

**IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF OHIO
WESTERN DIVISION**

THE BOARD OF LUCAS COUNTY)
COMMISSIONERS)
)
CITY OF TOLEDO)
)
ENVIRONMENTAL LAW & POLICY)
CENTER)
)
Plaintiffs)
)
vs.)
)
UNITED STATES ENVIRONMENTAL)
PROTECTION AGENCY)
)
MICHAEL REGAN, in his official capacity as)
Administrator, United States Environmental)
Protection Agency)
)
DEBRA SHORE, in her official capacity as)
Region 5 Administrator, United States)
Environmental Protection Agency)
)
Defendants)

No. _____

COMPLAINT

Introduction

1. Plaintiffs The Board of Lucas County Commissioners, City of Toledo, and Environmental Law & Policy Center (ELPC) bring this case to remedy Defendant United States Environmental Protection Agency's (U.S. EPA) failure to comply with its obligations under Clean Water Act, 33 U.S.C. § 1251 *et seq.* to prevent harmful algal blooms (HABs) in western Lake Erie.

2. Every year, HABs cover large portions of western Lake Erie in thick, foul-smelling scum. HABs are accumulations of cyanobacteria that can release dangerous neurotoxins and liver toxins.

3. HABs cause serious ecological, economic, and public health problems. They impair outdoor recreation, degrade fisheries, devalue property, and threaten access to safe clean drinking water. That threat materialized during the Toledo water crisis of 2014, when algal toxins got into a drinking water intake, cutting off water access to nearly 500,000 people.

4. Lake Erie's HABs are caused by excess phosphorus. One form of phosphorus, known as dissolved reactive phosphorus (DRP), is the main driver of Lake Erie's HABs.

5. The source of the phosphorus pollution causing Lake Erie's HABs is undisputed: manure and other livestock waste and synthetic fertilizer from upstream agriculture that either runs off field edges or is discharged through subsurface drainage systems. According to the Ohio Environmental Protection Agency (Ohio EPA), 92% of the phosphorus load into the Maumee River comes from agriculture.

6. In 2015, the State of Ohio committed to reduce phosphorus loads, including DRP, into Lake Erie by 40% from 2008 levels pursuant to Annex 4 of the Great Lakes Water Quality Agreement. U.S. EPA, the State of Michigan, and the Province of Ontario all made the same commitment. The target date for these reductions is 2025.

7. It is now 2024 and water sampling data shows no evidence of any consistent reductions in Ohio's phosphorus loads from 2008 levels.

8. HABs render western Lake Erie "impaired" under the federal Clean Water Act. The Act obligates Defendant U.S. EPA to take a series of steps to remediate the impairment.

9. The agency has repeatedly failed to take those steps. As a result, Plaintiffs filed three cases in this Court against U.S. EPA between 2017 and 2019. Each case succeeded in requiring the agency to take the applicable step in the statutory process. But when the cases were over, U.S. EPA—and Ohio EPA—failed to complete the required next step.

10. This case challenges U.S. EPA’s violation of the central statutory requirement for remediating impaired waters like Lake Erie: establishing a Total Maximum Daily Load (TMDL) that complies with section 303(d) of the Clean Water Act (33 U.S.C. § 1313(d)) and applicable regulations.

11. A TMDL is often known as a pollution “cap” or “diet.”

12. The objective of a TMDL is to ensure that impairments are remediated and “water quality standards [are] achieved.” See [Overview of Total Maximum Daily Loads](#), U.S. EPA (last visited Apr. 29, 2024).

13. Technically, a TMDL is the total maximum pollutant load that a water body can tolerate without being impaired under the Clean Water Act. A TMDL also apportions this total load among pollution sources in the watershed, which must reduce their current loads to comply with the new limits.

14. The Clean Water Act charges states with preparing TMDLs, which U.S. EPA must approve or disapprove. If it disapproves a TMDL, U.S. EPA must prepare the TMDL. See 33 U.S.C. § 1313.

15. In response to Plaintiffs’ prior lawsuits, Ohio EPA prepared a TMDL for western Lake Erie, known as the Maumee Watershed Nutrient TMDL (“Maumee TMDL”). U.S. EPA approved the Maumee TMDL on September 28, 2023.

16. As explained in detail below, the Maumee TMDL fails to comply with numerous legal requirements under the Clean Water Act and applicable regulations and will not be sufficient to remediate the HABs in western Lake Erie. Among other things, the Maumee TMDL:

- (a) fails to limit DRP, which is the pollutant driving the HAB crisis, as required by 33 U.S.C. § 1313(d)(1)(C) and 40 C.F.R. § 130.7(c)(1)(ii);
- (b) fails to include “a margin of safety which takes into account any lack of knowledge concerning the relationship between effluent limitations and water quality” as required by 33 U.S.C. § 1313(d)(1)(C);
- (c) fails to apportion pollution reductions (known as “wasteload allocations”) to large, industrialized livestock facilities designated as “concentrated animal feeding operations” (CAFOs) under the Clean Water Act, as required by 40 C.F.R. § 130.2(h);
- (d) fails to apportion the “load allocation” among “nonpoint” sources of pollution as required by 40 C.F.R. § 130.2(g), Ohio Rev. Code 61111.562(B), and Ohio Admin. Code 3745-2-12(c); and
- (e) fails to include an implementation plan that provides “reasonable assurances” that target pollution loads will be reached as required by Ohio Admin. Code 3745-2-12(A)(2)(a)(iv)(f) and 3745-2-12(E)(3) and U.S. EPA Guidance. Office of Water, U.S. EPA, [Guidance for the Implementation of Water Quality-Based Decisions: The TMDL Process](#) 15 (Apr. 1991) (“U.S. EPA Guidance”).

17. Because the Maumee TMDL violates these legal requirements and will not remediate Lake Erie’s HABs, U.S. EPA’s approval of the TMDL was “arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law” in violation of the Administrative Procedure Act (APA). 5 U.S.C. § 706(2)(A).

18. Plaintiffs accordingly ask the Court to set aside U.S. EPA's approval of the Maumee TMDL and order Defendants to prepare a TMDL that both complies with the Clean Water Act and will actually be sufficient to clean up Lake Erie.

Jurisdiction and Venue

19. This Court has jurisdiction because Plaintiffs are aggrieved by a final agency action subject to judicial review under the Administrative Procedure Act, 5 U.S.C. § 701, *et. seq.*

20. U.S. EPA's approval of the TMDL was a "final agency action" subject to judicial review under 5 U.S.C. § 704 because it: (1) was the consummation of U.S. EPA's decision-making process on the TMDL under 40 C.F.R. § 130.7; and (2) determined rights and obligations of the parties or caused legal consequences.

21. Plaintiffs claim that U.S. EPA's approval of the TMDL was unlawful and should be set aside under 5 U.S.C. § 706(2)(A) because it was "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with the law." Specifically, Plaintiffs claim that approval of the TMDL was contrary to law because the TMDL violated requirements in 33 U.S.C. § 1313(d)(1)(C), 40 C.F.R. § 130.2(h), 40 C.F.R. § 130.2(g), Ohio Rev. Code 61111.562(B), Ohio Admin. Code 3745-2-12(C), Ohio Admin. Code 3745-2-12(A)(2)(a)(iv)(f) and 3745-2-12(E)(3), and U.S. EPA Guidance.

22. This court also has jurisdiction pursuant to 28 U.S.C. § 1331 because this is a civil action arising under laws of the United States.

23. A substantial part of the events or omissions giving rise to this case occurred on or near western Lake Erie, which is located in the Northern District of Ohio, making venue proper under 28 U.S.C. § 1391(e). Alternatively, venue is proper in this Northern District of Ohio because Plaintiffs Lucas County Board of Commissioners (Lucas County Board) and City of Toledo are

local units of government in this district and Plaintiff ELPC has members who reside in this district.

Parties

24. Plaintiff Lucas County Board is a body politic that, under Ohio Revised Code Section 305.12, can sue in its own name.

25. Plaintiff City of Toledo is a chartered municipal corporation located in Lucas County, Ohio, which operates under home-rule authority pursuant to Section 3, Article XVIII of the Ohio Constitution. The Charter of the City of Toledo, Chapter II, Section 8(b), provides the authority for the City to sue and be sued.

26. Plaintiff ELPC is a Midwest-based not-for-profit public interest environmental advocacy organization dedicated to improving environmental quality and public health, including protecting the Great Lakes and other Midwest natural resources. ELPC's headquarters is in Chicago, Illinois and ELPC has additional offices in Ohio, Iowa, Wisconsin, and Washington, D.C. ELPC members live, work, and play in and near Lake Erie and the other Great Lakes. They depend on clean water from Lake Erie as a source of drinking water, and they use and enjoy Lake Erie for its aesthetic and recreational value.

27. Defendant U.S. EPA is an agency of the United States government. Among other responsibilities, U.S. EPA is responsible for overseeing and administering the development of TMDLs under 33 U.S.C. § 1313.

28. Defendant Michael Regan is the Administrator of U.S. EPA and is being sued in his official capacity. The U.S. EPA Administrator is responsible for overseeing the agency, including its implementation of the Clean Water Act and its decisions to approve or disapprove

state TMDLs submitted under 33 U.S.C. § 1313. Plaintiffs name Administrator Regan as a Defendant pursuant to 5 U.S.C. § 702 because they seek injunctive relief.

29. Defendant Debra Shore is the Regional Administrator of U.S. EPA Region 5 (which includes Ohio, Michigan, Indiana, Illinois, Wisconsin, and Minnesota) and is being sued in her official capacity. The U.S. EPA Regional Administrator is responsible for overseeing Region 5 of the agency, including its implementation of the Clean Water Act and its decisions to approve or disapprove state TMDLs submitted under 33 U.S.C. § 1313. Plaintiffs name Regional Administrator Shore as a Defendant pursuant to 5 U.S.C. § 702 because they seek injunctive relief.

Standing

30. Plaintiffs have standing because: (i) they have been distinctly and palpably injured by HABs in western Lake Erie; (ii) their injuries are fairly traceable to Defendants' acts and omissions as alleged in this Complaint; and (iii) those injuries can be redressed by the relief sought in this Complaint.

Lucas County Board's Standing

31. Under Ohio law, the Lucas County Board is generally responsible for the health, welfare, and safety of the county's residents.

32. As part of that role, the Board is authorized to, and obligated to, establish policies and rules regarding water quality management within the county, either directly or through agencies in which Lucas County is a participant.

33. The discharge of these responsibilities requires the Board to commit significant financial, personnel, and other resources to the maintenance and monitoring of water quality.

34. The presence and continuation of annual HABs in western Lake Erie causes pecuniary injury to the Lucas County Board by requiring expenditure of County resources that

would have been unnecessary or at least substantially reduced if water quality standards were met in western Lake Erie and its waters were no longer impaired by HABs.

35. This ongoing pecuniary injury is fairly traceable to U.S. EPA's unlawful approval of Ohio EPA's legally defective TMDL. As alleged below, the Maumee TMDL fails to comply with statutory requirements and will not sufficiently reduce phosphorus pollution to remediate the impairment of western Lake Erie by HABs that are injuring the Lucas County Board and its constituents.

36. The Lucas County Board's injuries can be redressed by the relief sought in this case. Plaintiffs ask the Court to set aside U.S. EPA's approval of Ohio EPA's defective TMDL and order preparation of a TMDL that complies with the Clean Water Act. Because a lawful TMDL would lead to reduction of the HABs that are injuring the Lucas County Board, the requested relief would redress its injuries.

City of Toledo's Standing

37. The City of Toledo is a home-rule municipality. The City has an interest in protecting the health, welfare, and safety of its residents.

38. As part of that role, the City of Toledo supplies potable drinking water to roughly 500,000 people living in the City and surrounding areas. The City of Toledo is responsible for the effective production, filtration, treatment, and quality control of the water it supplies.

39. The discharge of these responsibilities requires the City of Toledo to commit significant financial, personnel, and other resources to the maintenance and monitoring of water quality.

40. The City of Toledo's water is sourced in western Lake Erie and pumped to a treatment plant owned and operated by the City, known as the Collins Park Treatment Plant. The Collins Park Treatment Plant filters an average of 75 million gallons of water per day.

41. The presence and continuation of recurring HABs in western Lake Erie causes the City of Toledo pecuniary injury by requiring expenditure of City resources that would otherwise be unnecessary or at least significantly reduced if water quality standards were met in western Lake Erie and its waters were no longer impaired by HABs.

42. Since 2014, the City of Toledo has incurred costs of \$490.4 million to upgrade the Collins Park Treatment Plant, in part to improve its treatment of HAB toxins in water sourced from western Lake Erie. The City has also incurred substantial additional costs to upgrade other systems to address the HAB crisis.

43. The City of Toledo expects to be forced to continue to direct resources toward treating and mitigating HAB toxins in water sourced from Lake Erie.

44. This ongoing pecuniary injury is fairly traceable to U.S. EPA's unlawful approval of Ohio EPA's legally defective TMDL. As alleged below, the Maumee TMDL fails to fulfill basic statutory requirements and will not remediate the impairment of western Lake Erie by HABs that are injuring the City of Toledo and its residents.

45. The City of Toledo's injuries can be redressed by the relief sought in this case. Plaintiffs ask the Court to set aside U.S. EPA's approval of Ohio EPA's defective TMDL and order preparation of a TMDL that complies with the Clean Water Act. Because a lawful TMDL would lead to reduction of the HABs that are injuring the City of Toledo, the requested relief would redress its injuries.

ELPC's Standing

46. ELPC files this action on behalf of itself and its members. ELPC members rely on the portion of western Lake Erie under Ohio's jurisdiction for drinking water, recreation, and aesthetic enjoyment. These uses are directly impaired by HABs and other phosphorus-related pollution. Such pollution harms water quality, threatens access to safe, clean drinking water, impedes swimming, boating and other outdoor recreation, and harms fish and other aquatic life.

47. ELPC's injuries are directly traceable to U.S. EPA's unlawful approval of Ohio EPA's defective TMDL. As alleged below, the Maumee TMDL fails to comply with statutory requirements and, as a consequence, will not sufficiently reduce phosphorus pollution to remediate the impairment of western Lake Erie by HABs that are injuring ELPC and its members.

48. ELPC's injuries can be redressed by the relief sought in this case. Plaintiffs ask the Court to set aside U.S. EPA's approval of Ohio EPA's defective TMDL and order preparation of a TMDL that complies with the Clean Water Act. Because a lawful TMDL would lead to reduction of the HABs that are injuring ELPC and its members, the requested relief would redress their injuries.

The Clean Water Act

49. Congress enacted the Clean Water Act in 1972 to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." 33 U.S.C. § 1251(a). The statute aimed to make Americans' waters drinkable, fishable, and swimmable by 1983. 33 U.S.C. § 1251(a)(2). The Clean Water Act and its implementing regulations create a complex process under which U.S. EPA and the states share responsibility for achieving statutory objectives.

NPDES Permits

50. The Clean Water Act prohibits anyone from “discharging pollutants” into “waters of the United States” without a National Pollution Discharge Elimination System (NPDES) permit. 33 U.S.C. § 1311(a).

51. The definition of “pollutant” includes “solid waste, . . . sewage, . . . biological materials, . . . and agricultural waste discharged into water.” 33 U.S.C. § 1362(6).

52. “Discharge of a pollutant” means “any addition of any pollutant to” waters of the United States “from any point source.” 33 U.S.C. § 1362(12).

53. “Point source” means “any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, *concentrated animal feeding operation*, or vessel or other floating craft, from which pollutants are or may be discharged.” 33 U.S.C. § 1362(14) (emphasis added).

54. While the Clean Water Act gives U.S. EPA lead responsibility for the NPDES program, it allows most administrative functions to be delegated to states, subject to supervision by U.S. EPA. 33 U.S.C. § 1342. Ohio is one of 47 states that administers its NPDES program pursuant to delegation from U.S. EPA. Ohio EPA is the Ohio agency charged with that administration.

Impaired Waters

55. The Clean Water Act requires states to establish “water quality standards” for all waters in its jurisdiction. 33 U.S.C. § 1313(c)(2). Water quality standards consist of the designated uses of the water body (e.g., public water supply, recreation, habitat) and criteria to evaluate if the uses are supported. 33 U.S.C. § 1313(c)(2)(A). These criteria can be expressed as numerical limits on concentration of a pollutant or as narrative statements.

56. Every two years, states must develop a list of water bodies within their jurisdiction that do not meet designated uses or attain water quality standards despite implementation of the NPDES program. These are known as “impaired” waters. States must also prepare a “priority ranking” for impaired waters to receive TMDLs, “taking into account the severity of the pollution and the uses to be made of such waters.” 33 U.S.C. § 1313(d)(1)(A); *see also* 40 C.F.R. § 130.7(b)(4).

57. Every two years, states must submit their impaired waters lists, priority rankings for waters to receive TMDLs, and supporting documentation for approval to U.S. EPA. 40 C.F.R. § 130.7(b)(6). These materials are combined into an “Integrated Report.” U.S. EPA may approve the Integrated Report “only if it meets the requirements of § 130.7(b),” including the requirement for the state to “assemble and evaluate all existing and readily available water quality-related data” to develop its impaired waters list. 40 C.F.R. § 130.7(b)(5).

TMDLs

58. TMDLs are the Clean Water Act’s tool for reducing pollution into impaired water bodies so that they are no longer impaired. Technically, TMDL is a number representing the maximum amount of a pollutant that a water body can tolerate and still comply with water quality standards and not be impaired.

59. As explained below, regulations require TMDLs to be accompanied by an implementation plan to reduce current pollutant loads to comply with TMDL limits. TMDLs are commonly described as a “diet” or “cap” on the pollutant being targeted.

60. The Clean Water Act requires each TMDL to “be established at a level necessary to implement the applicable water quality standards with seasonal variations and a margin of safety

which takes into account any lack of knowledge concerning the relationship between effluent limitations and water quality.” 33 U.S.C. § 1313(d)(1)(c).

61. TMDLs must be established “for all pollutants preventing or expected to prevent attainment of water quality standards.” 40 C.F.R. § 130.7(c)(1)(ii).

62. TMDLs allocate the target pollution load between point sources and nonpoint sources. *See* 40 C.F.R. § 130.2.

63. As noted earlier, a “point source” means “any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, [or] concentrated animal feeding operation.” 33 U.S.C. § 1362(14) “Nonpoint source” means any source of pollution that does not meet the definition of “point source” in 33 U.S.C. § 1362(14), such as overland agricultural runoff or urban stormwater runoff.

64. A TMDL assigns pollution limits (known as wasteload allocations) to each point source in the TMDL zone. 40 C.F.R. § 130.2(h). Wasteload allocations become enforceable by incorporation into the point source’s NPDES permit. 40 C.F.R. § 122.44(d)(1)(vii)(B).

65. A TMDL’s nonpoint source pollution targets are called “load allocations,” defined as “[t]he portion of a receiving water’s loading capacity that is attributed either to one of its existing or future nonpoint sources of pollution or to natural background sources.” 40 C.F.R. § 130.2(g).

66. U.S. EPA Guidance requires each TMDL to include an implementation plan that provides “reasonable assurances that nonpoint source reduction will in fact be achieved.” Otherwise, “the entire load reduction must be assigned to point sources.” U.S. EPA Guidance at 15.

67. Ohio regulations require TMDLs to include an “implementation plan establishing specific actions, schedules and monitoring proposed to effectuate a TMDL.” Ohio Admin. Code

3745-2-12(A)(2)(a)(iv)(f). Ohio likewise requires the final implementation to include “reasonable assurances that water quality standards will be attained in a reasonable period of time.” Ohio Admin. Code 3745-2-12(E)(3).

68. States must submit all TMDLs to U.S. EPA for review. 33 U.S.C. § 1313(d)(2). U.S. EPA “shall either approve or disapprove” a TMDL “not later than thirty days after the date of submission.” 33 U.S.C. § 1313(d)(2); 40 C.F.R. § 130.7(d)(2).

69. If U.S. EPA approves a TMDL, the state must incorporate wasteload allocations into point sources’ NPDES permits. 33 U.S.C. § 1313(d)(2); 40 C.F.R. § 130.7(d)(2); 40 C.F.R. § 122.44(d)(1)(vii)(B).

70. If U.S. EPA disapproves a TMDL, the administrator “shall not later than thirty days after the date of such disapproval . . . establish such loads for such waters as he determines necessary to implement the water quality standards applicable to such waters.” 33 U.S.C. § 1313(d)(2); 40 C.F.R. § 130.7(d)(2).

Factual Background

Lake Erie Impairment

71. Western Lake Erie has suffered from recurring annual HABs for years. The current spate of large Lake Erie HABs began in the mid-1990s.

72. HABs coat surface waters in thick, odiferous scum and can produce powerful liver toxins and neurotoxins. These algal toxins, including microcystin, are more toxic by orders of magnitude than many other toxic compounds, including cyanide and DDT.

73. If consumed, algal toxins can cause kidney and liver damage, gastrointestinal distress and infections, as well as dementia, amnesia, other neurological damage, and death. Even

skin contact with algal toxins is dangerous, potentially causing numbness, dizziness, and skin irritation or rashes.

74. HABs have sickened or killed pets that drink or swim in water containing algal toxins.

75. HABs also deplete dissolved oxygen levels and fuel the growth of toxic organisms, which can kill and damage fish and reduce the diversity of fish species.

76. HABs occur when waters become overloaded with nutrients, particularly nitrogen and phosphorus. The “limiting nutrient” for cyanobacteria growth in freshwater is phosphorus. That means phosphorus loads determine the size and severity of HABs.

77. Phosphorus is fully “bioavailable” to cyanobacteria in its dissolved form, known as dissolved reactive phosphorus (DRP). Consequently, DRP loads drive HAB formation.

78. The current HAB crisis is not Lake Erie’s first. Beginning around 1850, western Lake Erie was contaminated by extensive phosphorus pollution from industry and municipal sewage, and later, from phosphates in laundry detergent. These phosphorus loads peaked in 1968, causing annual HABs and depleted fish populations.

79. In 1972, Congress passed the Clean Water Act, and the United States and Canada also entered into the Great Lakes Water Quality Agreement (GLWQA). Through the GLWQA, scientists from the United States and Canada established a total phosphorus loading target (11,000 metric tons annually) to clean up Lake Erie. This target represented a 60% reduction in total phosphorus loads.

80. The United States and Canada reached this target for the first time in 1981, largely through reducing pollution from wastewater treatment plants (which, in the United States, had to comply with NPDES permits) and phasing out phosphates in laundry detergent. HABs declined,

Lake Erie's ecosystems began to recover, and the lake became known as the "walleye capital of the world."

81. In the mid-late 1990s, however, large HABs began reappearing in western Lake Erie. A particularly large HAB formed in 2003 and large HABs have occurred every year since then, typically forming in late spring/early summer and, increasingly, continuing well into the fall. As discussed below, this HAB resurgence coincided with a major shift in livestock production to the CAFO model.

82. The 2014 HAB was particularly costly and dangerous. The algal toxin microcystin got into one of Toledo's drinking water intakes, causing the City to issue a drinking water advisory. Nearly 500,000 people lost access to safe drinking water for more than two days. The governor declared a state of emergency and deployed the National Guard to truck in bottled water for residents to drink and cook with.

83. Western Lake Erie's HABs are enormous and persistent. In 2023, for example, Lake Erie suffered a "moderately severe" HAB, which covered 312 square miles and lasted from July 4th until mid-October.

84. HABs in the Western Basin of Lake Erie can also flow east to the Central Basin, die off, and then sink to the bottom where they are decomposed by bacteria. This process depletes dissolved oxygen levels, creating an annual "dead zone" in the Central Basin that typically equals the combined size of Delaware and Rhode Island.

85. Of all tributaries flowing into western Lake Erie, the Maumee River contributes the most phosphorus by far. Although it contributes only 3 to 4% of the water flowing into Lake Erie, the Maumee River delivers nearly 50% of the total phosphorus load. Nearly 75% of the Maumee watershed is in Ohio. The river forms near Fort Wayne, Indiana and flows through agricultural

land in northwest Ohio before entering metropolitan Toledo and discharging to Lake Erie through Maumee Bay.

86. According to Ohio EPA, 92% of the phosphorus loads into the Maumee River come from agriculture. This pollution happens when manure and other livestock waste, or synthetic fertilizer, enters surface waters through subsurface drainage systems or runs off the surface of crop fields following rain or snow melt.

Great Lakes Water Quality Agreement, Annex 4

87. In 2012, the United States and Canada tried to address the HAB resurgence by amending the Great Lakes Water Quality Agreement to include Annex 4, which addresses nutrient pollution.

88. Annex 4 created an “Objectives and Targets Task Team” (Task Team) to set new phosphorus loading targets for Lake Erie to control HABs. The Task Team co-chair was Dr. Jeffrey Reutter, then Director of Ohio Sea Grant (a research program within Ohio State University (OSU) focused on the health of Lake Erie) and OSU’s Stone Lab.

89. The Task Team released a report titled Recommended Phosphorus Loading Targets for Lake Erie on May 11, 2015 (Task Team Report). The Task Team Report set loading targets equivalent to a 40% reduction from 2008 load levels in metric tons for two types of phosphorus: DRP and total phosphorus.

90. DRP refers to dissolved reactive phosphorus. Total phosphorus refers to DRP plus phosphorus attached to sediment or soil particles, known as particulate phosphorus (PP). Presently, DRP comprises approximately 21% of total phosphorus flowing into Lake Erie but, as explained below, it is the primary driver of HABs.

91. Because phosphorus load levels can vary widely based on the volume of water entering Lake Erie (which is heavily driven by precipitation), the Task Team also identified target concentrations for DRP and total phosphorus that adjust for flow (flow-weighted mean concentration or FWMC) and correspond with the metric ton reduction targets. The Task Team recommended that FWMC be used to track progress toward achieving its targets.

92. The Task Team Report repeatedly emphasized the need for separate loading targets for total phosphorus and DRP. It explained that DRP is “the most important target for reduction” because it is 100% bioavailable to cyanobacteria, while PP is only 25-50% bioavailable. The more bioavailable phosphorus is, the more easily it will be consumed by and feed a HAB. Consequently, the Task Team Report explained, it made no sense to use a single total phosphorus target because “various combinations of DRP and PP [loads] can reach the 40% reduction in TP but have vastly different effects on the total bioavailable phosphorus.”

93. The Task Team Report recognized that total phosphorus loads declined before HABs re-emerged in the mid-1990s and had since shown “no clear trends in concentrations or loads”; by contrast, DRP concentrations and loads rose sharply beginning in the mid-1990s through 2015 (they have since plateaued at that elevated level).

94. Total phosphorus reductions can be driven entirely by reductions in PP, but those will not, on their own, reduce HABs; DRP loads must also come down.

95. The divergent trends in total phosphorus and DRP loading reflect the fact that measures for reducing PP often do not work, or are even counterproductive, in reducing DRP. For instance, reducing or eliminating agricultural tillage can minimize erosion and PP loss, but the same practice can accelerate DRP loss.

96. Shortly after release of the Task Team Report in June 2015, the Governors of Michigan and Ohio and the Premier of Ontario signed a Collaborative Agreement committing to achieve the Task Team’s 40% reduction targets for total phosphorus and DRP by 2025, with an interim goal of a 20% reduction by 2020. The United States and Canada adopted the Task Team targets in February 2016. And in June 2019, Ohio Governor Mike DeWine re-committed the State of Ohio to reducing its phosphorus loads into Lake Erie by 40% by 2025.

Failure to Meet Annex 4 Targets

97. The State of Ohio has made virtually no progress toward meeting its Annex 4 commitments.

98. The U.S. Geological Survey has a gauging station in the Maumee River at Waterville, Ohio, just upstream of metropolitan Toledo. Pollutant levels at Waterville identify phosphorus loads coming from the Maumee River. Waterville monitoring station data demonstrate yearly fluctuations but no trending decrease in the flow-weighted mean concentration of DRP. Ohio still has not met its interim goal of a 20% phosphorus reduction (which it was supposed to do in 2020) and is far from meeting its commitment to reduce phosphorus loads by 40% by 2025.

99. Ohio’s failure to reduce phosphorus loads has not resulted from a failure to spend money. Ohio’s established the H2Ohio program in 2019. Since 2020, H2Ohio has been allotted over \$400 million, much of which has been spent on voluntary conservation efforts in the western Lake Erie watershed to reduce agricultural phosphorus pollution. As of April 2024, H2Ohio’s agricultural incentive program expanded beyond the Lake Erie watershed and is now available across the state.

100. These voluntary conservation efforts largely rely on paying farmers to adopt so-called “best management practices” or BMPs. These BMPs, however, are often ineffective; indeed,

as described above regarding reduced tillage, some BMPs can increase DRP loading. The effectiveness of BMPs depends on a slew of site-specific factors including field location, soil type, slope, tillage, and soil test phosphorus levels.

101. Ohio fails to target BMPs to where they are most needed and likely to succeed; instead, Ohio prioritizes “enrolling acres” in BMPs regardless of location or other conditions. Ohio also fails to measure BMP effectiveness by testing the water; instead, the state relies on unsupported formulas that presume phosphorus loss reduction without measuring if any reductions are achieved. The data show that reductions are not being achieved.

102. With pollution from upstream agriculture continuing unabated, downstream communities—especially the City of Toledo—have been forced to both live with annual HABs and spend enormous sums of public funds trying to address their consequences.

103. Since 2014, the City of Toledo has spent \$490.4 million to upgrade its drinking water treatment plant in part to improve its treatment of HAB toxins. The City has also incurred substantial additional costs to upgrade other systems to address the HAB crisis. Statewide between 2011 and 2017, Ohio spent more than \$3 billion to address HABs in Lake Erie, with \$2.3 billion of that money going to fund wastewater or drinking water improvement projects.

104. Climate change is making the HAB problem worse, as more intense storms drive more runoff from agricultural fields and warmer temperatures in Lake Erie promote more cyanobacteria growth. As rain becomes less predictable, agricultural operators are less able to time how and when they apply manure or commercial fertilizer to reduce risk of runoff.

Animal Feeding Operations

105. The resurgence of HABs in Lake Erie coincided with a major change in livestock agriculture.

106. For generations, livestock were raised on traditional, diversified farms with relatively small numbers of animals. These farms kept animals at pasture and balanced nutrient intake (grazing) with output (manure).

107. In the 1990s, these diversified farms began to be replaced by a smaller number of much larger, industrial-scale confined feeding operations (with up to 100,000+ animals). These operations generate far more nutrients in manure and other waste than surrounding land can absorb.

108. As the United States Department of Agriculture (USDA) recognizes, these are not farms in the traditional sense—they are “large industrialized livestock operations.” *See* James M. Macdonald & William D. McBride, [The Transformation of U.S. Livestock Agriculture: Scale, Efficiency, and Risks](#), U.S. Dep’t of Agric., iii (Jan 2009).

109. Under the Clean Water Act, industrial livestock operations are known as Animal Feeding Operations or “AFOs.” U.S. EPA regulations define AFOs as facilities where animals are confined for more than 45 days per year and where crops are not grown on site. 40 C.F.R. § 122.23(b)(1).

110. The largest AFOs are defined as Concentrated Animal Feeding Operations or “CAFOs.” “Large CAFOs” are AFOs with the equivalent of at least 700 mature dairy cows, 2,500 swine, or 125,000 chickens. 40 C.F.R. § 122.23(b)(2), (4). Smaller AFOs can be deemed “CAFOs” in certain circumstances. 40 C.F.R. § 122.23(b)(6), (9). The Clean Water Act’s definition of “point source” expressly includes “concentrated animal feeding operations.” 33 U.S.C. § 1362(14).

111. Because AFOs concentrate so many animals in a relatively small space, they also concentrate enormous amounts of manure and other waste, including urine and wastewater from cleaning animal confinement areas. As of 2012, large CAFOs in the United States produced more than 20 times the volume of fecal wet mass produced by all of the country’s humans. Livestock

concentration—with fewer farms raising more animals—has increased since 2012, both in Ohio and nationwide.

112. Unlike diversified family-scale farms, which manage manure in its natural form, all dairy and most swine AFOs in the western Lake Erie watershed water down manure and other waste products and store it in liquid form in open cesspits (called “lagoons”). AFOs or third-party transferees dispose of this waste by applying it to crop fields, ostensibly as fertilizer.

113. While manure nutrients can help fertilize crops, they become pollutants if they leave the field and get into surface waters. Other components of AFO waste, such as cleaning chemicals, antibiotics, and *E. coli*, likewise contaminate surface waters.

114. When AFOs apply liquid waste in the western Lake Erie watershed, at least some portion of it (including dissolved contaminants), inevitably leaves crop fields and pollutes surface waters. This happens for two reasons.

115. First, liquid AFO waste routinely gets overapplied. Transporting liquid waste is costly, with hauling costs generally exceeding fertilizer value after one mile. As a result, agricultural fields near AFOs typically receive far more nutrients than crops need. This is particularly true for phosphorus, which accumulates in soil. Such excess phosphorus is more likely to run off field edges or escape through subsurface drains following rain or snow melt.

116. Second, at least some portion of land-applied liquid AFO waste gets directly discharged to surface waters through the subsurface or “tile” drainage systems that pervade the western Lake Erie watershed.

117. Much of the western Lake Erie watershed was originally a swamp. To make the land dry enough for agriculture, people began installing subsurface drainage systems in the 19th century. These systems originally consisted of clay “tiles;” but flexible, perforated plastic pipes

are now commonly used. The western Lake Erie watershed is among the most heavily tiled in the country, with nearly all cropland containing pervasive subsurface piping.

118. Tile drainage systems draw moisture from the surface, either through soil infiltration or through inlets installed at the low point of fields. When enough liquid accumulates in the tile pipes, gravity causes it to flow to edge-of-field outfalls, which discharge directly into streams or into human-made ditches that empty into streams.

119. Tile drainage is particularly effective in the western Lake Erie watershed because the soils are pervasively cracked and fractured. These cracks and fractures, as well as earthworm burrows, create “preferential flow paths” for liquid to quickly flow down into tile systems.

120. When applied to tiled fields, liquid AFO waste behaves exactly like water: some portion of it, including DRP and other dissolved contaminants, travels quickly through preferential flow paths down into tile systems, which discharge into surface waters.

121. Standard BMPs—which are designed to address overland flow—do not prevent discharges of dissolved contaminants through tile systems in the western Lake Erie watershed. For example, buffer strips—vegetated areas at the edge of crop fields—can slow overland runoff but do not stop dissolved contaminants from infiltrating the soil and getting into tile systems.

122. These tile drainage systems help to explain why DRP loads into western Lake Erie began spiking in the 1990s. This is the same time that AFOs began proliferating in the watershed and applying liquid waste to tiled fields. Extensive additional evidence links AFOs to DRP pollution in the watershed, including water testing data and upstream-downstream studies.

Failure to Comply with Clean Water Act Requirements to Reduce Lake Erie HABs

123. This is the fourth lawsuit ELPC has had to file, and the second that the Lucas County Board has filed, to require U.S. EPA and the State of Ohio to comply with their Clean

Water Act obligations to clean up HABs in western Lake Erie. *See ELPC v. U.S. EPA*, No. 3:17-cv-01032 (N.D. Ohio) (Carr, J.); *ELPC v. U.S. EPA*, No. 3:17-cv-01514 (N.D. Ohio) (Carr, J.); *ELPC v. U.S. EPA*, No. 3:19-cv-00295 (N.D. Ohio) (Carr, J.) (consolidated with *Bd. of Lucas County Comm'rs v. U.S. EPA*, No. 3:19-cv-00873 (N.D. Ohio)). At every turn, the State of Ohio failed to fulfill its statutory obligations and U.S. EPA excused Ohio's noncompliance, violating its own Clean Water Act obligations by approving Ohio's improper actions.

Failure to Assess Lake Erie for Impairment

124. The Clean Water Act requires states to submit Integrated Reports to U.S. EPA every two years. These documents assess water bodies for impairment and rank impaired waters for receipt of TMDLs based on “the severity of the pollution and the uses to be made of the waters.” 40 C.F.R. § 130.7(b)(4)-(5).

125. Judge Carr issued an Opinion and Order in ELPC's second case that carefully describes “Ohio's Noncompliance [w]ith the CWA” between 2012 and 2016. *See ELPC v. U.S. EPA*, No. 3:17CV01514, [ECF No. 29](#) (N.D. Ohio Apr. 11, 2018) (“2018 Opinion”). In essence, Ohio refused to assess the open waters of Lake Erie for impairment in its 2012, 2014, or 2016 Integrated Reports, despite U.S. EPA directing it to do so. U.S. EPA nonetheless approved Ohio's 2012 and 2014 Integrated Reports and then failed to approve or disapprove Ohio's 2016 Report within the statutory period. That failure prompted ELPC to file its first lawsuit (3:17-cv-01032) on May 17, 2017 to require U.S. EPA to act. Two days later, U.S. EPA formally approved Ohio's 2016 Integrated Report.

126. On July 18, 2017, ELPC filed its second case (No. 3:17-cv-01514). ELPC claimed that U.S. EPA's approval of Ohio's 2016 Integrated Report was arbitrary and capricious and

contrary to law in violation of the APA because Ohio had refused to assess Lake Erie for impairment as required by 40 C.F.R. § 130.7(b)(5).

127. Both Ohio EPA and U.S. EPA responded to the case with what Judge Carr described as “legal maneuvering,” including conduct by U.S. EPA that Judge Carr said created a “whiff of bad faith.” 2018 Opinion at 22, 16 n.8. After Judge Carr called out the agencies’ misconduct, Ohio finally assessed western Lake Erie as impaired in an “amended” 2016 Integrated Report, which U.S. EPA approved.

Failure to Establish TMDLs

128. Having been effectively forced to list Lake Erie as impaired, the agencies began resisting the next steps required by the Clean Water Act to remediate the impairment: properly ranking Lake Erie for receipt of a TMDL and then establishing the TMDL.

129. Ohio’s 2018 Integrated Report designated Lake Erie as impaired and gave it the highest priority score of any Ohio waterbody. At the same time, the 2018 Integrated Report gave Lake Erie a “low” priority ranking for developing a TMDL. Ohio EPA said that instead of a TMDL, it would pursue vaguely defined alternative approaches to restoring Lake Erie and refused to commit to establishing a TMDL even if the alternatives failed. U.S. EPA nonetheless approved Ohio EPA’s 2018 Integrated Report.

130. ELPC filed its third case on February 7, 2019, *ELPC v. U.S. EPA*, (N.D. Ohio) (No. 19-cv-00295). The Lucas County Board then filed a parallel case with identical claims (No. 19-cv-00873) and Judge Carr consolidated the two cases.

131. U.S. EPA moved to dismiss Plaintiffs’ claims. In an Opinion and Order dated November 13, 2019, Judge Carr denied the motion, holding that “Ohio EPA is essentially delaying, and intends to continue to delay indefinitely, a TMDL for western Lake Erie in favor of alleged

half measures [and] does not have a plan to change course should those measures fail to remediate Lake Erie.” *ELPC v. U.S. EPA*, 415 F. Supp. 3d 775, 793, [ECF No. 34](#) (N.D. Ohio 2019).

132. At Judge Carr’s encouragement, the parties mediated their dispute before Judge Dan Polster of the Eastern Division of this Court. The parties ultimately agreed to a consent decree setting a schedule for completion of a western Lake Erie TMDL: Ohio was to release a draft TMDL for public comment by December 30, 2022, and submit a final TMDL to U.S. EPA by June 30, 2023. U.S. EPA would then have 90 days to approve or disapprove Ohio’s submission, and a total of six months from submission to establish its own TMDL in the event of disapproval.

133. Judge Carr entered the consent decree on April 5, 2023.

Maumee Watershed Nutrient TMDL

134. As the Consent Decree was being finalized, Ohio EPA worked to complete the Maumee TMDL. Ohio EPA released several preliminary documents for public comment—including a “Loading Analysis Plan”—leading up to release of the full Draft TMDL for public comment on December 30, 2022. Ohio EPA submitted its final Maumee TMDL to U.S. EPA on June 30, 2023.

135. The Maumee TMDL contains five legal defects that both violate the Clean Water Act and ensure that the TMDL will not sufficiently reduce phosphorus to remediate Lake Erie’s impairment. The Maumee TMDL: (1) fails to set limits for DRP as required by 33 U.S.C. § 1313(d)(1)(C) and 40 C.F.R. § 130.7(c)(1)(ii); (2) fails to set an adequate margin of safety as required by 33 U.S.C. § 1313(d)(1)(C); (3) fails to assign wasteload allocations to discharging CAFOs as point sources as required by 40 C.F.R. § 130.2(h); (4) fails to apportion the load allocation to nonpoint sources as required by 40 C.F.R. § 130.2(g), Ohio Rev. Code 61111.562(B), and Ohio Admin. Code 3745-2-12(C); and (5) fails to provide “reasonable assurances” that

necessary pollution reductions will be achieved as required by U.S. EPA Guidance and Ohio Admin. Code 3745-2-12(E)(3).

136. Plaintiffs and others explained these defects to Ohio EPA at every opportunity, but the agency refused to change course and follow the law.

Legal Defect #1: Failure to Set DRP Limits

137. The Maumee TMDL acknowledges that DRP is “the main driver of Western Basin of Lake Erie HABs” and that reducing DRP loads by at least 40% is necessary to remediate Lake Erie.

138. The Maumee TMDL does not, however, set limits for DRP. Instead, it sets a limit only for total phosphorus, equivalent to a 40% reduction from 2008 levels.

139. That failure to set DRP limits violates the Clean Water Act. TMDLs must “be established at a level necessary to implement the applicable water quality standards.” 33 U.S.C. § 1313(d)(1)(C). As the TMDL document recognizes, “implementing applicable water quality standards” in Lake Erie requires a 40% reduction in DRP loads. That means the TMDL must be “established at a level necessary” to achieve a 40% DRP reduction.

140. The Maumee TMDL violates that requirement because it sets no limit at all for DRP, which is the pollutant driving HAB formation. Instead, it requires only a 40% reduction in total phosphorus.

141. Reducing total phosphorus by 40%, however, will not reduce DRP loads by that amount. Because DRP comprises only around 21% of total phosphorus with PP (particulate phosphorus) making up the rest, Ohio could reduce total phosphorus loads by 40% solely by reducing PP. Such a total phosphorus reduction would leave DRP loads (and therefore the extent of HABs) unchanged.

142. Because the Maumee TMDL sets no DRP limits, it is not “established at a level necessary” to clean up the HABs and comply with the Clean Water Act, 33 U.S.C. § 1313(d)(1)(C).

143. Because total phosphorus and DRP are different pollutants, the TMDL’s failure to set DRP limits also violates U.S. EPA regulations, which state that “TMDLs shall be established for *all* pollutants preventing or expected to prevent attainment of water quality standards.” 40 C.F.R. § 130.7(c)(1)(ii) (emphasis added).

144. Dr. Jeffrey Reutter, who co-led the Task Team that set the 40% reduction targets, filed extensive comments during the Maumee TMDL development process explaining why it was necessary for Ohio EPA to set DRP limits.

145. In his comments on the Loading Analysis Plan (submitted on October 21, 2021), Dr. Reutter said that setting a limit only for total phosphorus would be a “huge mistake.” He emphasized that there was “complete agreement [among the Task Team] that DRP was by far the most important component and increases in DRP loading were driving HABs” and that “achieving only the [total phosphorus] goal will not” remediate Lake Erie.

146. Dr. Reutter’s later comments on the Draft TMDL, dated March 6, 2023, were even more pointed. He said that if Ohio EPA insisted on setting targets only for total phosphorus, “the TMDL is doomed to failure, and we should not even waste the money to do it.” Dr. Reutter explained that “[o]ur efforts to only monitor and control TP loading had allowed DRP to surge and cause the crisis.”

Legal Defect #2: Failure to Set Adequate Margin of Safety

147. The Clean Water Act requires a TMDL to incorporate a “margin of safety” to “take into account any lack of knowledge concerning the relationship between effluent limitations” (the wasteload and load allocations) “and water quality.” 33 U.S.C. § 1313(d)(1)(C). *See also* 40 C.F.R.

§ 130.7(c)(1) (same). The margin of safety accounts for any uncertainty as to whether achieving the wasteload and load allocations will, in fact, remediate the impairment.

148. The Maumee TMDL claims to include a significant “implicit” margin of safety because it uses supposedly “conservative” assumptions and methods. The Maumee TMDL also adds an “explicit” margin of safety equal to 3% of the total loading capacity.

149. This margin of safety is not sufficient to comply with the Clean Water Act.

150. As explained above, the Maumee TMDL’s load and wasteload allocations are set only for total phosphorus but water quality is driven by DRP. Indeed, as Dr. Reutter’s Draft TMDL comments pointed out, total phosphorus loads could be reduced by 40% without DRP declining at all and reducing DRP by 40% could require total phosphorus reductions of well over 80%.

151. For this reason alone, the margin of safety in a total phosphorus-only TMDL should have been at least 40% (40% TP reduction in TMDL + 40% margin of safety = 80% total reduction). According to Dr. Reutter, “anything less than [40%] is certainly no ‘margin of safety.’”

152. Even apart from the DRP issue, the 3% explicit margin of safety is inadequate because of uncertainties raised by climate change (discussed above).

153. A 3% margin of safety is also well below the general norm for TMDLs. For instance, Minnesota typically uses a 10% explicit margin of safety in TMDLs and Michigan recently used a 15% explicit margin of safety for the Ford/Belleville Lakes phosphorus TMDL. Ohio itself used a 5% margin of safety—describing it as “relatively low”—in the Black River TMDL, which included nutrients. *See* [Black River Watershed TMDL](#), Ohio EPA (May 30, 2008).

Legal Defect #3: Failure to Assign Wasteload Allocations to Discharging CAFOs

154. A TMDL must assign wasteload allocations to all discharging point sources. 40 C.F.R. § 130.2(h). CAFOs are included in the Clean Water Act’s definition of “point source.” 33

U.S.C. § 1362(14). Consequently, if CAFOs discharge pollutants, they must receive wasteload allocations in a TMDL.

155. The Maumee TMDL recognizes that there are at least 73 Large CAFOs in the Maumee River watershed in Ohio. The Maumee TMDL does not, however, assign wasteload allocations to any of them. Instead, it treats all Large CAFOs (and all smaller AFOs) as nonpoint sources subject to the single “landscape” load allocation discussed below. The Maumee TMDL defends this approach by insisting that no CAFOs in the watershed are discharging point sources under the Clean Water Act.

156. In fact, all dairy and most swine CAFOs in the watershed are discharging point sources because, among other reasons, they use liquid waste systems and nearly all fields in the Ohio portion of the Maumee watershed have pervasive subsurface tile drainage. When liquid manure and other CAFO waste is applied on tile-drained fields, at least some portion of it quickly flows down through the fractures and other preferential flow paths into tile systems. Those systems then discharge the liquid, including dissolved contaminants like DRP, to surface waters.

157. The Maumee TMDL insists that these CAFO discharges do not require wasteload allocations because they are subject to what is known as the agricultural stormwater exemption. This is the same rationale Ohio uses in failing to require CAFOs to get NPDES permits; instead, it requires CAFOs to obtain “no discharge” permits from the Ohio Department of Agriculture.

158. U.S. EPA’s and Ohio’s reliance on the agricultural stormwater exemption is not supported by law.

159. Clean Water Act regulations state that a discharge “as a result of” land application of CAFO waste “is a discharge subject to NPDES permit requirements” unless it amounts to “agricultural stormwater.” 40 C.F.R. § 122.23(e). *See also* Ohio Admin. Code 901:10-2-14.

160. “Agricultural stormwater discharge” is defined as:

runoff generated by precipitation that drains over terrain used for agriculture as defined in section 1.61 of the Revised Code that conveys manure to waters of the state, provided that the manure has been applied in accordance with site specific nutrient management practices that *ensure appropriate agricultural utilization of nutrients in manure* in compliance with the best management practices set forth in Chapter 901:10-2 of the Administrative Code.

Ohio Admin. Code 901:10-1-01 (emphasis added). *See also* 40 C.F.R. § 122.23(e).

161. Discharges resulting from application of liquid CAFO waste to tile-drained fields do not meet the definition of “agricultural stormwater discharge” for three independent reasons.

162. First, such discharges are not “*runoff generated by precipitation that drains over*” agricultural terrain; instead, they result from liquid waste flowing straight into the tile lines, even during dry weather, which then inevitably discharge it to Ohio’s waters. Discharge of liquid waste through tile systems is not “runoff” as commonly understood—accidental precipitation-caused discharge that can occur despite a farmer’s best efforts to prevent it—but rather the outcome of a human-engineered system operating as designed.

163. Second, nutrients in CAFO waste that flow directly into tile drain systems cannot support crop growth and, therefore, are not subject to any, let alone “appropriate,” “agricultural utilization.” If a field is significantly tilled, following “site specific nutrient management practices that *ensure* appropriate agricultural utilization of the nutrients” would necessarily mean that liquid waste could not be applied to it.

164. Third, many, if not most, CAFOs cannot satisfy the “agricultural utilization” requirement because they spread waste on fields that are already overloaded with phosphorus.

165. According to the Tri-State Fertilizer Recommendations applicable in Ohio, there is “*no agronomic reason* to apply fertilizer” when soil test phosphorus levels exceed crop “maintenance limits,” which for corn and soybeans is equivalent to 30 ppm on the Bray-P1 scale

(emphasis added). Steve Culman et al., [Tri-State Fertilizer Recommendations for Corn, Soy, Wheat & Alfalfa](#) 25, 27-28 (2020).

166. CAFOs routinely apply waste when soil test phosphorus levels exceed these “maintenance limits.” Ohio regulations allow manure application until soil test phosphorus levels reach *150 ppm* Bray-P1 (five times the Tri-State recommended levels), even while barring application of synthetic fertilizer when levels exceed 40 ppm Bray-P1. *See* Appendix E Table 2 to Ohio Admin. Code 901:10-2-14.

167. Because the agricultural stormwater runoff exemption does not apply to discharges of liquid CAFO waste through tile drainage systems, CAFOs applying liquid waste to tile-drained fields are discharging point sources that require wasteload allocations. The Maumee TMDL’s failure to assign such wasteload allocations violates 40 C.F.R. § 130.2(h).

168. The Maumee TMDL also should have assigned wasteload allocations to all medium AFOs (equivalent to 200-699 mature dairy cows or 750-2,499 swine weighing more than 55 lbs) that meet the definition of “Medium CAFO.” *See* 40 C.F.R. § 122.23(a) & (d)(1); Ohio Admin. Code 3745-33-02(A).

169. A medium AFO meets the definition of a “Medium CAFO” if it “[d]ischarges pollutants into waters of the United States through a ditch, . . . flushing system . . . or another similar device constructed by humans.” Ohio Admin. Code 903.01(Q). *See also* 40 C.F.R. § 122.23(6)(i)(A).

170. All dairy and most swine medium AFOs in the Maumee River watershed (of which there are more than 1,500 in Ohio) meet the “Medium CAFO” definition. Just as with Large CAFOs, these medium AFOs apply liquid waste to tile-drained fields. At least some of that waste flows directly into the tile lines and are not “agricultural stormwater” for the reasons explained

above. The tile lines discharge into ditches (which flow into streams) or streams themselves, many of which would qualify as “waters of the United States.” Both the tile drainage systems and ditches are “constructed by humans.” Ohio Admin. Code 903.01(Q). Therefore, the Maumee TMDL’s failure to assign wasteload allocations to discharging Medium CAFOs violates 40 C.F.R. § 130.2(h).

Legal Defect #4: Failure to Apportion Load Allocation

171. A TMDL must assign “load allocations” to all nonpoint sources. 40 C.F.R. § 130.2(g). “Load allocations are best estimates of the loading, which may range from reasonably accurate estimates to gross allotments, depending on the availability of data and appropriate techniques for predicting the loading.” *Id.*

172. Load allocations must be based on existing and “reasonably anticipated” increases or reductions in pollutant loadings. Ohio Admin. Code 3745-2-12(C)(1). To the extent load allocations are based on anticipated reductions, the TMDL must collect and analyze “monitoring data . . . in order to validate the TMDL's assumptions [and] verify anticipated load reductions.” Ohio Admin. Code 3745-2-12(C)(2).

173. In determining load allocations, the agency must “consider and evaluate, at a minimum, all of” seven listed factors. Ohio Rev. Code 61111.562(B)(1)-(7). These statutory factors include “flow dynamics, including but not limited to, periodic or seasonal flow variations” as well as “the degree to which nonpoint source reductions would influence attainment of the applicable water quality standard.” *Id.* at 61111.562(B)(2)(4). Another factor is “[r]easonable assurances that reductions can be implemented.” *Id.* at 61111.562(B)(5).

174. The Maumee TMDL violates these statutory and regulatory requirements by using a single “landscape” nonpoint source load allocation across the entire watershed. This “landscape”

load allocation assumes that nonpoint source phosphorus loads—and potentials for reduction—are equivalent across the watershed.

175. In fact, nonpoint source pollution loads vary widely around the Maumee River watershed. The southern sub-watersheds, particularly the Auglaize and the St. Mary's, are the most agricultural and AFO-intensive. Agriculture is the largest nonpoint source category. Consequently, there are significantly more nonpoint sources, and significantly more nonpoint source pollution, in the St. Mary's and other southern sub-watersheds than in the northern sub-watersheds.

176. The Maumee TMDL explicitly acknowledges that extensive water monitoring data shows that phosphorus loads and concentrations in the southern sub-watersheds are generally much higher than in the northern sub-watersheds.

177. By nevertheless allocating the entire nonpoint source load equally across the watershed, the Maumee TMDL fails to establish load allocations based on “best estimates” and “available data” as required by 40 C.F.R. § 130.2(g) or fulfill the other legal requirements explained above. Load allocations must reflect basic realities about the location of nonpoint sources across the watershed, which, in this case, requires apportioning a larger share of the total nonpoint source load to nonpoint sources in the southern as opposed to northern watersheds.

178. Properly apportioning the load allocation is also essential to providing “reasonable assurances” of nonpoint source reductions, as discussed below.

Legal Defect #5: Inadequate Implementation Plan and Failure to Provide Reasonable Assurances

179. TMDLs must include a “[p]reliminary TMDL implementation plan establishing specific actions, schedules and monitoring proposed to effectuate a TMDL.” Ohio Admin. Code 3745-2-12(A)(2)(a)(iv)(f). In cases where “a TMDL implementation plan will not immediately attain water quality standards, the TMDL implementation plan shall reflect reasonable assurances

that water quality standards will be attained in a reasonable period of time.” Ohio Admin. Code 3745-2-12(E)(3). *See also* Ohio Rev. Code 6111.562(B)(5).

180. The Consent Decree also required the TMDL to include “an implementation plan as required by Ohio Administrative Code 3745-2-12(E).”

181. U.S. EPA Guidance requires TMDLs to provide “reasonable assurances that nonpoint source reduction will in fact be achieved.” U.S. EPA Guidance at 15.

182. The Maumee TMDL’s implementation plan does not comply with these “reasonable assurances” requirements.

183. First, the Maumee TMDL does not provide “reasonable assurances that water quality standards will be attained in a reasonable period of time” (Ohio Admin. Code 3745-2-12(E)(3)) because it does not require reductions in DRP, which is the pollutant causing Lake Erie’s impairment.

184. Second, even with respect to total phosphorus, the Maumee TMDL does not provide “specific actions, schedules and monitoring” (Ohio Admin. Code 3745-2-12(A)(2)(a)(iv)(f)) needed to provide “reasonable assurances” that “water quality standards will be attained in a reasonable amount of time.” Ohio Admin. Code 3745-2-12(E)(3).

185. The Maumee TMDL does not set any schedule for reducing total phosphorus loads. It contains no interim target loads for total phosphorus, even though loads and concentrations of that pollutant, as well as DRP, are already routinely measured across the watershed. The Maumee TMDL does not even set a date for achieving its final goal of a 40% total phosphorus reduction.

186. The Maumee TMDL Implementation Plan is no more than a laundry list of past and ongoing BMP programs, most of which have been failing for years. The Implementation Plan does not identify anything that Ohio will do differently to make these programs effective or explain why

Ohio EPA believes they will suddenly start working, let alone how they will achieve a 40% reduction in phosphorus loads. The Maumee TMDL does not propose any schedule for imposing backstop measures if, as there is every reason to expect, the current programs continue to fail.

187. The Implementation Plan also fails to propose taking numerous steps to reduce phosphorus pollution that Ohio EPA and the Ohio Department of Agriculture can, and in some cases must, take under current law, including:

- (a) requiring CAFOs that discharge by applying liquid waste on tilled fields to obtain NPDES permits;
- (b) targeting BMPs to areas where they can be more effective and measuring their impact, focusing on pollution reduction instead of “money spent” and “acres enrolled”;
- (c) improving enforcement of existing CAFO permits;
- (d) improving data collection and analysis; and
- (e) implementing Ohio’s “Watershed in Distress” program under Ohio Rev. Code 901:13-1-20.

188. The Maumee TMDL does not include an implementation plan that provides “reasonable assurances” of pollution reductions as required by law.

Final Maumee TMDL and U.S. EPA Approval

189. Ohio EPA submitted its final Maumee TMDL to U.S. EPA on June 30, 2023. The final TMDL did not correct any of the defects in the Draft that Plaintiffs and others identified. The draft and final TMDLs were nearly identical, except for a perfunctory “response to comments” section that purported, but failed, to address Plaintiffs’ and other commenters’ concerns.

190. Plaintiffs met with U.S. EPA officials and staff to urge them to disapprove the defective Maumee TMDL. These meetings included: (a) an in-person meeting at U.S. EPA Region 5 headquarters where counsel for the Lucas County Board and ELPC gave a detailed presentation about the legal defects in Ohio’s draft TMDL; and (b) a Zoom meeting between the Region 5

Administrator (Defendant Debra Shore) and her staff, all three Lucas County Board members, Toledo Mayor Wade Kapszukiewicz, and ELPC. The Lucas County Commissioners and Mayor Kapszukiewicz asked Regional Administrator Shore to disapprove the TMDL and prepare a lawful and effective TMDL. They emphasized the massive economic and public health burden that Lucas County and the City of Toledo suffer as a result of HABs and the unfairness of allowing upstream agriculture to externalize its waste disposal and environmental costs onto their constituents.

191. On September 28, 2023, U.S. EPA nonetheless approved the Maumee TMDL, finding that it “satisf[ies] all elements for approvable TMDLs.” U.S. EPA, [Decision Document for the Maumee Watershed Nutrient TMDL, In All or Parts of 18 Counties In Northwestern Ohio](#) 69 (Sept. 28, 2023).

192. U.S. EPA issued several documents related to the approval, including a primary “Decision Document” and attachments addressing “EPA Review of” two key issues: DRP and CAFOs. These documents completely deferred to Ohio EPA and found that Plaintiffs’ objections did not preclude approval of the TMDL. In the process, these documents ignored or mischaracterized scientific evidence and misapplied the law. U.S. EPA allowed Ohio to violate its Clean Water Act obligations, and in doing so, violated its own.

COUNT I

Violation of 5 U.S.C. § 706

193. Plaintiffs reallege paragraphs 1-192 above and incorporate them by reference in this Count I.

194. The APA requires courts to “hold unlawful and set aside” any “final agency action” found to be “arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.” 5 U.S.C. § 706.

195. U.S. EPA's Approval of Ohio EPA's TMDL was a "final agency action" because it: (1) was the consummation of U.S. EPA's decision-making process on the TMDL under 40 C.F.R. § 130.7; and (2) determined rights and obligations of the parties or caused legal consequences.

196. U.S. EPA's approval of Ohio EPA's TMDL was "arbitrary, capricious, an abuse of discretion [and] otherwise not in accordance with law" because the TMDL failed to comply with the Clean Water Act and applicable regulations and will not lead to the remediation of Lake Erie's impairment. These legal defects include:

- (a) failure to set limits on DRP as required by 33 U.S.C. § 1313(d)(1)(C) and 40 C.F.R. § 130.7(c)(1)(ii);
- (b) failure to set an adequate margin of safety as required by 33 U.S.C. § 1313(d)(1)(C);
- (c) failure to assign wasteload allocations to discharging CAFOs as point sources as required by 40 C.F.R. § 130.2(h);
- (d) failure to apportion the load allocation among nonpoint sources as required by 40 C.F.R. § 130.2(g); Ohio Rev. Code 6111.562(B)(1-7); and Ohio Admin. Code 3745-2-12(C); and
- (e) failure to include an implementation plan that provides "reasonable assurances" that target pollution loads will be reached as required by Ohio Admin. Code 3745-2-12(A)(2)(a)(iv)(f) and 3745-2-12(E)(3) and U.S. EPA Guidance at 15.

197. While each of these failures alone would be sufficient to make U.S. EPA's approval of the TMDL arbitrary and capricious and contrary to law in violation of the APA, the violations are even more compelling when these failings are considered together.

198. Plaintiffs respectfully request that the Court hold unlawful and set aside U.S. EPA's approval of the Maumee TMDL and require U.S. EPA to prepare a TMDL as required by 33 U.S.C. § 1313(d)(2) and 40 C.F.R. § 130.7(d)(2).

RELIEF REQUESTED

WHEREFORE, Plaintiffs respectfully request an Order from this Court:

A. Declaring that U.S. EPA's approval of the Maumee TMDL violated the Clean Water Act and applicable regulations because the TMDL suffers from each of the five legal defects identified above;

B. Vacating and setting aside U.S. EPA's approval of the Maumee TMDL as arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law under the APA;

C. Directing Defendants to disapprove the TMDL for each of the five legal defects identified above;

D. Directing Defendants to promulgate a new TMDL for western Lake Erie that complies with the Clean Water Act and remedies each of the five legal defects identified above;

E. Retaining jurisdiction of this case to ensure compliance with Clean Water Act requirements applicable to a new TMDL for western Lake Erie;

F. Awarding Plaintiffs reasonable attorneys' fees and costs for bringing this action;

G. Issuing such other relief as this Court deems just and proper.

Respectfully Submitted,

/s/ Robert Michaels

Howard A. Learner (*pro hac vice pending*)

Robert Michaels (*pro hac vice pending*)

Kathleen Garvey (*pro hac vice pending*)

Environmental Law & Policy Center

35 East Wacker Drive, Suite 1600

Chicago, IL 60601

T: (312) 673-6500

F: (312) 795-3730

hlearner@elpc.org

rmichaels@elpc.org

kgarvey@elpc.org

*Counsel for Plaintiff Environmental Law &
Policy Center*

/s/ Fritz Byers

Fritz Byers (0002337)

414 N Erie St., 2nd Floor

Toledo, OH 43604

T: (419) 241-8013

F: (419) 241-4215

fritz@fritzbyers.com

*Counsel for Plaintiff The Board of Lucas
County Commissioners*

/s/ Dale R. Emch

Dale R. Emch, Director of Law (0080004)

Tammy G. Lavalette, Senior Attorney (0071533)

City of Toledo, Department of Law

One Government Center, Suite 2250

Toledo, OH 43604

T: (419) 245-1020

F: (419) 245-1090

dale.emch@toledo.oh.gov

tammy.lavalette@toledo.oh.gov

Counsel for Plaintiff City of Toledo