



Toledo Metropolitan Area Council of Governments

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March 8, 2023

Tiffany Kavalec
Chief, Division of Surface Water
Ohio EPA - DSW
Lazarus Government Center
50 W. Town St., Suite 700
Columbus, Ohio 43215

Re: Comments Maumee Nutrient TMDL Draft Report

Dear Ms. Kavalec,

The Toledo Metropolitan Area Council of Governments (TMACOG) appreciates the opportunity to provide feedback on the Maumee Nutrient TMDL Draft Report. We commend the effort Ohio EPA has dedicated to the TMDL development process and recognize the challenges presented by this large undertaking.

TMACOG members, local governments, and communities in northwest Ohio are highly impacted by Lake Erie's impairment and are invested in the outcomes of Maumee Nutrient TMDL. The Maumee Nutrient TMDL will drive implementation efforts, funding, and regulation aimed at removing impairment of the western Lake Erie basin so that citizens, businesses, and future generations can depend on Lake Erie for drinking water, recreation, tourism, industry, and agriculture.

The [2023-2024 Agenda for Lake Erie](#), TMACOG's consensus-based water quality policy document, makes several recommendations for the development and implementation of a TMDL to address western Lake Erie's impairment. The recommendations on the following pages are based in the Agenda for Lake Erie and offer expanded discussion specific to the proposed draft.

Thank you for your commitment to Ohio's water resources and Lake Erie. TMACOG's Water Quality leadership and our local partners offer a diverse wealth of knowledge and expertise in the complex issues related the WLEB and we welcome any opportunities to meet with you to further discuss TMACOG's priorities for tackling nutrient loading and algal blooms in Lake Erie's western basin. Please feel free to reach out to me at gerwin@tmacog.org to schedule a time to discuss this TMDL with TMACOG and our members.

Sincerely,

Kari Gerwin, Vice President of Water Quality Planning

1. INTRODUCTION

TMACOG submits the following comments in response to Ohio EPA's request for public comment on the Maumee Nutrient TMDL Draft Final Report. TMACOG appreciates the tremendous task of developing the far-field Maumee Nutrient TMDL that encompasses 186 HUC-12s over a 6,570 square mile drainage area. TMACOG commends the dedicated OEPA and ODA staff who have worked tirelessly on the Maumee Nutrient TMDL since 2021. These individuals are Ohio's top experts in environmental regulation, hydrodynamics, nutrient management, and watershed modeling. Many of them work closely with local governments and agricultural partners in the TMACOG region and they understand intimately the challenges Maumee Watershed stakeholders face as we work collectively to address nutrients and harmful algal blooms. These staff are trusted by the public to provide impartial, science-based analyses and recommendations that align with the Clean Water Act.

Despite the dedication of well-qualified staff, the State of Ohio has proposed TMDL that simply maintains status quo by relying entirely on voluntary nutrient reduction and doing nothing to address the expanding animal production industry. After reviewing the proposed implementation actions and the "reasonable assurances" offered by Ohio EPA in the draft, we remain concerned that the final TMDL report resulting from this 2-year process will not provide the foundation necessary to implement the regulatory, programmatic, and fiscal initiatives to address the algal blooms impairing Lake Erie.

Of primary concern is the fact that Ohio EPA, despite repeated and ongoing urging of a long list of stakeholders, has refused to 1) develop a TMDL for dissolved reactive phosphorus 2) itemize the individual sources of non-point source nutrients in the western Lake Erie basin and 3) address the ongoing and growing impacts of the animal production industry on nutrient loading and harmful algal blooms (HABs) in Lake Erie.

Further, this TMDL blatantly understates the role of the animal production industry in Lake Erie's phosphorus and algae problem. Throughout this document Ohio EPA has minimized the importance of manure, insisted that manure and commercial fertilizer are equal, and has stated that the State will not assign wasteload allocations to medium and large CAFOs. The implementation plan lists no actions that specifically address the animal production industry or the associated manure applications. In this TMDL, the animal industry is treated merely as another source of fertilizer, rather than as a unique source of nutrient loading needing its own specific set of management, regulatory, and enforcement actions. As we will discuss, ignoring the importance of the animal production industry will undoubtedly shift the burden of nutrient reduction to other point source and nonpoint source implementors and ultimately taxpayers.

Finally, developing and implementing a TMDL for a large watershed located in three states requires coordination between many agencies to fully utilize all available state and federal funding sources and regulatory programs. It's not clear how the Maumee Nutrient TMDL will coordinate with efforts and regulatory programs in Michigan and Indiana. U.S. EPA should provide leadership and technical support to coordinate state agencies to address these shortcomings.

The comments below address specific sections of the Maumee Nutrient TMDL and generally align with the sections and subsections noted. Some comments are relevant to several sections and we have made an effort to discuss these in only one location. However, there may be some repetition of topics.

2. WATERSHED CHARACTERIZATION

2.1 – History of Eutrophication, 2000 to Present

Page 3 states - “In 2014 a HAB caused the city of Toledo to shut down its water supply due to microcystin toxin (from the HAB) in the treated water from the Collins Road water treatment facility.”

This statement should be changed to state that the City issued a “do not drink” order. The drinking water supply was not shut down. Please ask the City of Toledo for clarification.

Additionally, this event impacted 500,000 residents, brought international attention to Lake Erie’s annual algal blooms, and served as the impetus for declaring the WLEB impaired. Given the impact of this event on local communities, businesses, and public trust, more detail is needed here. Please list the number of days the system was shut down, number of communities impacted, the number of people impacted, the number of businesses impacted, and the National Guard deployment to Toledo.

2.2 Land Use and Land Cover

The agricultural land use and land cover discussed in this section is limited only to grouped NLCD dominant crop types. Given the fact that 90% of the Maumee River load is attributable to mostly agricultural non-point sources, the TMDL should provide more detail when describing agricultural land use. Specifically, the agricultural land use description misses an important nutrient component of the agricultural landscape – animal operations. This section should include a sentence summarizing the number of animal facilities and/or total animals in the watershed. It would also be helpful here to add the detail that the agricultural land use is primarily tile drained and supplemented with commercial fertilizer and manure. Further discussion and detail should be provided in the source assessment section of the report.

2.3.5 Community Profile

This section and should include recognition that the Maumee River and western Lake Erie are the source of drinking water for communities beyond the boundaries of the Maumee watershed. The TMDL should also note that many of the communities who are impacted by threats to drinking water already bear disproportionate environmental impacts such as industrial pollution to soils and water, urban heat islands, and poor air quality. U.S. EPA has clear Environmental Justice priorities, and these equity issues should be acknowledged in this TMDL. U.S. EPA has a robust Environmental Justice mapping tool that will allow OEPA staff to quickly map various socioeconomic and demographic datasets and export high resolution maps into a file format that can be easily incorporated into the TMDL.

See <https://ejscreen.epa.gov/mapper/>

3. IDENTIFYING WATER QUALITY IMPAIRMENTS AND ACTIONS

3.2 Designated uses

The TMDL does not provide a clear connection between Lake Erie’s impairment and its designated uses as a drinking water source, its recreational importance, and its role as habitat for aquatic life. In simple language, please provide an overview of the societal, economic, and ecological benefits of Lake Erie for each of the designated uses (e.g. number of people and businesses that depend on Lake Erie for drinking

water, number of visitors who use the lake for recreation, economic contributions of Lake Erie recreation, number of licenses issued for recreational watercraft, description of fisheries that depend on a healthy macroinvertebrate community, etc.) It should also explain how impairment of these uses impacts residents, business, tourism, aquatic life, etc. Below are links to a couple good resources, but many more exist –

- <https://greatlakes.org/2022/05/new-study-downstream-water-users-bear-financial-burden-of-upstream-pollution/>
- http://www.keylogeconomics.com/uploads/1/1/9/5/119575398/le_ecosystemserviceassessme nt201911finalrevised.pdf

3.5.1 Total phosphorus as the modeled parameter

The draft TMDL states “Only total phosphorus will be used to develop allocations. The science clearly shows that the DRP portion of total phosphorus needs to be reduced to meet the designated uses this TMDL addresses.” Despite this recognition, the state does not plan to set targets for DRP reduction.

As discussed by TMACOG and numerous stakeholder groups during the public comment periods for the previous phases of the TMDL development, dissolved reactive phosphorus must be included in modeling, load/wasteload reduction targets, load/wasteload allocations, and the implementation plan. In January 2022, Dr Jeffrey Reuter, who was directly involved with setting the Annex 4 targets, states “the targets from Annex 4, that both countries agreed to in February 2016, have targets for both TP and DRP, and both targets must be met to achieve blooms that look like 2004 or 2012, or smaller, nine years out of ten. Achieving only the TP goal will not produce those results.”

Rather than assigning DRP targets to drive implementation efforts, the state’s approach to managing DRP relies on 1) prioritizing management actions based on their impact on DRP 2) evaluating research and 3) monitoring DRP. Without explicit targets, the Annex 4 DRP reduction goals will remain aspirational and unachievable. Ohio EPA cannot direct implementation actions, measure success, and adapt management strategies to meet DRP targets if these targets do not exist.

4. PHOSPHORUS IN THE MAUMEE WATERSHED

4.1.1.1. Row crop fertilizer sources: commercial and manure

This TMDL needs to account for and discuss commercial fertilizer and manure separately. These are two discreet sources of phosphorus with different origins, mechanisms for delivering them to the field, and best management practices. In addition, manure has a lifecycle that precedes its application to a field that must be separately accounted for. Ohio EPA’s insistence that manure and commercial fertilizer are the same further obscures the understanding of nutrients in the watershed and inhibits voluntary and regulatory nutrient reduction implementation efforts of both sources. Further, grouping these two sources ignores the fact that commercial fertilizer is a commodity and manure is animal waste. The transfer of manure through sale does not change that fact.

Page 30 - *“The [2021 ODA] analysis estimates that 5,100 MT of manure phosphorus were produced in the Maumee watershed in Ohio in 2017. Combining that estimate with an estimate of crop removal shows that manure phosphorus produced supplies approximately 23 percent of the crop need in the Maumee watershed in Ohio”*

This statement and other similar statements throughout the TMDL should be clarified. This leads the reader to believe that manure accounts for 23% of the fertilizer applied in the Maumee Watershed and 23% of the fertilizer nutrient load. It does not account for overapplications and assumes that all 5,100 MT were used by plants. Please directly state that supplying plant need is not the same as nutrients actually applied and is not the same as in-stream nutrient loads.

Page 34, Figures 15 and 16 These only include commercial fertilizer. Please provide a similar chart for manure and for the combined commercial+manure totals.

Page 35 Figure 17 – This figure shows that combined phosphorus supplied for 2017 is approximately 42,000 MT, of which commercial fertilizer contributes about 30,000 MT and manure contributes about 12,000 MT. However, ODA’s manure estimates based on animal numbers found that approximately 5,300 MT of phosphorus were produced in 2017. Please update the draft to explain how an estimated 5,300 MT of phosphorus produced was able to supply 12,000 MT of P to crops in 2017, describe any limits to the methods used to make these estimates, and explain possible reasons for over- or under-estimations with these methods.

5. Analysis Methods

5.2.5. Baseline loading from the landscape

To calculate the NPS load, Ohio EPA has opted to simply subtract regulated point sources, combined sewer overflows, and home sewage treatment system loads from the total load at the Waterville pourpoint, attributing the balance to nonpoint sources. While this might be an acceptable approach for TMDLs where NPS are a minor contributor to the overall load, it simply is not sufficient for the Maumee TMDL where NPS account for 90% of the phosphorus load. This overly simplistic approach is in stark contrast to the efforts that have been made to quantify point source loads, HSTS, and wet weather flows. OEPA has repeatedly attempted to rationalize this inadequate methodology with claims that vague load allocations will allow all implementors flexibility in implementation. The state’s reluctance to identify the contributions from the diversity of NPS and agricultural sources and assign appropriate and realistic load allocations will inevitably result in some segments of the agricultural sector shouldering the burden of increasingly aggressive BMP implementation while the other sources of phosphorus remain uncontrolled. We are especially concerned that the point sources will be forced to make up for the inadequate NPS phosphorus reductions through tightening permit conditions.

TMACOG appreciates the efforts made in Section 4 to research and discuss the contributions of agricultural sources from fertilization, agricultural soil and legacy sources, preferential flow paths, increases to precipitation totals and intensity, and other factors influencing nutrient loading. We believe that this information will be informative to agricultural implementors. However, this approach is lacking in two main areas. First, it does not quantify the individual phosphorus sources. Second, it muddies the waters by discussing sources alongside processes.

TMACOG is asking Ohio EPA to individually quantify agricultural **sources** of phosphorus. **Sources** (e.g. commercial fertilizer, manure, legacy agricultural soils) can and should be discreetly enumerated to estimate and further refine the NPS/landscape load discussed in Section 5.2.5. Preferential flow paths and climate change are **processes** that play a role in nutrient transport; they are **not sources** and they should not be included in an enumeration of sources. Ditch and streamside sources are a combination of **process** and **source** as there is both a legacy component as well as a nutrient transport component that plays a role in delivery of nutrients downstream.

Enumeration of specific sources is essential to effectively and efficiently direct management actions, policy, and funding. When state officials, legislators, and the public know the specific contributions of each nutrient source they can more effectively implement or advocate for policies and funding that address the most important sources of nutrient loading. Obscuring the contributions of individual agricultural and nonpoint sources only benefits the largest polluters, while continuing to shift the burden of nutrient reduction to taxpayers and individual farmers who are willing to implement voluntary BMPs that may offer less benefit than targeted efforts to control nutrient from commercial fertilizer, manure, and legacy sources. Combining all nutrient nonpoint sources into one nebulous NPS load has also obscured the role of future growth in the animal production industry, rather than separately accounting for this growth in the allowance for future growth (AFG) or margin of safety (MOS). This is discussed further in Section 5.6 comments.

Using the vast amounts of information and data presented in Section 4, TMACOG requests that Ohio EPA refine the Landscape NPS load to provide estimates of the various NPS sources with the following discreet categories –

- commercial fertilizer
- manure
- legacy agricultural soils
- loads from unregulated developed areas (according to NLCD data)
- load from natural areas (according to NLCD data)
- unknown NPS (which would account for estimates of the dynamic process-based loads)

Please also provide corresponding tables and charts that breakout the individual contributions of all non-point sources of phosphorus (update to Table 28 – Load Allocation Breakdown) and graphic format (to match Figure 21.)

Finally, Sections 5 – Analysis Methods, 6 – Results, and 7 – Implementation Plan should all be updated with these calculations.

Page 95 – *“Central to calculating the load from the landscape is the pour point load described in Section 5.3.1 above.”* This should read “5.2.1.”

5.3.2. Allocations for permitted stormwater

In TMACOG's comments on the Preliminary Modeling results, we expressed concern surrounding OEPA's methods for assigning a 20% reduction to regulated MS4s, namely that the agency did not adequately explain the methods they used to determine that MS4s should be responsible for a 20% reduction in phosphorus loads.

Ohio EPA has used per acre ranges for agricultural land vs. developed land (1.1–2.05 lbs./acre/year for agriculture and 0.1–0.6 lbs./acre/year for turf grass and impervious surfaces, pp 97-98) to determine that developed land should be responsible for about half as much nutrient reduction as agricultural land. In our comments for the PMR, TMACOG estimated that, based on these ranges, MS4s should only be responsible for reductions between 4-12%, not the 20% that has been used throughout the TMDL.

Ohio EPA addressed these concerns with this response –

“The prescribed 20 percent reduction from the 2008 baseline assigned to regulated MS4s is less than the cumulative 40 percent reduction that is needed across all sources. This is not because the model assumed that MS4 stormwater runoff contributes less phosphorus in the 2008 baseline condition. The cumulative targeted rate of reduction paired with the assumed ratio of urban to agricultural phosphorus loading results in a target MS4 phosphorus reduction that is smaller for developed land when compared to agricultural land.”

Essentially, without providing sufficient rationale, Ohio EPA expects local governments with MS4 permits to be satisfied with a smaller phosphorus reduction rate than agriculture, regardless of whether this responsibility is appropriately applied. Ohio EPA even acknowledges on p. 62 of the draft that “stormwater from developed land is expected to be a minor source of phosphorus to the Maumee.”

TMACOG understands that a TMDL must assign waste load allocations to all regulated point sources with NPDES permits, but Ohio EPA simply has not made the case that any nutrient reduction benefit can be gained by tightening MS4 permit conditions. In contrast, Ohio EPA has insisted that permitted CAFOs applying liquid manure directly to tilled fields do not need wasteload allocations. We discuss this more later.

The MS4 wasteload allocations listed in the draft TMDL will require local governments with limited resources to dedicate funding and staff to implement additional best management practices and expand existing stormwater control programs. While the nutrient impacts of developed areas are minor, these mandates will have significant financial impacts on communities that are ultimately paid for by stormwater utility ratepayers or through other taxpayer funded funding mechanisms.

There is no doubt that nutrients are occasionally lost to municipal storm sewer systems through illicit discharges, improper fertilization, and improper storage of mulch and other materials. However, these nutrient sources are already regulated through the MS4 General Permit and individual MS4 permits. Ohio EPA should address these violations through enforcement of existing permits rather than assigning arbitrary wasteload allocations that will require MS4s to construct stormwater control measures that are only minimally effective in reducing nutrients from stormwater runoff.

If Ohio EPA chooses to move forward with including a 20% reduction for MS4s and the associated wasteload allocation into the final TMDL, the agency must explain the methodology and cite the

source(s) used to determine baseline calculations, the required 20% reduction, and waste load allocations for MS4s.

5.3.4. Allocations for CAFOs/CAFFs.

Ohio EPA states

“[T]his TMDL provides no wasteload allocations to CAFO livestock operations. There are currently no CAFOs in the watershed that discharge or propose to discharge non-ag stormwater under an NPDES permit”

During public comments for the Preliminary Modeling Results, several stakeholders questioned the accuracy of this statement. Most notably, U.S. EPA stated

“Concentrated animal feeding operations are point sources under the CWA. EPA’s NPDES program has identified 76 CAFOs in the Ohio portion of the Maumee watershed, 6 CAFOs with a NPDES permit and 70 CAFOs without a NPDES permit. EPA requests that OEPA characterize existing phosphorus loads from this point source sector, and establish allowable loads for all 76 identified CAFOs, including related production and land application areas, in the wasteload allocation portion of the forthcoming TMDL.”

In Ohio EPA’s response, the State of Ohio resolutely defended this omission asserting that -

“While the CAFOs themselves are specifically defined as point sources pursuant to 33 USC 1362(14), the same federal code specifically excludes agricultural stormwater discharges...”

“In the state of Ohio, large CAFOs are prohibited from discharging manure from the production area under federal and state regulations”

“...manure application and resultant precipitation-driven runoff is agricultural stormwater which is exempt from regulation under the CWA and is accounted for in the load allocation”

OEPA’s argument that WLEB CAFOs do not require permits because their production areas do not discharge manure directly into waters of this state is inaccurate and incomplete. The Clean Water Act specifically requires CAFOs to obtain permit if they apply manure to fields. 40 CFR § 122.23(e) states –

“Land application discharges from a CAFO are subject to NPDES requirements. The discharge of manure, litter or process wastewater to waters of the United States from a CAFO as a result of the application of that manure, litter or process wastewater by the CAFO to land areas under its control is a discharge from that CAFO subject to NPDES permit requirements, except where it is an agricultural storm water discharge as provided in 33 U.S.C. 1362(14). For purposes of this paragraph, where the manure, litter or process wastewater has been applied in accordance with site specific nutrient management practices that ensure appropriate agricultural utilization of the nutrients in the manure, litter or process wastewater, as specified in § 122.42(e)(1)(vi)-(ix), a precipitation-related discharge of manure, litter or process wastewater from land areas under the control of a CAFO is an agricultural stormwater discharge.”

While the Ohio EPA has claimed that these manure applications fall under the agricultural stormwater exemption, in a March 2022 letter to Ohio EPA, the Environmental Law and Policy Center (ELPC) disagreed arguing that –

- *“The nutrients in any waste that flows rapidly into the tile lines (and then out to ditches or streams) are not, by definition, subject to **any** “agricultural utilization.” Ohio Adm.Code 901:10-1-01; 40 C.F.R. 122.23(e).*
- *Waste that flows through macropores into tile lines and then out to ditches and streams also would not “drain **over** terrain used for agriculture . . . that conveys manure to waters of the state” as required by Ohio Adm.Code 901:10-1-01(emphasis added).*
- *At least some liquid waste applications that flow rapidly into tile lines are discharged through tile outlets into ditches or streams even without rain. In addition to the points above, such discharges are not “generated by precipitation” (Ohio Adm.Code 901:10-1-01) or “precipitation related” (40 C.F.R. 122.23(e)).”*

As ELPC illustrates, liquid manure cannot be applied to a tiled field with any reasonable expectation that the entire volume of manure will remain on the field and utilized by crops. Because tile drains are designed to efficiently move water from soil to the stream and because liquid manure is typically about 90% water, some manure applications will inevitably flow into waterways without the help of precipitation and without providing any agricultural benefit. Therefore, any land application of liquid manure to tiled fields does not qualify for the agricultural stormwater exemption and any CAFO that land applies manure needs an NPDES permit to do so. Unfortunately, Ohio’s misinterpretation of federal law combined with the state’s shifting of CAFO permitting authority out of Ohio EPA’s hands to ODA’s has resulted in significant under-regulation of the livestock industry in the state of Ohio and unregulated discharges of manure to waters of the state.

Ohio EPA’s statement that “There are currently no CAFOs in the watershed that discharge or propose to discharge non-ag stormwater under an NPDES permit” may be partially true because the state has not required these industries to apply for a permit. Despite this, the TMDL should account for animal production facilities in the Maumee Nutrient TMDL, permitted or not. To provide clarification to stakeholders and the communities impacted by Lake Erie’s algal blooms, this TMDL should provide a table of all livestock facilities that meet the definition of medium and large CAFOs as in 40 CFR § 122.23 (4) and (6). This table should include for each facility –

- number of animal units
- estimated phosphorus production
- manure management method
- volumes of manure applied to land under the CAFO’s control
- volumes of manure transferred to other fields via distribution and utilization

Further, all CAFOs that apply manure to land must be accounted for in the point source load of the Maumee Nutrient TMDL (Section 5.3.4) and assigned individual wasteload allocations, even if they do

not currently operate under the appropriate NPDES permit. Because most of these medium and large facilities likely are not properly permitted, the TMDL should also include a timeline for issuing these permits. Additionally, the volumes of manure that have escaped NPDES regulation through the distribution and utilization method should be listed separately in both the TMDL source assessment and addressed with specific management actions in Section 7 – Implementation. Section 8 – Reasonable Assurances must discuss how the state will provide reasonable assurances that the state can meet water quality goals by addressing the impacts of manure nutrients.

5.6. Allowance for future growth–

U.S. EPA’s 1999 *Draft Guidance for Water Quality-based Decisions: The TMDL Process (Second Edition)* clearly explains the importance of the allowance for future growth –

“A waterbody’s allowable pollutant load contains wasteload allocations for point sources, load allocations for nonpoint sources, a margin of safety (MOS) sufficient to account for uncertainty and lack of knowledge, and an allowance for future growth. The allowable pollutant load must ensure that the waterbody will attain and maintain water quality standards regardless of seasonal variations or design flow conditions and in consideration of reasonably foreseeable increases in pollutant loads. The illustration below shows how the allowable pollutant load is the total of these components.

$$\text{Allowable Pollutant Load} = \sum \text{Wasteload Allocation} + \sum \text{Load Allocation} + (\text{MOS}) + (\text{Future Growth})”$$

Ohio EPA has determined that the total annual allowable pollutant load (March-July) is 914.4 MT. The allocations in the TMDL must sum to the seasonal target load (the allowable pollutant load) and they cannot exceed the target load. The allocations for each type of load are listed in Table 26 in the draft TMDL and below. OEPA has incorporated the allowance for future growth into the margin of safety (20.6 MT). As described in the draft, this only considers growth that would impact POTWs and ignores the growth of what is arguably the only nutrient source that is expected to *expand* after this TMDL is finalized – the animal production industry.

Table 26. TMDL allocation totals.

Allocation type	Spring season total phosphorus (MT)	Daily total phosphorus (kg)
Boundary condition: Michigan	180.7	1,180.9
Boundary condition: Indiana	48.0	313.6
Wasteload allocation	109.3	714.6
Load allocation	555.9	3,633.2
Explicit margin of safety (3%)	20.6	134.5
TOTAL	914.4	5,976.8

Page 113 – With regard to future expansions of the agricultural industry, Ohio EPA states

*“Livestock operations contribute to the nonpoint source phosphorus load via agricultural stormwater from the land application of manure. This project does not divide nonpoint sources but instead groups them into a single load allocation. The cumulative load of all contributing nonpoint sources must meet the TMDL’s load allocation. **If new land uses (such as new or expanding livestock facilities) start operating in the watershed, they are expected to attain the same level of phosphorus control as the existing land use. Because of this construct, reserving AFG for nonpoint sources is not necessary**” (emphasis added)*

This statement is vague and not at all based in reality. First, it’s unclear what Ohio EPA means by “same level of phosphorus control as the existing landscape.” Second, the purpose of the TMDL is *reduce phosphorus*, not attain the same level of control as is already existing. Most importantly, it ignores the obvious - additional livestock in the watershed will *add* additional phosphorus to the landscape load (even if they “attain the same level of phosphorus control as the existing landscape.”) Future animals in the watershed have not been and cannot not be accounted for in the 555.9 MT allocated to NPS because this allocation was made based on the current conditions, not future conditions. Any increases to livestock numbers will result in exceedance of the 914.4 MT allowable load. This increase must be accounted for explicitly in the allowance for future growth. Ohio EPA has a responsibility to estimate anticipated growth of this industry and assign a specific allocation in metric tons. These estimated increases will undoubtedly result in decrease the load allocation for other NPS. As such, both load allocations and allowance for future growth need to be revised in the final TMDL report.

It must also be noted that the exclusion of the expanding animal industry from allowance for future growth was a concern of several commenters (ELPC, TMACOG, U.S. EPA) during the PMR comment period. Specifically, U.S. EPA recommended that allowance for future growth specifically address (emphasis added)–

- **Proposed future increases in the number of animals at existing CAFO**
- **Proposed future increases in the number of animals at small- or medium-sized animal feeding operations such that a given operation would become a Large CAFO**
- **Proposed construction of new CAFOs**
- Proposed increases in the design flow of POTWs
- Proposed construction of new (non-domestic) sources or increases in discharge from existing non-domestic sources
- Proposed construction of new POTWs

6. RESULTS

As described in TMACOG’s comments on Sections 4 and 5, the results presented in section 6 should be refined.

Table 27 – update to include wasteload allocations for permitted CAFOS.

Table 27 – reassess calculation methods for MS4s and update WLAs

Table 28 – ungrouped landscape load and divide into following categories –

- commercial fertilizer
- manure
- legacy agricultural soils
- loads from unregulated developed areas (according to NLCD data)
- load from natural areas (according to NLCD data)
- unknown NPS (which would account for estimates of the dynamic process-based loads)

7. IMPLEMENTATION PLAN

U.S. EPA's 1999 *Draft Guidance for Water Quality-based Decisions: The TMDL Process (Second Edition)* lists the following minimum elements of an implementation plan –

1. *Implementation actions/management measures – a description of the implementation actions and/or management measures required to implement the allocations contained in the TMDL, along with a description of the effectiveness of these actions and/or measures in achieving the required pollutant loads or reductions.*
2. *Timeline – a description of when activities necessary to implement the TMDL will occur. It must include a schedule for revising NPDES permits to be consistent with the TMDL. The schedule must also include when best management practices and/or controls will be implemented for source categories, subcategories and individual sources. Interim milestones to judge progress are also required.*
3. *Reasonable assurances – reasonable assurance that the implementation activities will occur. Reasonable assurance means a high degree of confidence that wasteload allocations and /or load allocations in TMDLs will be implemented by Federal, State or local authorities and /or voluntary action. For point sources, reasonable assurance means that NPDES permits (including coverage under applicable general NPDES permits) will be consistent with any applicable wasteload allocation contained in the TMDL. For nonpoint sources, reasonable assurance means that nonpoint source controls are specific to the pollutant of concern, implemented according to an expeditious schedule and supported by reliable delivery mechanisms and adequate funding*
4. *Legal or regulatory controls – a description of the legal authorities under which implementation will occur (as defined in 40 CFR 130.2(p)). These authorities include, for example, NPDES, Section 401 certification, Federal Land Policy and Management programs, legal requirements associated with financial assistance agreements under the Farm Bills enacted by Congress and a broad variety of enforceable State, Territorial, and authorized Tribal laws to control nonpoint source pollution.*
5. *Time required to attain water quality standards – an estimate of the time required to attain water quality. The estimates of the time required to attain and maintain water quality standards must be specific to the source category, subcategory or individual source and tied to the pollutant for which the TMDL is being established. It must also be consistent with the geographic scale of the TMDL, including the implementation actions.*

6. *Monitoring plan – a monitoring or modeling plan designed to determine the effectiveness of the implementation actions and to help determine whether allocations are met. The monitoring or modeling plan must be designed to describe whether allocations are sufficient to attain water quality standards and how it will be determined whether implementation actions, including interim milestones, are occurring as planned. The monitoring approach must also contain an approach for assessing the effectiveness of best management practices and control actions for nonpoint sources.*
7. *Milestones for attaining water quality standards – a description of milestones that will be used to measure progress in attaining water quality standards. The milestones must reflect the pollutant for which the TMDL is being established and be consistent with the geographic scale of the TMDL, including the implementation actions. The monitoring plan must contain incremental, measurable milestones consistent with the specific implementation action and the time frames for implementing those actions.*
8. *TMDL revision procedures – a description of when TMDLs must be revised. EPA expects that the monitoring plan would describe when failure to meet specific milestones for implementing actions or interim milestones for attaining water quality standards will trigger a revision of the TMDL.*

TMACOG cannot offer a comparable level of expertise to U.S. EPA, but using these guidelines, we offer a quick assessment. Additional comments on specific management measures is provided later.

1. *Implementation actions/management measures*

The TMDL discusses with a fair amount of detail various NPS implementation actions intended to achieve point source and nonpoint source TMDL goals. However, the NPS programs listed are merely a continuation of existing programs with no commitment to new programs or practices that will meet the lofty 40% reduction goal. The draft also contains little to no discussion of the effectiveness of any of these measures. The final TMDL should provide measures of effectiveness to justify load reductions required to NPDES permits and to provide guidance that NPS implementers and NPS-IS plan developers can use in determine the most effective practices for their watersheds.

2. *Timeline*

OEPA provides a timeline for updating and submitting various reports and issuing new NPDES permits. The NPS implementation timeline is lacking in any detail or dates and interim milestones to assess progress are nonexistent.

3. *Reasonable assurances*

The TMDL has not shown with a high degree of confidence that WLAs and LAs will be implemented by federal, state, and local agencies and voluntary measures. The TMDL does not include an expeditious schedule for NPS implementation or illustrated that adequate funding exists to achieve load reductions. Reasonable assurances will be discussed in more detail in section 8 comments.

4. *Legal or regulatory controls*

The TMDL describes NPDES authority and authority granted through several state and federal regulations and programs for NPS. However, as described later, it is unclear if the NPS programs are

sufficient to meet water quality goals and regulations for the animal production industry are not included.

5. *Time required to attain water quality standards*

The TMDL does not commit to a timeframe for attaining water quality standards. Figure 53 simply shows “HABs Reduction Goals Met” and “Lake Erie No Longer Impaired” as an ultimate outcome beyond the scope of the 2023-2032 timeline.

6. *Monitoring plan*

Figure 55 is a conceptual model of a monitoring plan for the TMDL. OEPA provides a description of how such a monitoring plan could be implemented and adapted. While this section lists several monitoring efforts, it could use more clarity and commitment to move beyond a concept.

7. *Milestones for attaining water quality standards*

The TMDL does not include incremental, measurable milestones consistent with each implementation action and no timelines exist for implementation actions.

8. *TMDL revision procedures*

The TMDL discusses potential future revisions in several locations throughout the document, but TMACOG staff did not see a description of how OEPA will revise the TMDL if Ohio fails to meet milestones for attaining water quality standards.

Below are more detailed section-specific comments

7.2 Establish Milestones –

This section discusses several important planning milestones. The NPS implementation milestones seem to rely entirely on continuation of the H2Ohio funding program. This funding program does not have a dedicated and guaranteed funding source, so there is no guarantee that the BMPs funded under this program will continue for the length of time needed to achieve water quality goals. Similarly, any BMPs funded with GLRI or other federal funding sources are subject to the same uncertainty. The Farm Bill is a major source of funding for agricultural BMPs, so this section should also include milestones for leveraging this funding source to meet the goals of the TMDL. Most importantly, the voluntary actions funded by state and federal programs have no associated timelines for implementation, reasonable assurances of implementation, or incremental measures of success.

The TMDL has not identified levels of staffing required or estimated the necessary increases to existing staffing levels for the various local partners to implement this TMDL. It is also unclear how local partners will be held responsible to decrease loading from their own watersheds or if they can realistically reduce loadings from upstream dischargers.

There is also a lack of specificity regarding how these programs will be targeted at specific NPS nutrient sources for the most effective and efficient strategy to attain water quality standards. OEPA is relying primarily on local partners to implement this TMDL, and therefore, must provide specific timelines and milestones for partners developing and implementing NPS-IS plans. Below are some of the gaps that should be addressed before NPS-IS plans can be utilized as a TMDL planning tool -

- It is unclear how the farfield NPS allocation of 555.9 MT will be distributed among all HUC-12s for the development of NPS-IS plans. The TMDL should identify important milestones in the process and the timeline for doing so.
- Currently there are no approved NPS-IS plans to use as a model for assigning a farfield target to a nearfield TMDL. The TMDL should set milestones and a timeline for developing a model “farfield-to-nearfield” NPS-IS in priority watersheds. Ohio EPA should commit staff time to developing these model NPS-IS plans rather than relying on local plan developers.
- This TMDL does not account for the fact an organization developing the plan is often not the implementer. The TMDL should set milestones and timelines for making connections between plan developers and implementors to expedite plan development and implementation. State staff should be assigned to coordinate this work.
- The development of NPS-IS plans and implementation of nutrient BMPs are completely voluntary and reliant on piecemeal funding. The TMDL should describe how the state plans to compel local planners and implementors to do this work.

Additionally, the draft TMDL document does not provide HUC-12 scale reduction targets, presenting another challenge to NPS-IS developers and implementors. However, the draft does reference Ohio’s 2020 Domestic Action Plan (DAP) to provide guidance to local partners. TMACOG has not recently reviewed the DAP, so cannot comment on the effectiveness of that document in directing local implementation of the Maumee Nutrient TMDL. We request that Ohio EPA more specifically direct local implementors to the DAP and other implementation tools that directly support achieving water quality goals through a separate subsection titled “Tools for Local Implementation” or something similar. Ohio EPA staff have stated repeatedly that this TMDL is a planning tool. As such, it should include resources that provide a quick reference for local partners who likely do not have the capacity to dig through 186 pages of text to find guidance relevant to their work.

Every section of the TMDL referencing the 40% reduction, should make clear that this is a reduction from 2008 loads. There is some confusion across the document about what a 40% reduction means and how it can be translated to reductions from current loads. The Milestones section should account for nutrient reductions achieved (or increases if applicable) since 2008 and should set the current conditions as the baselines on which all milestones are set.

7.3 Implement the strategy

7.3.1. Point source management

Stormwater – As discussed in TMACOG’s section 5.3.2 comments, urban stormwater nutrient contributions are minimal in the Maumee watershed and any needed reductions can and should be achieved through existing MS4 permit requirements. In addition to improving enforcement of illicit discharges and existing nutrient source control permit requirements, Ohio EPA should better target the requirements for construction of structural practices. Rather than continuing to enforce the list of practices on pp. 130-131, Ohio EPA should revise this list to focus on practices that show the most nutrient reduction benefit per dollar spent. The final TMDL should commit to working with MS4 stakeholders to revise this list of practices to ensure that the 2026 permit renewal includes the BMPs most effective at reducing nutrients from stormwater sources, offer assistance in targeting the most

effective locations for implementation, and offer funding or resources for increased monitoring to track load reduction.

Wastewater Treatment Facilities - TMACOG appreciates OEPA's good faith effort to avoid the need for immediate investments in wastewater treatment technology upgrades by implementing a grouped permit. This approach recognizes the significant investment and achievements that local governments and ratepayers have made toward nutrient reductions. TMACOG members impacted by the Maumee Nutrient TMDL request a robust stakeholder engagement process as the state moves forward with the proposed general permit.

P.132 – “To maintain capacity in the wasteload allocation and manage growth, the new, expanding, or upgrading biological treatment facilities with an average daily design flow equal to or greater than 1 MGD will receive a monthly average concentration limit of 0.5 mg/L.”

There is concern among POTWs in the TMACOG region that the criteria for implementing the 0.5 mg/L effluent limit is unclear. Ohio EPA should provide a clear definition of “new, expanding, or upgrading” in this section and commit to gaining buy-in for the specific requirements through a robust and meaningful stakeholder participation process.

We also must acknowledge that the proposed grouped permit is the only significant enforceable implementation mechanism proposed by Ohio EPA. Considering the large (but not quantified in the TMDL) impact of untreated animal manure on Lake Erie, the lack of NPDES enforcement on the animal industry presents an enormous inequity.

7.3.3 - Load Allocation (nonpoint source) implementation plan –

This section is the most important section in the entire TMDL as it is intended to provide the roadmap to reduce phosphorus by 40% from the 2008 baseline, reduce Lake Erie algal blooms, and ultimately remove the Lake Erie Western Basin's impairment designations. While it provides an excellent summary of the breadth of current initiatives and partnerships in the watershed, it falls short of providing a roadmap for achieving the goals of the TMDL and includes no mechanisms for accountability to milestones or timelines

The NPS implementation plan should commit to specific actions the state will take to meet these goals along with a timeline to implement these actions. Instead, the draft TMDL lists only existing watershed planning efforts (Section 7.3.3.1), existing policies (Section 7.3.3.2) and existing initiatives and funding to facilitate implementation (Section 7.3.3.3.) These efforts are simply a continuation of programs and policies that already exist and represent no new efforts beyond the status quo. The annual algal bloom threatening drinking water and recreation has proven that the status quo is not working. This implementation plan will be ineffective without specific commitments from the state.

Ohio must commit to –

- Identify and reduce nutrients at their source through effective voluntary and regulatory measures
- Target implementation funding at higher-yielding landscapes (as defined on page 135 of the draft)

- A timeline for meeting water quality goals with specific incremental goals.
- Identify the regulatory and enforcement gaps that limit Ohio EPA's ability to implement nutrient source reduction for phosphorus pollution
- Work with legislators and stakeholders to develop policies to address regulatory gaps
- Adequately fund state regulatory agencies and local partners (e.g. SWCDs) to enforce illicit discharges of manure and other illegal discharges to waterways

7.3.3.1 – Water Quality Planning

Page 134-135 lists several implementation needs in the watershed -

- Implementation will need to be widespread.
- Accomplishing DRP reductions will be more difficult than meeting total phosphorus targets
- No single BMP will meet loading targets, and a suite of BMPs is necessary.
- BMPs targeted to higher-yielding landscapes were more effective than random placement.
- It will take common and less common (even emerging) BMPs to meet the targets.

The TMDL implementation plan has not made clear how these needs will be addressed through existing efforts or if new efforts will be developed.

8. REASONABLE ASSURANCES

Ohio EPA has shown throughout the TMDL that nutrient reductions should not be the full responsibility of POTW dischargers and that 90% of the nutrient reduction responsibility falls on NPS. Yet, the TMDL has not made meaningful commitments to implement the policies and programs needed at the state level to achieve the state's water quality goals. This TMDL does not utilize Clean Water Act authority to regulate phosphorus discharges from medium and large CAFOs, but instead relies entirely on voluntary adoption of BMPs. The concern among TMACOG members is that when this TMDL's NPS implementation plan proves ineffective, the state and U.S. EPA will attempt to achieve whatever reductions they can by tightening permit conditions on POTWs and MS4s. U.S. EPA Region 5 recently showed Ohio's POTWs that they are willing to do this when the agency attempted to enforce a 0.007 mg/L phosphorus limit on the City of Euclid.

TMACOG believes that Ohio EPA has failed to provide reasonable assurance that the NPS load allocations will be achieved for the following reasons –

- The TMDL Implementation Plan has not committed to implementation actions over and above existing efforts.
- The TMDL Implementation Plan has not shown how it will maximize existing efforts and leverage existing funding sources to achieve water quality goals.
- The TMDL Implementation Plan has not detailed a strategy or timeline for achieving the load reductions needed to achieve the NPS phosphorus load allocation of 555.9 MT.

- The TMDL Implementation Plan relies too heavily on voluntary measures and places an emphasis on voluntary development of NPS-IS documents with voluntary BMPs, developed by third parties (I.e. not the State of Ohio)
- The TMDL has not shown how the various state agencies will commit coordination support to local planning and implementation efforts.
- The State of Ohio has not committed to improve the regulatory programs within its control or to identify gaps that allow polluters to avoid regulation and enforcement.

Page 146 states –

*“When U.S. EPA approves a TMDL that allocates pollutant loads to both point and nonpoint sources, it determines whether there is reasonable assurance that the nonpoint source load allocations will be achieved, and water quality standards will be attained. This ensures that the allocations in the TMDL are **not based on overly ambitious assumptions regarding the amount of nonpoint source pollutant reductions** that will occur. This is necessary because excessive projections of nonpoint source reductions could be used to offset pollutant reductions from point source allocations. **Since point source allocations are required to be implemented through existing NPDES permitting programs, an unrealistic elevated nonpoint source load reduction could be considered evading more strict permitting regulations.**”* Emphasis added

This statement clearly illustrates TMACOG’s concerns and shows that the State of Ohio will be forced to achieve nutrient reduction through the only regulatory mechanism it chooses to use – NPDES Wastewater permits. We ask that this TMDL includes specific language to assure POTWs that failure to meet NPS nutrient reduction goals will not result in tightened effluent limits for POTWs.

8.2 Commitments

The TMDL references the Ohio DAP, Ohio EPA NPS Management Plan and a list of other planning documents and tools that can be used by implementors at various scales to help direct NPS implementation efforts. Without reviewing each of these resources individually, providing a real assessment of the TMDL’s “reasonable assurances” is not possible. This section also touts the successes of the H2Ohio funding program but falls short of sharing the anticipated measurable nutrient reductions the public can expect from this program in the future.

8.4.1 H2Ohio

This Section includes a link to the H2Ohio data dashboard, but the data itself has not been used to model the expected contributions of this program to the overall nutrient reduction goal. This data as well as the estimated nutrient reductions of each program listed in the Section 7 – Implementation should be summarized in a table to show the annual phosphorus reductions that can be expected from these programs and their relative contributions toward meeting the overall 40% reduction goal. Sharing these estimates is likely to uncover some program areas that are not as effective as others and will allow Ohio’s state agencies to adjust the implementation strategy through adaptive management.

8.4.5 Other state legislative actions and policies

This section combined with the earlier policy section (7.3.3.2) list a total of 15 policies and legislation that relate to nonpoint sources. Of these 15 policies, only 3 provide state agencies with authority to regulate nonpoint nutrient sources. The remaining policies allocate funds, establish programs, or provide guidance. The TMDL should list these policies in a table that shows the various roles of these rules and laws with their role in addressing each NPS nutrient source. This table should also include sections of code that regulate the animal industry, which was not included in either list. An example is shown below. While the information entered in the example may not be accurate, this exercise illustrates how the policies should be listed in a format that will support the requirement for reasonable assurance and identify policy gaps that will need to be addressed to achieve the goals of the TMDL. A similar approach should be used to illustrate the role of each item in Section 8 that was discussed with the intent of providing “reasonable assurances.”

Policy	Provides funding	Provides regulatory authority	NPS source addressed				
			commercial fertilizer	manure	legacy sources	unregulated stormwater runoff	natural loads
SB 1			X	X			
SB 299	X		X	X		X	X

8.5. Accountability framework

TMACOG appreciates the robust reporting on TMDL progress through both CWA and GLWQA reporting mechanisms. We will reiterate, however, that the current draft of the TMDL lacks the appropriate implementation goals, incremental milestones, and timelines to create informative reports, accurately report on progress toward water quality goals, and ensure accountability.