

# The Ohio Environmental Council



## The 2021 Ohio Public Interest Environmental Justice Writing Competition

**Winner & Author**

*Gabriella Mickel*

**Editor**

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## Introduction

In an effort to encourage law, graduate, and undergraduate students to engage with important environmental issues facing Ohio, the Ohio Environmental Council created the first Ohio Public Interest Environmental Justice Writing Competition. This competition highlights the high-quality academic work of one student soon to enter the legal or policy world.

We are excited to share with you the writing of Gabriella Mickel, a law student originally from Toledo, Ohio.

Gabriella Mickel is a 2L at the Elisabeth Haub School of Law at Pace. Currently, she serves as the President of the Environmental Law Society at Haub and the co-chair of the ABA SEER National Environmental Law Students Association. She hopes to return to the Midwest to practice local environmental and land use law.

Environmental injustices strike Ohioans everywhere, yet particular environmental harms affect certain communities disproportionately. Applicants were tasked with exploring specific issues of environmental justice impacting Ohioans, whether legal, political, economic, or scientific in nature. They were to identify the distinct impacts (and the impacted communities) and propose possible solutions to eliminate the environmental injustices.

In reviewing the work of applicants, our team was looking for a high caliber discussion not only engaging with a discrete, high profile issue in environmental law and environmental justice. We hoped applicants would illustrate their command of language to communicate with brevity and elevate the importance of the problem explored.

Whether the author explores a problem at the federal, state, or local level, we hoped authors would encourage the minds of readers to think beyond *what the law or policy is*; they need to encourage readers to consider *what the law should be*. Their words should force readers to recognize a real problem facing Ohioans and realize why (and ideally how) the problem can be solved.

Authors should write not only as a scholar describing an issue in objective terms, they should write as advocates advancing the public interest.

Gabriella Mickel's work demonstrates this ethic. She explored a complex issue of water policy facing her home from multiple angles. We're excited to share her words with you.

*Note: the perspectives of the author do not necessarily reflect the opinions of the Ohio Environmental Council. We support the diverse perspectives of Ohioans, and we especially encourage students to explore issues of environmental justice from all angles.*



Figure 1 Algae in Lake Erie.<sup>1</sup>

# ***Agricultural Nonpoint Source Pollution*** A Brief History and Modern Solutions to an Environmental Justice Issue in Ohio

Introduction	1
History - Understanding What Went Wrong	2
The Problem Today	4
Current Policies	5
A Road to Addressing Environmental Injustice	8
Conclusion	9

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<sup>1</sup> Rasul, N. *The lake erie bill of rights is dead. A voluntary effort will pay farmers to reduce runoff instead.* *Civil Eats*. June 26, 2020, available at <https://civileats.com/2020/06/22/the-lake-erie-bill-of-rights-is-dead-a-voluntary-effort-will-pay-farmers-to-reduce-runoff-instead/>.

## Introduction

“A harmful algal bloom (HAB) is the explosive growth of cyanobacteria (also known as blue-green algae) in a body of water such as Lake Erie. Unlike green algae, which are basically aquatic plants, cyanobacteria have the ability to produce toxins that can cause illness or death in humans and pets who come in contact with contaminated water.”

- The Ohio Sea Grant<sup>2</sup>

On August 2nd, 2014, a HAB overwhelmed Toledo Ohio’s water treatment plant. Toledoans faced warnings not to drink or use their tap water.<sup>3</sup> Boiling made it more toxic, and an entire city was unable to drink, cook, or brush their teeth with tap water. Grocery store shelves were wiped clean of bottled water almost instantly. People waited in long lines behind water trucks brought in by the National Guard.

Not only did the Toledo Water Crisis of 2014 have a disparate impact on Lucas County residents, but the general allocation of nonpoint source pollution costs also has a disparate impact on low-income and minority populations across Ohio. According to the CDC’s Social Vulnerability Index,<sup>4</sup> Lucas County is the most vulnerable county in Northwest Ohio. During the three-day crisis, residents depended on bottled water. Low-income and minority communities had additional barriers, like transportation and the cost of accessing safe drinking water. Additionally, a report summarizing human health data and water sampling results *voluntarily* reported to CDC’s Waterborne Disease and Outbreak Surveillance System via the National Outbreak Reporting System and the Harmful Algal Bloom-Related Illness Surveillance System noted eleven outbreaks and sixty-one illnesses resulting from freshwater lake algal blooms in 2009 in New York, Ohio, and Washington.<sup>5</sup> Since the results were voluntarily reported, it is likely these statistics reflect underreporting.<sup>6</sup> Thus, the most socially vulnerable county in NW Ohio faces additional health risks year-round because of nonpoint source pollution.

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<sup>2</sup> Ohio Sea Grant, *What Are Harmful Algal Blooms?*, available at <https://ohioseagrant.osu.edu/products/1h6jc/what-are-habs#overview>.

<sup>3</sup> Laura Arenschiold, *Toledo bearing full brunt of Lake Erie algae bloom*, The Columbus Dispatch (Aug. 4, 2014, 12:01 AM), <https://www.dispatch.com/article/20140804/NEWS/308049854>.

<sup>4</sup> Social vulnerability refers to the potential negative effects on communities caused by external stresses on human health. Such stresses include natural or human-caused disasters, or disease outbreaks. Reducing social vulnerability can decrease both human suffering and economic loss. The CDC/ATSDR Social Vulnerability Index (CDC/ATSDR SVI) uses 15 U.S. census variables to help local officials identify communities that may need support before, during, or after disasters. For more information, visit: <https://www.atsdr.cdc.gov/placeandhealth/svi/index.html>

<sup>5</sup> Elizabeth Hilborn et al., *Algal Bloom-Associated Disease Outbreaks Among Users of Freshwater Lakes – United States, 2009-2010*, CDC, available at <https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6301a3.htm>.

<sup>6</sup> Conversation with Miranda Pollauf, MPH.

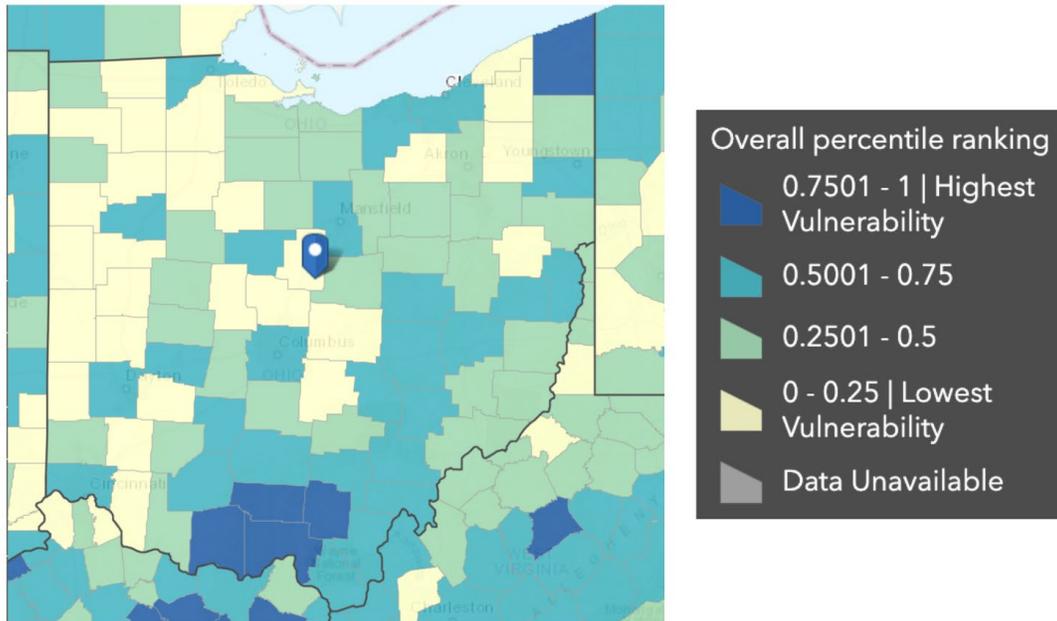


Figure 2 A screenshot of the CDC's SVI Map.<sup>7</sup>

The disparate impact on Ohioans does not end in Lucas County. The cost of nonpoint source pollution is not equitably distributed: “In about 45 percent of Ohio communities a household at the 20th income percentile must pay more than ten percent of disposable income for basic water and sewer service. These figures reflect the real tradeoffs that low-income households face.”<sup>8</sup> Ohio does not have a state-level water Customer Assistance Program (CAP) or other customer-focused affordability policy. Additionally, for smaller utilities, infrastructure improvement and maintenance can impose significant ratepayer costs. The allocation of the cost of nonpoint source pollution is inequitable.

## History—Understanding What Went Wrong

Eutrophication occurs when excessive richness of nutrients in a lake causes a dense growth of plant life, typically algae, and causes the death of animal life from a lack of oxygen. Cultural eutrophication refers to the same process sped up by human activity, which could include dumping excess nutrients from sewage, detergents, fertilizers, etc. into a lake.

<sup>7</sup> Agency for Toxic Substances and Disease Registry, *SVI Interactive Map*, available at <https://svi.cdc.gov/map.html>.

<sup>8</sup> Manuel P. Teodoro, *Water & Sewer Service Affordability in Ohio Assessment & Opportunities for State Policy*, ES3 (EJ Metrics 2019), [https://greatlakes.org/wp-content/uploads/2019/11/AGLOEC-Affordability-Final-Report\\_1Nov2019.pdf](https://greatlakes.org/wp-content/uploads/2019/11/AGLOEC-Affordability-Final-Report_1Nov2019.pdf)

Cultural eutrophication began in the Western Basin of Lake Erie with the invention of the Buckeye Traction Ditcher.<sup>9</sup> With this tool, Ohio settlers drained the Great Black Swamp, a wetland twice the size of the Everglades. Settlers also began dumping human, agricultural, and industrial waste into the lake.<sup>10</sup> Unbeknownst to these early Ohioans, the swamp functioned as Lake Erie's kidney filtering the water.<sup>11</sup> Draining this wetland has left Lake Erie, a naturally mesotrophic lake,<sup>12</sup> susceptible to HABs.

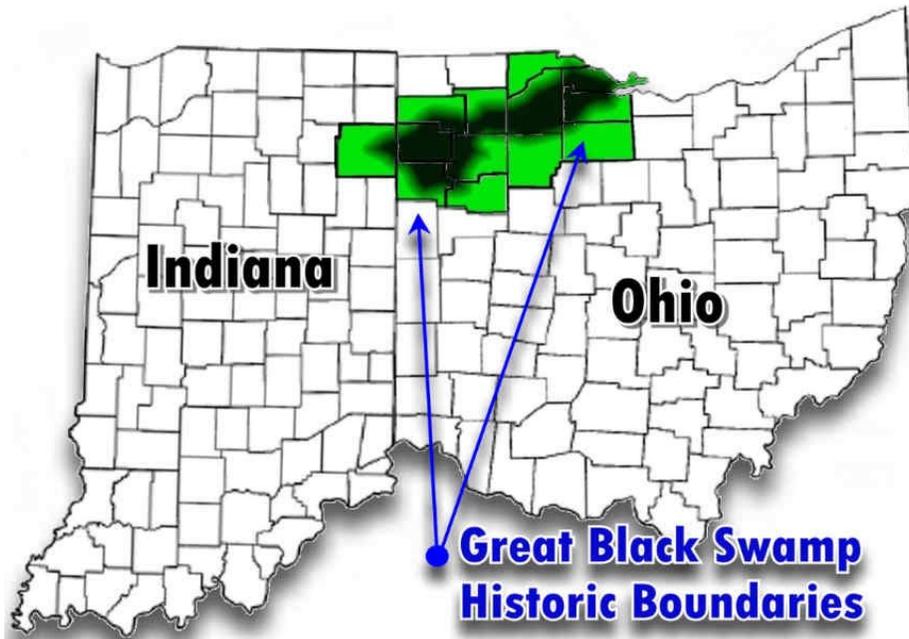


Figure 3 A map of the Great Black Swamp.<sup>13</sup>

The problem of algal blooms in the Western Basin first became apparent in the summer of 1933. Dr. Clarence Taft of Ohio State University noted that Western Lake Erie “looked as if it were coated with green paint.”<sup>14</sup> By the 1940s and 50s, many beaches were closed due to health hazards, as the lake had become the functional equivalent of a septic tank. In the summer of 1953, scientists began to realize that the trophic state of the Lake was shifting. Dr. Alfred M. Beeton found a 2,600 square mile area at the bottom of the Lake that had no oxygen at all.<sup>15</sup>

<sup>9</sup> Dan Egan, *The Death and Life of the Great Lakes*, 215 (W.W. Norton & Co. 2018).

<sup>10</sup> *Id.* at 216-18.

<sup>11</sup> *Id.*

<sup>12</sup> Mesotrophic is one step away from eutrophic.

<sup>13</sup> [Wikimedia Commons, Black Swamp](https://commons.wikimedia.org/wiki/File:Black_Swamp.jpg), available at [https://commons.wikimedia.org/wiki/File:Black\\_Swamp.jpg](https://commons.wikimedia.org/wiki/File:Black_Swamp.jpg).

<sup>14</sup> William Ashworth, *The Late, Great Lakes*, 123 (Random House 1986).

<sup>15</sup> *Id.* at 124.

Ultimately, reporters dramatically declared Lake Erie dead in the 1960s,<sup>16</sup> as schools of suffocated fish full of toxic pollutants washed ashore. Ohioans responded to reporters' quasi-obituary for the lake with grassroots action. In 1965, David Blaushild, a car dealer from Cleveland, petitioned to "Save Lake Erie," collecting over a million signatures.<sup>17</sup> Ohio's Governor, James A. Rhodes, used this petition to push the federal government to act,<sup>18</sup> resulting in multiple studies, one by the International Joint Commission. This single citizens' petition pushed the US Public Health Service to hold *heated* hearings on the problems of Lake Erie. States pointed fingers at each other, while industries and cities pushed back against pending regulation with the sponsorship of the US Chamber of Commerce.

Frustrated with nice words and little action, Ohioans continued to push. Lake Erie, along with its burning tributary, the Cuyahoga River, became a symbol for the larger environmental movement. A great deal of legislation from the municipal to federal level followed—The Great Lakes Water Quality Agreement, The US Clean Water Act (CWA), and a set of local laws that tackled the detergent industries dumping phosphate waste into the lake.

In 1975, the summer algal bloom in Lake Erie failed to appear for the first time in 10 years.<sup>19</sup> The beaches remained open, the anoxic desert did not develop, and the Lake itself turned from green back to blue. Phosphate loading had gone down by 50%. In 1971, the pollution of Lake Erie had warranted a direct mention by Dr. Seuss in *The Lorax*, a fiction book chronicling the dangers of mismanaging the environment.<sup>20</sup> After hearing about the successful clean-up fourteen years later, he removed the direct mention of Lake Erie.<sup>21</sup> Many thought the Lake had been saved from the brink of death.

## The Problem Today

Nonpoint sources: "diffuse contaminants without a discrete origination."<sup>22</sup>

Agricultural and other nonpoint source nutrient pollution, invasive mussels, climate change, and the Rust Belt phenomenon all cause the problems seen today. By the mid-1990s, due to the failure to address agricultural and other nonpoint source nutrient pollution, the algal blooms returned, and the dead zones returned with them. Zebra

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<sup>16</sup> Michael Rotman, *Lake Erie*, Cleveland Historical, Oct. 5, 2019, available at <https://clevelandhistorical.org/items/show/58>.

<sup>17</sup> Terence Kehoe, *Cleaning up the Great Lakes - From Cooperation to Confrontation*, 60-65 (N. Univ. Press 1997).

<sup>18</sup> *Id.*

<sup>19</sup> Ashworth, *supra* note 13, at 145-46.

<sup>20</sup> Egan, *supra* note 8, at 217.

<sup>21</sup> *Id.* at 223.

<sup>22</sup> Melanie Schwab, *Crossing the Home-Rule Boundaries Should Be Mandatory: Advocating for a Watershed Approach to Zoning and Land Use in Ohio*, 58 *Clev. St. L. Rev.* 463 (2010) <https://core.ac.uk/download/pdf/216927919.pdf>.

and quagga mussels, both invasive species, populated Lake Erie.<sup>23</sup> These mussels consume less harmful algae instead of the more toxic algae. They allow toxic algae to proliferate, making the algal blooms of today more toxic than those from the 1900s.

Climate change and the Rust Belt phenomenon<sup>24</sup> have worsened an already precarious situation. Since the late 1960s, the Great Lakes region has experienced a steady decline in industry and population.<sup>25</sup> Many municipalities are now struggling with shrinking tax bases and increasing demands on infrastructure as systems age.<sup>26</sup> Climate change has only amplified these infrastructure challenges; precipitation falling in the heaviest storms in the region has increased by 37% since the 1950s.<sup>27</sup> A 2020 study found that a 2°C temperature increase (which scientists expect to see in Lake Erie by 2050 if climate change continues unabated) would result in the blooms starting 10 days earlier and growing twenty-three percent more intense.<sup>28</sup> Thus, cities along the Western Basin, like Toledo face the problem with outdated water-related infrastructure and too little money to address water quality. Ultimately, the burden of nutrient pollution falls on utility ratepayers and taxpayers—an inequitable result, as it has a disparate impact on low-income and minority communities.

## Current Policies

Federal, State, and Local policies have failed to address HABs in Lake Erie. There is no CWA federal regulatory authority over nonpoint sources of pollution, and the act does not require states to develop their own regulatory programs. The CWA offers weak incentives for state planning and does not require permits for agricultural sources of pollution. The Safe Drinking Water Act requires local utilities to provide safe water yet fails to give them tools to prevent water pollution. Since the CWA largely excludes agricultural sources, cleanup responsibility falls on utilities rather than polluters. As Professor Margot Pollans states:

“This allocation of responsibility is inequitable not only because it has a disparate impact on low-income and minority communities, but also because it disadvantages communities whose drinking water sources are adjacent to farms relative to those whose drinking water sources are adjacent to polluters that are subject to the Clean Water Act’s permitting requirements.”<sup>29</sup>

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<sup>23</sup> Egan, *supra* note 8, at 108-147.

<sup>24</sup> The Rust Belt is a region of the Midwestern and Northeastern US that has been experiencing industrial decline since around 1980.

<sup>25</sup> Rolf Pendall, *The Future of the Great Lakes Region*, vi (2017) [https://www.urban.org/sites/default/files/publication/89087/great\\_lakes\\_0.pdf](https://www.urban.org/sites/default/files/publication/89087/great_lakes_0.pdf).

<sup>26</sup> *Id.* at 41.

<sup>27</sup> Climate Central, *More Downpours: Increase in Heaviest Precip Events*, available at <https://mediabrary.climatecentral.org/resources/more-downpours-2018>.

<sup>28</sup> Dario Del Giudice, *Elucidating controls on cyanobacteria bloom timing and intensity via Bayesian mechanistic modeling*, 1 (Science of the Total Environment, 2021). <http://scavia.seas.umich.edu/wp-content/uploads/2020/11/Del-Giudice-et-al.-2021.pdf>.

<sup>29</sup> *Drinking Water Protection and Agricultural Exceptionalism*, 77 Ohio St. L.J. 1195, 1197.

Further, the minimal protections granted by the CWA are not enforced. Midwesterners challenged the Ohio EPA and US EPA's continued failure to perform their mandatory duties under the CWA.<sup>30</sup> The judge noted the Ohio EPA's "persistent failures" regarding the algal blooms yet failed to do anything besides remand the case to the US EPA, one of the defendants in the case.<sup>31</sup>

Additionally, US agricultural law on this topic is directly aimed at farmers, ignoring the pressures societal institutions place on agriculture. Federal regulation of an activity spread over millions of acres means a monitoring program would be extremely expensive and logistically complex. Voluntary programs administered through the US Department of Agriculture (USDA) have so far failed to incentivize a large enough change in behavior.

State policy conflicts with local action and has also so far failed to properly address the eutrophication issue. In 2019, Ohio Governor Mike DeWine (R) introduced the H2Ohio plan. Backed by \$172 million in funding, the ODA, and the ODNR, H2Ohio includes wetland creation, wetland restoration, and incentives for agricultural best practices. In 2015, Ohio passed a law<sup>32</sup> that prohibits farms in the western Lake Erie region from applying fertilizer on frozen or rain-saturated soil, however, most fertilizer runoff efforts are voluntary, and exceptions undermine the rule. Like the voluntary programs administered through the USDA, these two voluntary programs likely do not go far enough, especially in the context of climate change.<sup>33</sup>

Dr. Robert McKay, executive director and professor at the Great Lakes Institute for Environmental Research, stated: "Climate change is important . . . I think there's consensus that it exacerbates the blooms, and also provides opportunities for the blooms to appear in places we would not expect them."<sup>34</sup> Precipitation falling in the heaviest storms in the region has increased by 37% since the 1950s, and as the climate changes, precipitation is projected to continue to increase in the western basin watershed.<sup>35</sup> In 2019, precipitation not only dramatically reduced the crop planting area in the region, but also contributed to the phosphorus runoff being the third-highest in the previous 10

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<sup>30</sup> *Envtl. Law & Policy Ctr. v. United States EPA*, 415 F. Supp. 3d 775 (N.D. Ohio 2019).

<sup>31</sup> *Id.*

<sup>32</sup> 61 O.R.C. § 6109.10, 6111.32; 9 O.R.C. 903.40, 905.326, 905.327; 15 O.R.C. 1511.10, 1511.11; 3 O.R.C. 3745.50, full act available at <https://www.legislature.ohio.gov/legislation/legislation-summary?id=GA131-SB-1>

<sup>33</sup> They also likely do not adequately address the problem of Animal Feeding Operations (AFOs). Ohio has thousands of AFOs, but since Ohio does not require AFOs to obtain permits until they reach the level of a Concentrated Animal Feeding Facility (CAFF), no one knows exactly how many there are in Ohio.

<sup>34</sup> Logan Sander, *A Cautionary Tale, Twice Over: Surface Water Quality on Lake Erie*, available at <https://www.midstory.org/a-cautionary-tale-twice-over-surface-water-quality-on-lake-erie/>.

<sup>35</sup> *Climate Central, More Downpours: Increase in Heaviest Precip Events*, available at <https://mediabrary.climatecentral.org/resources/more-downpours-2018>.

years.<sup>36</sup> The severity of blooms in 2015, 2017, and 2019 were all greater than that of 2014 (the year of the Toledo Water Crisis). Additionally, 2021 saw the third highest phosphorus load since 2008.<sup>37</sup>

Not only does the state-level government in Ohio fail to properly address the issue, but it also actively works against local policy. On July 18, 2019, to preempt Rights of Nature (discussed below), Gov. DeWine signed legislation that was included in the state budget bill prohibiting legal actions on behalf of nature or an ecosystem. The provision stated: "Nature or any ecosystem does not have standing to participate in or bring an action in any court of common pleas. No person, on behalf of or representing nature or an ecosystem, shall bring an action in any court of common pleas."<sup>38</sup>

In the absence of adequate federal and state-level policy, Toledo locals attempted to go above and beyond to protect their ecosystem. For example, Toledo addressed their own issues with CWA violations, in part by expanding its sewage treatment plant and developing a stormwater credit program, and brought the global Rights of Nature movement to their backyard. Developed by local graduate students, Toledo's stormwater credit program provides an opportunity for nonresidential property owners to reduce their stormwater service fee. By completing an application, non-residential customers can reduce their stormwater charges by performing activities that improve the drainage system.<sup>39</sup> Although this was a credible effort to improve conditions, Toledoans knew the main source of the problem was not stormwater and sewage overflow—it was agricultural nonpoint source pollution.

Supported by the Community Environmental Legal Defense Fund (CELDF) and Toledoans for Safe Water, a citizen initiative focused on clean water and the rights of nature was placed on the ballot for Toledo voters in Lucas County, Ohio, on February 26, 2019. To summarize, the law would amend the city charter to hold liable any public or private entity that violates what proponents termed the "Lake Erie Bill of Rights" (LEBOR). Although approved by a majority of voters, the initiative was quickly overturned in the courts. On February 27, 2020, US District Court Judge Jack Zouhary ruled that LEBOR was invalid in its entirety because it was "unconstitutionally vague and exceeds the power of municipal government in Ohio."<sup>40</sup> This local charter amendment was the first

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<sup>36</sup> Alex Lim, *What's Keeping Lake Erie Green? Part I: Agricultural Land Use in the Maumee River Watershed*, Oct. 2, 2020, available at <https://www.midstory.org/whats-keeping-lake-erie-green-part-i-agricultural-land-use-in-the-maumee-river-watershed/>.

<sup>37</sup> Fremont News, *2021 Lake Erie algal bloom more severe than scientists predicted*, available at <https://www.thenews-messenger.com/story/news/local/2021/11/03/lake-erie-algal-bloom-more-worse-year-than-scientists-predicted/6232058001/>.

<sup>38</sup> 23 O.R.C. § 2305.011, <https://codes.ohio.gov/ohio-revised-code/section-2305.011>.

<sup>39</sup> The credits are available if the property owner performs specific actions that reduce the impact of stormwater generated from their property or reduce the City's cost to maintain the public stormwater system through their property. The stormwater credit is an application procedure offered to all non-residential customers only. Authority for the stormwater credit is found in the City of Toledo Municipal Code 943.09.

<sup>40</sup> *Drewes Farms P'ship v. City of Toledo*, 441 F. Supp. 3d 551, 558 (N.D. Ohio 2020).

of its kind in the United States and would have gone a long way towards restoring and protecting the Lake Erie ecosystem.

## A Road to Addressing Environmental Injustice<sup>41</sup>

On the federal and state level, the allocation of responsibilities must shift from the utilities to the polluters via a policy of pollution prevention—polluters, not utility rate-payers and taxpayers, should bear the cost. Pollution prevention would protect the Lake Erie Ecosystem from eutrophication, lower the cost of water treatment for Ohio-ans, and prevent further environmental injustice. Area-stakeholders, including the director of Toledo’s department of utilities, have asked for prevention-based solutions.<sup>42</sup>

“[T]he state could do more to help prevent the nutrient runoff that is the primary cause of our algae issue.”

- Edward A. Moore<sup>43</sup>

Since federal regulation of an activity spread over millions of acres means a monitoring program would be extremely expensive and logistically complex, even a federal solution should have local teeth. One option is to expand the SDWA imminent and substantial endangerment litigation authority from only the EPA to states, water utilities, and rate-payers.<sup>44</sup> Currently, only the EPA can sue individuals and firms posing an “an imminent and substantial endangerment” to drinking water.<sup>45</sup> By expanding the authority, local utilities could address the inequitable distribution of the cost of agricultural nonpoint source pollution by suing polluters, like CAFF owners.

Another option is to remove preemption barriers and enact Rights of Nature or other similar grassroots-developed solutions at the local level. The impacts and sources of nonpoint source pollution, as well as the impacts and causes of most environmental issues, vary by region. Empowering local communities to advocate for the ecosystems they love and live within creates an opportunity to undo the many environmental injustices caused by commodifying nature and excluding the voices of EJ communities. A Rights of Nature solution originates at the local level from the EJ community itself, creating a relationship where state and federal actors support, rather than preempt.

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<sup>41</sup> Any pragmatic solution would start with campaign finance reform, anti-corruption measures, and efforts for fair redistricting in Ohio and the United States as a whole. Since the prompt calls for a look at environmental policy, that is what this paper will explore. However, it is important to note that the types of environmental policies discussed below likely could not be passed or upheld without addressing these threshold issues.

<sup>42</sup> In the summer of 2015, the summer after the 2014 Toledo Water Crisis, microcystin levels in the untreated lake water near Toledo’s water treatment plant intake site peaked at ~5 parts per billion. This was about double the 2014 summer level. This is evidence that the causes were not addressed, the treatment plant was just more prepared to respond. Egan, *supra* note 8, at 244.

<sup>43</sup> Patrick Easken, *Toledo invests \$1 billion in water treatment plant*, Aug. 9, 2019, available at <https://presspublications.com/content/toledo-invests-1-billion-water-treatment-plant-0>.

<sup>44</sup> Drinking Water Protection and Agricultural Exceptionalism, 77 Ohio St. L.J. 1195, 1197.

<sup>45</sup> *Id.* at 1195.

The Earth Law Center has provided a model Rights of Nature ordinance and resolution<sup>46</sup> showing how this would work.<sup>47</sup>

## Conclusion

The Toledo Water crisis calls Ohioans to grassroots action today in the same way the reporters' declaration of Lake Erie's death galvanized Ohioans to action in the 1960s. HABs in the Western Basin of Lake Erie are an environmental justice issue that continues today because 1960s Ohioans thought federal regulation would protect their communities. Today, to right the wrongs caused by the inequitable burden of nonpoint source pollution, power should be given back to the communities that are harmed. Unfortunately, without significant shifts in policy at the federal and state level, Ohioans will likely have to mobilize to advocate for themselves and the Lake Erie ecosystem, just as they did in the 1960s.

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<sup>46</sup> Earth Law Center, *Model Rights of Nature Template for the Rights of Rivers and Watersheds and the Establishment of Legal Guardianship within U.S. Municipalities* (2021), available at [https://static1.squarespace.com/static/55914fd1e4b01fb0b851a814/t/60777e5bbc2c737f0cdaa669/1618443869477/Model+RoN+Template+for+Municipalities\\_Final.pdf](https://static1.squarespace.com/static/55914fd1e4b01fb0b851a814/t/60777e5bbc2c737f0cdaa669/1618443869477/Model+RoN+Template+for+Municipalities_Final.pdf)

<sup>47</sup> Additionally, CELDF provides other related resources to interested communities.