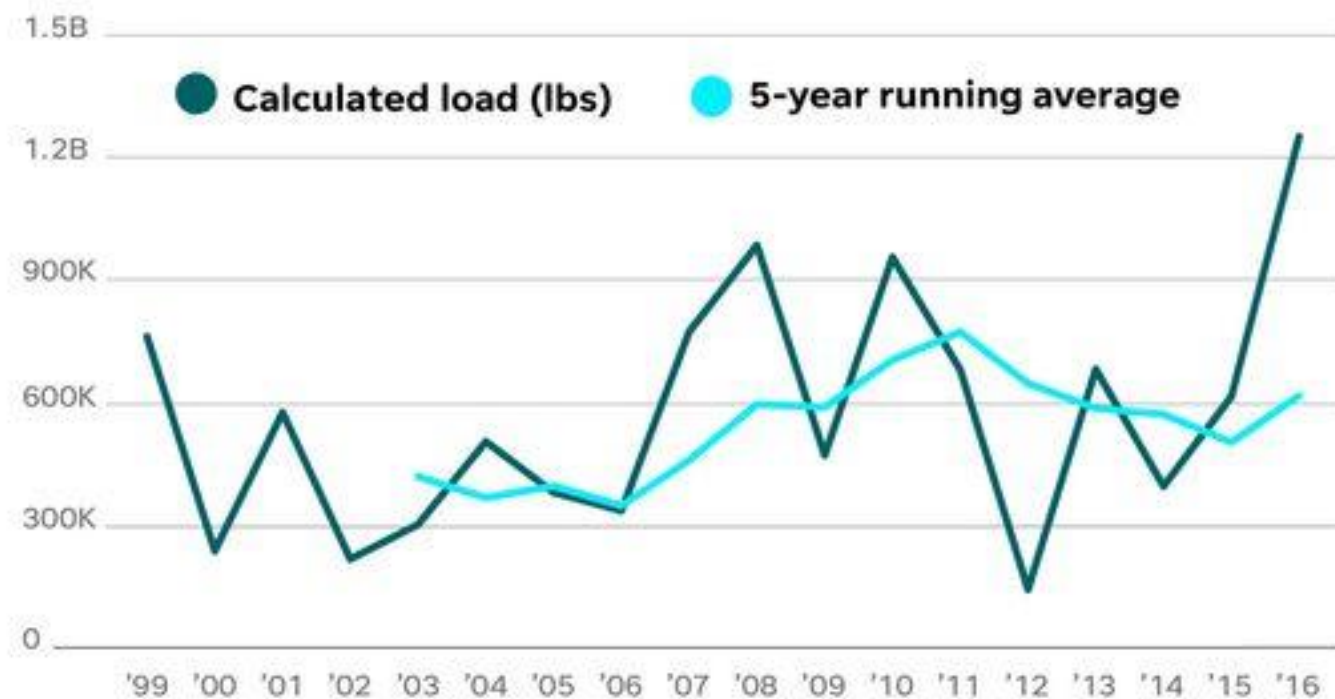
THIS IS A GROWING THREAT.



Data Source: DNR Beach Monitoring Data, AQuIA

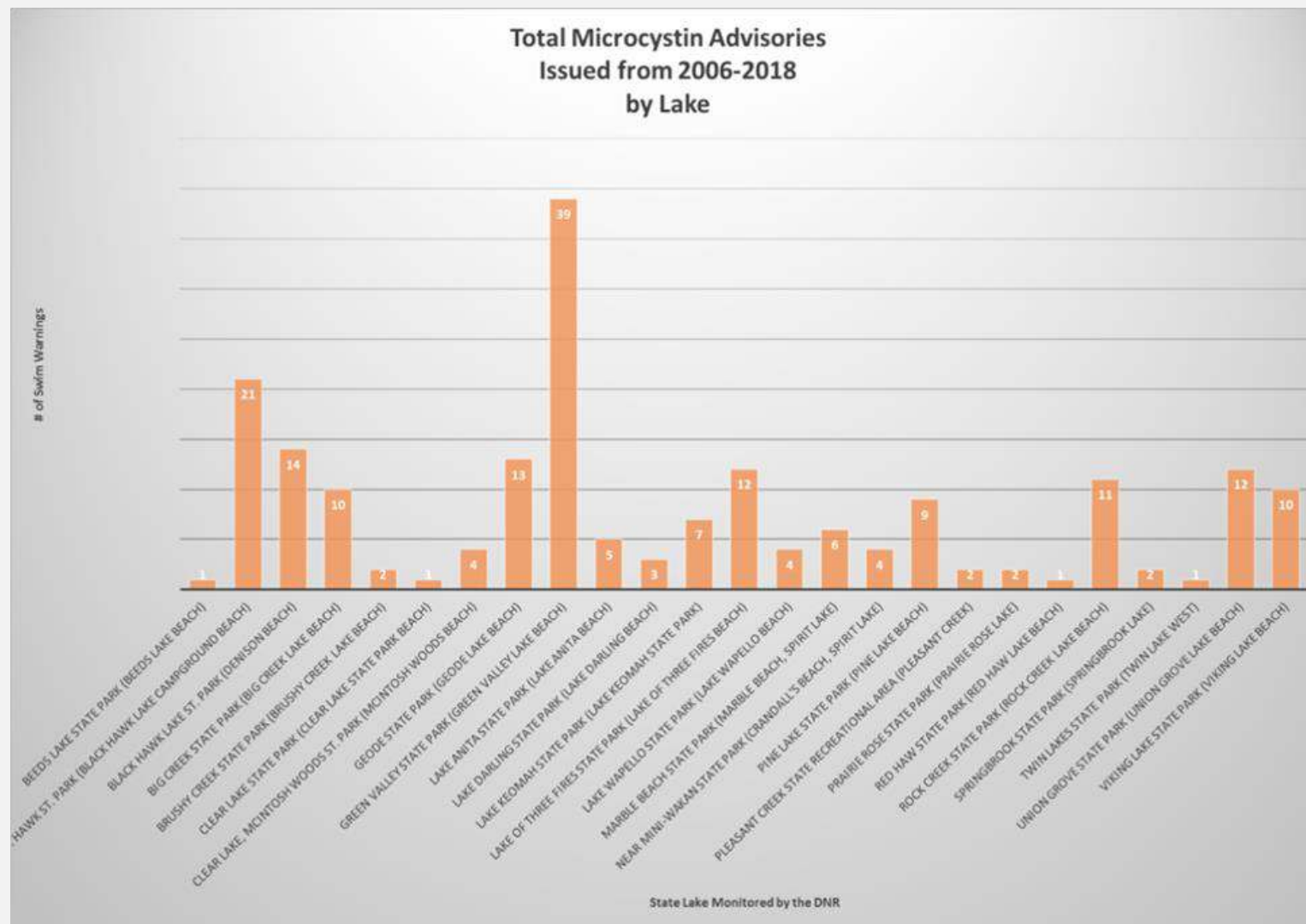
Despite efforts, nitrate levels grow

Iowa's nitrogen levels contributing to the Gulf dead zone have increased 47 percent, based on five-year running annual averages since 2003, a University of Iowa study shows. Scientists point to increased investment in underground drainage tiles as a possible reason for the spike.

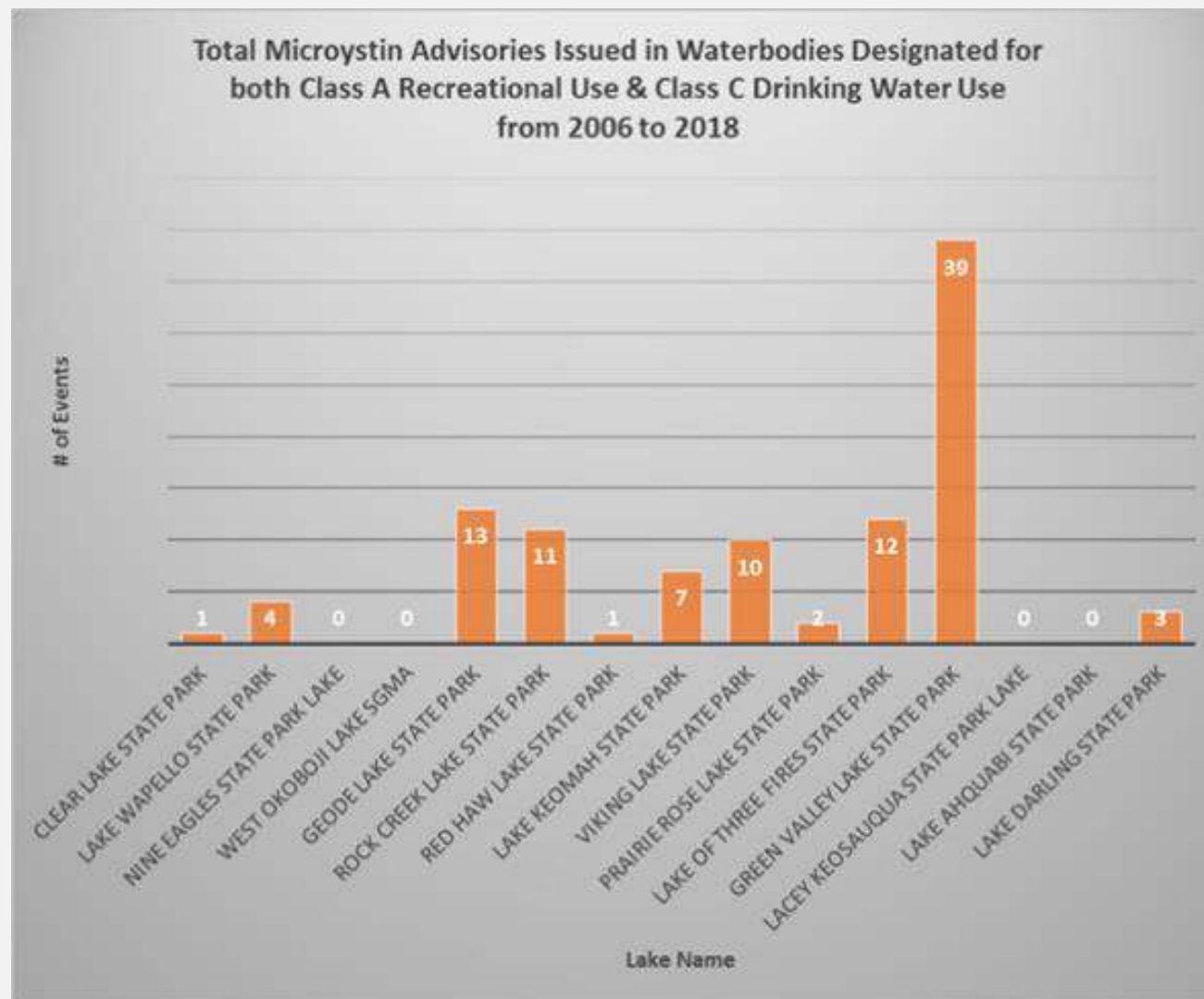


USA TODAY NETWORK GRAPHIC | SOURCE: UNIVERSITY OF IOWA IIHR-HYDROSCIENCE & ENGINEERING

Image/Photo Credit: Lyndsey Nielsen/USA Today Network), <https://www.desmoinesregister.com>



Data Source: DNR Beach Monitoring Data, AQUiA



Data Source: DNR Beach Monitoring Data, AQuIA

THIS IS WHAT WE'RE DOING ABOUT IT.

The Iowa Environmental Council advocates for a cleaner, healthier Iowa that balances environmental, health, and economic interests:

- at the legislature
- before rule-making agencies, and
- in the courts.



THIS IS BALANCED? THIS IS OUR STANDARD?

Working Landscape



Image Credit: Linda Applegate

Working Landscape.



Image Contributed to IEC, Hardin County, IA

THIS REQUIRES ESTABLISHING STANDARDS.

Healthy, Livable Landscape



Image Credit: Land Stewardship Project,
<https://landstewardshipproject.org/posts/blog/714>

Healthy, Livable Landscape



THIS IS NECESSARY.

THIS IS NOT WORKING.

Numeric Standards



Narrative Standards



THIS IS WHY WE NEED STANDARDS.

Bright line assessment, prioritization, resource allocation, monitoring and accountability.



The background of the image is a dynamic, high-contrast photograph of water. It appears to be a close-up of a splash or a turbulent flow, with numerous small bubbles and droplets visible. The color palette is dominated by deep blues and teals, with some lighter, almost white highlights where the water is most agitated. The overall texture is grainy and energetic, suggesting movement and power.

THIS IS WATER. THIS IS MONEY. THIS IS HEALTH.

THANK YOU

Cindy Lane  515-244-1194 Ext. 205
 lane@iaenvironment.org
 www.iaenvironment.org