Stephen P. Samuels
Counsel
614.559.7259 (t)
614.464.1737 (f)
ssamuels@fbtlaw.com

March 8, 2023 **DELIVERY VIA EMAIL ONLY**

Ohio EPA-DSW
Attention: Total Maximum Daily Load Program
P.O. Box 1049
Columbus, OH 43216-1049
EPATMDL@epa.ohio.gov

Re: Comments of the Maumee Watershed Coalition on the Draft Maumee River Watershed Nutrient Water Quality Improvement Plan

Introduction

The Maumee Watershed Coalition (Coalition) was formed in 2021. The members of the Coalition formed their partnership to protect and advance the economic, environmental, and other interests of their communities and organizations. The Coalition membership includes a diverse group of entities who are or represent many of the cities/counties, businesses, and agricultural interests in the watershed. Members include the cities of Lima, Defiance and Perrysburg, the Village of Archbold, Allen County, Ohio Corn and Wheat Growers Association, Ohio Soybean Council, Ohio AgriBusiness Association, Ohio Pork Council, Lima Refinery Company, and PCS Nitrogen Ohio, L.P. The members believe that their diversity allows them to create holistic, imaginative, and practical solutions. As applied to the draft Maumee total maximum daily load (TMDL), their view is that sound science and economic reality should be the pillars guiding the recovery of the Western Basin of Lake Erie (WLEB).

The Coalition has participated as a stakeholder in the development of the Maumee Watershed Nutrient TMDL since the official process began in 2021. Many Coalition members have been actively involved in Ohio's efforts to address nutrient pollution well before the Maumee TMDL process began. Before presenting our comments, we want to take a moment to express our appreciation for the substantial effort Ohio EPA has made throughout the TMDL process to encourage stakeholder involvement.

General comments:

- The Maumee watershed TMDL takes a serious, thorough, and fact-based approach to analyzing the impact of nonpoint sources ("NPS") of nutrients, and to describing the measures that these sources and the State must implement to allow the sources to meet the phosphorus reduction goals prescribed by the TMDL. Obviously, to succeed, no significant phosphorus source can be ignored. Equally, however, a TMDL-based remedy must acknowledge the financial, legal, scientific, and other limitations that exist. Because the Clean Water Act provides the states little regulatory power over nonpoint sources, it is essential that the State invest significant sums of money over an extended period of time to encourage and finance the needed actions, or induce private parties to take them. Of course, the State does not have infinite resources. Therefore, the various sources of nutrients to the WLEB must be addressed at a time and in a manner commensurate with the magnitude of their contribution and the cost-effectiveness of mitigating them.

  Accordingly, the Maumee TMDL should prioritize implementation of nutrient controls for sources where the most significant phosphorus reductions can be recognized. For example, although concentrated animal feeding operations (CAFOs) receive an outsized share of media attention, there are currently no CAFO facilities permitted to discharge nutrients within the Maumee River watershed. The phosphorus-containing manure from CAFOs and controlled animal feeding facilities (CAFFs) contribute almost all their nutrient load via agricultural stormwater generated at fields that have received manure from these facilities. But the data strongly suggest that the increase in the number of CAFOs and CAFFs in the last two decades (Figures 12 and 13 of the draft TMDL) has not materially exacerbated the nutrient load from farms. Rather, the increase in manure application has been offset by a nearly equal decrease in the application of commercial fertilizers (Figure 17). Of course, the State should not permit the unrestricted construction of new CAFOs and CAFFs if that will exacerbate the nutrient loading to the WLEB, and the TMDL ought to include such a proscription. But the *principal* focus of the TMDL should not be on CAFOs or CAFFs, but on mitigating all agricultural run-off, as that is where the greatest return on investment will be realized.

- Through the development of this TMDL, Ohio EPA has worked with multiple state agencies and involved a diverse group of stakeholders to develop an implementation strategy that addresses both point and nonpoint sources of phosphorus. The adaptive management framework laid out in the implementation section of the TMDL provides a protocol to allow the TMDL to improve with the continued development of the science and the benefit of more (and more detailed) data. Specifically, the significance of dissolved reactive phosphorus (DRP), legacy phosphorus, and

projected increase in high intensity precipitation events on the phosphorus loads to Lake Erie need to be better understood. Additional research is necessary to better understand the instream cycling of DRP prior to determining if the development of specific wasteload allocations and load allocations for DRP are feasible and would result in meaningful reductions in the HABs that occur in the WLEB. Further, the movement of legacy phosphorus through the system, especially that already trapped in nutrient sinks such as stream banks and wetlands, must be better understood to develop an effective and affordable strategy to reduce the contributions from this significant source. We believe that the TMDL must be implemented in a manner that provides flexibility, and ongoing meaningful stakeholder involvement, as the science evolves and the data gaps are filled.

- The Coalition supports Ohio EPA's plan to address point sources in a manner that reflects the significant contributions to phosphorus reductions made by the point source community over the past four decades. Ohio's robust data set shows that point sources (municipal wastewater treatment plants and industrial dischargers) are currently[1] a very small portion of the overall phosphorus load to the WLEB and that additional phosphorus reductions from these sources would not result in measurable improvements to water quality in the WLEB. The Coalition's (previously submitted) comments on the planned general phosphorus permit are attached as Exhibit A.

- Because of the (legal) limitations in the Clean Water Act on regulating nonpoint sources in general, and agriculture in particular, addressing nonpoint sources of nutrients to the WLEB is not remotely as straight-forward as the strategy for point sources. Implementation of NPS reductions to address Lake Erie harmful algal blooms (HABS) has been underway for more than a decade. Historic efforts to reduce sediment loss in the Maumee watershed were successful, but now agricultural phosphorus management needs to be extended beyond the soil surface. Practices to enhance nonpoint source sinks (wetlands, stream restoration, floodplain reconnection); improve agricultural nonpoint source management (fertilizer and manure management, continued and expanded erosion management, and other practices); and manage how water moves across the landscape will be required to reduce nonpoint source phosphorus contributions. These practices are not likely to result in *immediately* measurable reductions in phosphorus levels at the Waterville gage. Accordingly, the Coalition suggests that Ohio EPA (in collaboration with the Ohio Department of Agriculture, ODNR and other state and local agencies) compile data akin to the H2Ohio "dashboard," or the watershed assessment being conducted by the Ohio Agriculture Conservation Initiative ("OACI"), that includes specific

[1] Before 1980, point sources contributed approximately half the total phosphorus load to the WLEB. Today, it is approximately 6% (Figure 21 of the draft TMDL).

metrics to evaluate annual progress in nonpoint source implementation. This compilation should include information on all NPS projects, however funded (H2Ohio, 319 Grants, GLRI, etc.) along with available water quality data, and point source TP loadings. Metrics should include but not be limited to:[2]

- Number of acres of wetlands created/restored
- Number of miles of stream restoration
- Phosphorus monitoring stations installed and the phosphorus (total and orthophosphate) loads recorded
- The percentage of agricultural acres covered by voluntary nutrient management plans
- Percentage of phosphorus applied using variable rate technology
- Percentage of phosphorus applied subsurface
- Percentage of applied manure that is incorporated
- Percentage of acres utilizing conservation crop rotation
- Percentage of acres with overwinter cover crops
- Percentage of row crop acres with installed and operating drainage water management
- Linear feet of two-stage ditch construction
- Percentage of agricultural land draining to edge of field buffers
- Percentage of watershed draining to wetlands
- Number of Confined Animal Feeding Facilities permitted by ODA
- Number of animal units
- Quantity of manure applied in the watershed
- Quantity of commercial fertilizer applied in the watershed
- Total point source grouped total phosphorus load
- Total phosphorus loads for point sources not included in the grouped load

Specific Comments:

1. Although a TMDL must include a margin of safety (MOS), the Coalition maintains that given the significant level of conservatism built into the implicit MOS in the TMDL, the inclusion of an additional three percent explicit MOS is not warranted. The implicit MOS arises from, *inter alia*, the very conservative assumptions that (1) all phosphorus discharged into the Maumee River and its (350-odd) tributaries is transported to Lake Erie and, (2) all point sources are always discharging at their maximum permitted flow. Accordingly, the explicit MOS should be removed.

[2] The Coalition is not advocating the imposition of mandatory reporting by individual sources—other than what is already required by law—, but is suggesting that Ohio EPA (with input from ODNR, ODA, and others) collect, parse, and aggregate the information that is available.

Although Ohio EPA has not (yet) attempted to quantify the effect of distance-decay on nutrients, others have, and it is, without question, an important factor—perhaps the most significant factor—in determining the contribution of a source to the total nutrient load to surface waters. This has two principal components: (1) the amount of phosphorus that is "taken up" by the watershed landscape before entering a surface water, and (2) the amount of phosphorus that is taken up by the intervening surface waters prior to entering the WLEB. Both are important.

As regards the first, we refer Ohio EPA to an article entitled "Distance-decay patterns of nutrient loading at watershed scale: Regression modeling with a special spatial aggregation strategy," in the March 2011 issue of the *Journal of Hydrology.* There, the author analyzed the effect of distance-decay on nutrient flux and confirmed that it plays an important role in nutrient retention from non-point sources to surface waters. In pertinent part, the summary of the article states: "The distance-decay effect has been inappropriately neglected in many studies that adopted regression modeling method to quantify the relationship between watershed landscape and in-stream nutrient loading level. This study developed non-linear regression models that better quantify the role of distance on non-point source nutrient loads in rivers by using simulation results of a spatially-explicit model. The simulation results confirmed that regarding the effect of flow distance on nutrient loading, the exponential decay setting in the spatially-explicit model performs well. Other heterogeneous factors including slope and soil conditions do affect the decay results but not strongly enough to change the general exponential patterns. *The nutrient contribution from areas that were greater than 300 meters to the river network was negligible."* (Emphasis added.)

Although the author used total nitrogen data to validate the model, and there are certainly differences between the manner in which the landscape assimilates nitrogen and phosphorus, the data are nevertheless compelling.[3] Certainly, it demonstrates

[3] Ohio's December 23, 2022, Nutrient Mass Balance report agrees, stating at p. 13, "Because the point source and HSTS [loads] are computed directly at their source and no assimilation is considered, the mass balance method will overestimate the annual delivery of the load from these sources; and at p. 7, "A major assumption in identifying sources of loads and computing total load at the outlet to a major system such as Lake Erie is that no loss in load occurs from source to outlet. Nutrient load losses may occur from assimilation into the floodplain, river, or stream substrate or plant uptake (both macrophytes and algae)."

However, the following statement is also made at p. 7: "The assumption of no-load loss is reasonable when accounting for total nutrient quantity (for example, total phosphorus) over a 12-month period. On a water year basis, this assumption is acceptable because sources and sinks of nutrients tend to reconcile to the same total load over longer time intervals such as a year." However, no data or studies are cited to support this bold statement. In the absence of robust supporting data, this assumption is not reasonable, it is arbitrary.

that the TMDL's assumption that there is complete conservation of nutrient mass being transported through the watershed is arbitrary.

As regards the second factor—the assimilation of phosphorus in the Maumee River and tributaries before reaching the WLEB—we direct the Agency's attention to the Chesapeake Bay TMDL. The parties to that document devised a model to calculate the difference between the amount of phosphorus discharged by point and nonpoint sources and the amount that actually entered Chesapeake Bay. See, *e.g.*, Table 5 from the Pennsylvania DEP Phase 3 Watershed Implementation Plan Wastewater Supplement (copy attached as Exhibit B). As can be seen, the contributions of phosphorus to the Bay from the most remote sources are less than 5% of the amount discharged.

The above data demonstrates that the TMDL's assumption that the entire load discharged by sources in the Maumee watershed enters the WLEB is grossly overestimated. Certainly, it establishes that the implicit margin of safety inherent in that assumption is sufficiently large to not also add an explicit margin of safety.

2. While it may be appropriate to require additional phosphorus removal when a wastewater treatment facility is expanded or upgraded, automatically requiring a TP limit of 0.5 milligrams per liter (mg/L) for facilities treating greater than 1 million gallons per day (MGD) and 1 mg/L for facilities treating 0.5 to 1 MGD without consideration of individual circumstances is not reasonable or, given the negligible impact further point source reductions will have, warranted. The cost and environmental benefit associated with reducing phosphorus varies on a case-by-case basis and should therefore be considered on an individual basis during initial design of facility upgrades. The generalized cost-prediction model in *Appendix 6: Cost Evaluation for Phosphorus Removal at Wastewater Treatment Facilities* is not reflective of the circumstances and conditions faced by the point source members of the Coalition. (Please refer to Exhibit A, comments regarding the timing and cost of total phosphorus reductions required by the general permit). The Coalition suggests that the language in the TMDL be updated to require an evaluation of the appropriate total phosphorus limit during the design process associated with upgrading or expanding a wastewater treatment plant.

3. The Draft TMDL addresses industrial and municipal NPDES-permitted stormwater ("Permitted SW") phosphorus loads within the proposed WLA.[4] Ohio EPA has determined that, like permitted wastewater dischargers, Permitted SW phosphorus loads have been comprehensively regulated for decades and the resulting robust

[4] As noted by Ohio EPA, Permitted SW is regulated through the MSGP or, for facilities with individual wastewater permits, through MSGP-equivalent provisions in the individual facility permit. (*See Draft TMDL Section 4.1.2.2)* Both municipal and industrial dischargers fall into the latter category.

management practices have reduced TP Permitted SW loads. In Section 5.3.2 of the Draft TMDL, Ohio EPA states that Permitted SW phosphorus loads account for less than 0.2% of the Maumee Watershed TP load. *(Draft TMDL at page 106.)* For these reasons, Ohio EPA determined in the PMR and in the Draft TMDL that existing Permitted SW phosphorus loads satisfy the TMDL WLA and that additional reductions are not necessary. Ohio EPA specifically concluded that "[b]ecause of the small contribution and existing measures to control phosphorus, additional reductions are not included in these sources' wasteload allocations." *(Draft TMDL at page 106)*.

Based on these findings, the implementation provisions of the Draft TMDL in Section 7.3.1.1 provide: "If an industrial facility owner/operator obtains coverage under the NPDES Multi-sector Stormwater General Permit or has equivalent coverage under an individual NPDES permit and properly selects, installs and maintains all BMPs required under the permit, the stormwater discharges would be expected to be consistent with the WLA in this TMDL." (*Draft TMDL at page 131)*

The WLA for Permitted SW loads is set forth in Table 27. However, notwithstanding this finding and implementation plan, the Draft TMDL nonetheless includes a breakdown of the Permitted SW WLA allocation for MSGP-equivalent Permitted SW loads, as Table A4.4. No such individual allocation is given for permittees under the MSGP. As detailed below, the Coalition believes the itemized WLA for the Permitted SW loads is arbitrary and contradicts the finding of the TMDL.

The facility-specific allocations in current draft table A4.4 are unfair and unnecessary. As noted in comments on the draft PMR by OMA, PCS Nitrogen, and the Maumee Watershed Coalition, facilities that fall under the equivalent of the MSGP (where the MSGP terms and conditions are incorporated into their individual NPDES permit for their stormwater outfalls) should be removed from the itemized WLA, much as Permitted SW loads under the MSGP are not given itemized WLA. Accordingly, current Table A4.4 should be deleted. Instead, per the language of the Draft TMDL, the relevant table and appendix should be revised to reflect that these facilities fall squarely within the WLA for MSGP and MSGP-equivalent facilities, per Table 27, which WLA will be met by the exiting BMP requirements in their permits. Exhibit C to these comments includes revisions to Table 27 in Section 6.1 of the Draft TMDL to address these concerns and to clarify the Permitted SW WLA and includes the concomitant suggested changes to the tables in Appendix A4.

Finally, as a point of clarification, we understand from the Draft TMDL findings, and specifically from Section 7.3.1.1, that the Permitted SW phosphorus load currently achieves its WLA and will continue to achieve this WLA through compliance with the MSGP and MSGP-equivalent BMP requirements.

4. Appendix 5 of the TMDL includes the allocations from near-field TMDLs that are being implemented in the Maumee River Watershed. The Ottawa River Watershed (Lima Area) TMDL is included with an allocation for the City of Lima WWTP. The TMDL fails to incorporate the footnote found in Section 6.2 (page 85, footnote 2) that states in part, "Lima's obligations to implement any load reductions recommended in this TMDL will be limited to those actions required by its formally approved LTCP and in accordance with the implementation schedule therefore prescribed by a federal district court-approved order (referred to below as an "enforceable implementation schedule"), until a new or revised TMDL for the Ottawa River (Lima area) is issued with opportunity for public comment and it has been approved by U.S. EPA." Lima is not currently required to meet the 5.33 kg/day total phosphorus load included in the near-field TMDL and this footnote should be carried forward in the Maumee Watershed Nutrient TMDL.

5. The same concern applies to the failure of Appendix 5 to incorporate footnote 3 in Section 6.2 of the Ottawa River (Lima Area) TMDL describing the applicability of potential limits to PCS Nitrogen Ohio, as further detailed in PCS Nitrogen Ohio's August 17, 2022, comments on OEPA's Draft PMR.

6. Section 4.2.3 should be updated to describe the latest version of the Nutrient Mass Balance Report (December 2022).

Editorial Comments:

7. The TMDL document would greatly benefit from a glossary section.

8. Section 7, page 119 – The final sentence on page 119 should be amended to read, "Then, this information can be used to adjust the strategy if necessary, *including adding new innovative technologies or abandoning practices that are not providing the necessary benefits.*"

9. Section 7.1, page 122 – The first paragraph discusses some of the implementation that has occurred to date. This section should be modified to include investments that wastewater treatment plants have made in reducing phosphorus concentrations. Additionally, the volume reductions (resulting in overall load reductions) from industrial dischargers should be included.

10. Section 7.1, page 122 – The third paragraph states that, "Nonpoint sources are the largest component of the total load." "Largest" should be quantified. This paragraph

should also clarify that nonpoint sources include agricultural runoff, runoff from other land uses (outside of MS4 areas), streambank erosion and instream processes.

11. Section 7.2.1, page 127 – In the fourth paragraph, it would be helpful to include a description of how Ohio EPA anticipates evaluating BMPs funded through H2Ohio. What efforts are planned to quantify BMPs not funded by H2Ohio? How can the information from the NPS-IS be compiled and summarized with the H2Ohio results (See General Comment #3)? How is Ohio EPA coordinating with Ohio State University, the USDA-NRCS, and the USGS on using other modeling tools to evaluate progress? There may need to be a section devoted to this topic.

12. Section 7.2.4, page 129 – Specifically, which SWAT modeling work is being referenced?

13. Miscellaneous typographical edits:
    a. Table 25 (page 108): Section references in the fourth column need to be corrected.
    b. Section 5.3.7 (page 109): Should the Ohio target be 685.7 metric tons rather than 685.8? (914.4 MT minus 228.7 out-of-state load.)

Sincerely,

/s/Stephen P. Samuels

Stephen P. Samuels
Counsel to the Maumee Watershed Coalition

Exhibit A

Stephen P. Samuels
Counsel
614.559.7259 (t)
614.464.1737 (f)
ssamuels@fbtlaw.com

March 3, 2023

VIA ELECTRONIC MAIL: david.brumbaugh@epa.ohio.gov

David Brumbaugh
Ohio EPA Division of Surface Water
P.O. Box 1049
Columbus, Ohio 43216-1049

Re: Comments of the Maumee Watershed Coalition regarding Ohio EPA's High- Level Framework for the Maumee Watershed Nutrient TMDL Total Phosphorus General NPDES Permit

Dear Mr. Brumbaugh:

The Maumee Watershed Coalition is a diverse group of entities who are or represent many of the cities/counties, businesses, and farms in the watershed. The members of the Coalition formed their partnership to protect and advance the economic, environmental, and other interests of their communities and organizations. Their view is that sound science, economic reality, and environmental justice should be the pillars guiding the recovery of the Western Lake Erie Basin.

The Maumee Coalition has the following comments regarding Ohio EPA's Maumee TMDL Total Phosphorus General Permit ("GP") framework described in its December 21, 2022, presentation.

First, based on the information in the presentation, the GP concept appears to be a sensible approach to meeting the proposed Maumee Watershed TMDL wasteload allocation (WLA). Of course, the devil is frequently in the details, and we look forward to working with Ohio EPA to develop those.

Second, we support the comments submitted by the Ohio Manufacturer's Association.

Third, we have the following additional comments regarding the timing and cost of TP reductions required by the GP.

a. The GP should include a reference to USEPA's Integrated Planning Framework for Municipal Stormwater and Wastewater such that a local government that is pursuing an integrated plan could defer POTW upgrades for phosphorus reduction due to financial capability limitations or other pressing human health or environmental needs.

b. More generally, cost should be included as an explicit criterion in determining the amount and timing of required TP reductions at a POTW. Before we set forth the specifics of our recommendation, let us articulate our basis.

i. As AOMWA, OMA, and others have argued, the justification for requiring TP reductions from point sources at *this time* is questionable. Those arguments are largely premised on the fact that, since the passage of the Clean Water Act, point sources have, at great cost, substantially reduced the amount of TP they discharge such that their relative contribution is now 6% of the total load, whereas prior to 1980, they contributed approximately the same load as nonpoint sources.

ii. Largely overlooked in the discussion has been the fact, documented by Kast (2021), Muenich et al. (2016), and others, that the presence of large-scale algal blooms (and particularly HABs)—which is the principal driver for the TMDL—are, for all intents and purposes, not related to TP discharges by point sources, but rather by the impact of rainfall, particularly high intensity precipitation events, on non-point sources.

iii. These facts suggest that requiring point sources to expend funds, much less significant sums of money, until there is a causally linked basis to do so, is logically suspect.

iv. These same facts illustrate the illogic behind Ohio EPA's preliminary WLAs to Maumee watershed POTWS that are based on Spring median concentrations of 0.37, 0.44, and 0.73 milligrams per liter.

v. The conclusions of the *Cost Evaluation for Phosphorus Removal at Wastewater Treatment Facilities* located in Appendix 6 of the TMDL, based as it is on numerous assumptions and generic data, is problematic. We understand, of course, that it would have been time-consuming and expensive, and therefore impractical, for Tetra Tech to develop WWTP-specific costs for the WWTPs in the Maumee Watershed. For the same reason, most Coalition members were unable to do so. However, because the City of Lima has been implementing major improvements at its WWTP pursuant to a Consent Order with USEPA, its consultant was able to ground truth Tetra Tech's analysis *as applied to Lima*. Tetra Tech's assumed capital cost for a Lima-sized WWTP is approximately $6-7MM; the City's actual cost would be approximately six times greater, on the order of $38MM. Although the consultants agree on the nature of the technology needed to achieve a monthly concentration of 0.5 mg/L (chemical addition plus cloth filtration), there are several site-specific issues that Tetra Tech's (or any) unvalidated model failed to capture.

i. Tetra Tech's model assumes the plant only needs to treat its design flow (18.5 MGD). However, due to the prevalence of combined sewers and the concomitant impact of precipitation, the plant is required to treat a maximum flow of 70 MGD.

ii. Tetra Tech's model assumes that a facility has sufficient free space to install the necessary equipment. However, Lima has extremely limited free space at the WWTP, congested subgrade structures and utilities, and complicated plant hydraulics under variable flow conditions. These issues would necessitate building an enclosed cloth filtration facility at an off-site location, the addition of two pump stations and force mains, a new contact tank and relocation of existing disinfection equipment, backup generators, and miscellaneous other items.

The point, of course, is that it is unwise to base management decisions on assumptions and unverified data, but that is what the general permit and TMDL do. It is likely that Tetra Tech's model substantially underestimates the costs that other Maumee WWTPs would need to incur to meet the proposed TP limits.

c. We recognize that Ohio EPA developed the target concentrations and the GP, at least in part to minimize the financial burden on City residents, but it did not go far enough. Specifically, cost and affordability (particularly for the less well-off portion of the population) should be factors in the amount of reduction required should the GP-listed triggering event occur, i.e., two exceedances of the overall WLA. Exactly what formula should be used is, obviously, a more nuanced discussion, and we would be pleased to work with Ohio EPA to develop appropriate metrics. Of course, this may have the effect that some POTWs will achieve something less than the WLA-recommended TP concentrations (and therefore loadings) in the shorter term but, as noted above, there is no defensible environmental justification for requiring PS reductions at all.

d. A related point, which addresses the draft TMDL rather than the GP, is mentioned here because the two matters are so highly correlated. Although the draft TMDL defers a major discharger's obligation to reduce TP until the permittee undertakes a substantial upgrade of its secondary treatment facilities, the absolute cost of TP reduction, the cost relative to the cost of the upgrade, and affordability should be factors. Of course, what formula should be used is a more complicated matter, and we would welcome the opportunity to work with Ohio EPA to develop appropriate criteria. As stated above, this may defer some POTWs from meeting their individual WLA-recommended TP concentrations (and therefore loadings) in the short term but, as also noted above, there is no environmental justification for requiring PS reductions at all. An upside to this recommendation is that it avoids the unintended consequence of POTWs deferring needed secondary upgrades due to the cost of TP removal.

Fourth, Ohio EPA should implement a user-friendly "trading" program, that would be available to Maumee watershed PSs that are required by the TMDL or GP to reduce their TP discharge, to help accelerate nonpoint source reductions or other TP-reductions from other projects (streambank restoration, wetlands). Among the options that merit exploration are:

- Establishing the cost of an annual pound of P reduced; establishing a fund within H2Ohio whereby a PS could pay for (trade) NPS phosphorus reductions
- The trading program envisioned under the Stream Nutrient Assessment Protocol ("SNAP") developed in large part by some of the members of the Coalition.

Finally, we suggest that Ohio EPA should issue an annual report that summarizes the data for all the PS that are covered by the GP, including:

- The total load discharged by all GP point sources
- The total TP load for each source compared to its individual WLA
- Daily flow, TP and DRP concentrations, and TP/DRP loads for March 1 through July 31 for each PS
- Any notices issued to a PS related to the GP

Sincerely,

Stephen P. Samuels

Stephen P. Samuels
Counsel to the Maumee Watershed Coalition

SPS:gpd

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pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Phase 3 Watershed Implementation Plan Wastewater Supplement

Revised, July 29, 2022

Section 2 of Pennsylvania's Phase 3 Chesapeake Bay Watershed Implementation Plan (Phase 3 WIP) describes Pennsylvania's strategy for reducing nutrients to the Chesapeake Bay from wastewater facilities. This supplement to the Phase 3 WIP provides an update on Chesapeake Bay TMDL implementation activities for point sources and DEP's current implementation strategy for wastewater. This document is updated periodically to reflect changes due to Department of Environmental Protection's (DEP's) permit actions as well as changes to strategies in managing the wastewater sector's allocated loads under the TMDL. Note that this supplement, now titled, "Phase 3 Watershed Implementation Plan Wastewater Supplement," is the same document referred to as the "Phase 2 Watershed Implementation Plan Wastewater Supplement" in the Phase 3 WIP.

I. Definitions

Several definitions are provided to clarify the terminology in this document.

Annual Net Mass Load (lbs): The Annual Total Mass Load for one year beginning October 1st and ending September 30th, adjusted for Credits sold and applied and Offsets applied. Annual Net Mass Loads are compared to Cap Loads to determine compliance.

Cap Load (lbs): The mass load of a pollutant authorized by an NPDES permit. Cap Loads for Total Nitrogen (TN) and Total Phosphorus (TP) are implemented in NPDES permits by the establishment of Annual Net Mass Load limits. The term "Net" is used to recognize that Credits and Offsets may be used to comply with the limits. The Annual Net Mass Load must be less than or equal to the Cap Load to achieve compliance.

Certification: Written approval by DEP of a proposed pollutant reduction activity to generate credits before the credits are verified and registered to be used to comply with NPDES permit effluent limitations.

Compliance Year: The year-long period starting October 1st and ending September 30th. The Compliance Year will be named for the year in which it ends. For example, the period of October 1, 2015 through September 30, 2016 is Compliance Year 2016.

Credit: The tradable unit of compliance that corresponds with a unit of reduction of a pollutant as recognized by DEP which, when certified, verified and registered, may be used to comply with NPDES permit effluent limitations.

Delivery Ratio: A ratio that compensates for the natural attenuation of a pollutant as it travels in water before it reaches a defined compliance point.

Offset: The pollutant load reduction measured in pounds (lbs) that is created by an action, activity or technology which when approved by DEP may be used to comply with NPDES permit effluent limitations, conditions and stipulations under 25 Pa. Code Chapter 92a (relating to NPDES permitting, monitoring and compliance.) The offset may only be used by the NPDES permittee that DEP determines is associated with the load reduction achieved by the action, activity or technology.

Registration: An accounting mechanism used by DEP to track certified and verified credits before they may be used to comply with NPDES permit effluent limitations.

Total Mass Load (lbs):

Monthly Total Mass Load = The sum of the actual daily discharge loads for TN and TP (lbs/day) divided by the number of samples per month, multiplied by the number of days in the month in which there was a

discharge. The daily discharge load for TN and TP (lbs/day) equals the average daily flow (MGD) on the day of sampling, multiplied by that day's sample concentration for TN and TP (mg/l), multiplied by 8.34.

Annual Total Mass Load = The sum of the actual daily discharge loads for TN and TP (lbs/day) divided by the number of samples per year (beginning October 1st and ending September 30th), multiplied by the number of days in the year in which there was a discharge.

Total Nitrogen: For concentration and load, Total Nitrogen is the sum of Total Kjeldahl-N (TKN) plus Nitrite-Nitrate as N (NO_2+NO_3-N), where TKN and NO_2+NO_3-N are measured in the same sample.

Truing Period: The time provided following each Compliance Year for a permittee to comply with Cap Loads through the application of Credits and Offsets. The Truing Period will start on October 1st and end on November 28th of the same calendar year, unless DEP extends this period. During this period, compliance for the specified year may be achieved by using registered Credits that were generated during that Compliance Year. For example, Credits that are used to achieve compliance in Compliance Year 2016 must have been generated during Compliance Year 2016. Approved Offsets that have been generated may also be applied during the Truing Period.

Verification: Assurance that the verification plan contained in a certification, permit or other approval issued by DEP has been implemented. Verification is required prior to registration of the credits for use in an NPDES permit to comply with NPDES permit effluent limitations.

Wasteload Allocation (WLA): The portion of a surface water's loading capacity that is allocated to existing and future point source discharges.

II. Implementation Status

Appendix Q of the Chesapeake Bay TMDL segregates Pennsylvania's point sources into four sectors – significant sewage dischargers, significant industrial waste (IW) dischargers, combined sewer overflows (CSOs) and non-significant dischargers (both sewage and IW facilities). All sectors contain a listing of individual facilities with NPDES permits that were believed to be discharging at the time the TMDL was published (2010). All sectors with the exception of the non-significant dischargers have individual wasteload allocations (WLAs) for TN and TP assigned to specific facilities. Non-significant dischargers have a bulk or aggregate allocation for TN and TP based on the facilities in that sector that were believed to be discharging at that time and their estimated nutrient loads.

The Chesapeake Bay TMDL specifies individual WLAs for 183 significant sewage treatment facilities. A sewage facility is considered significant if it has a design flow of at least 0.4 MGD. For rollout of its permitting strategy, DEP classified these facilities into three phases. Thirty IW facilities have individual WLAs in the TMDL. An industrial facility is considered significant if gross effluent discharges that have exceeded 75 lbs/day of TN or 25 lbs/day of TP. WLAs have been established in the TMDL for 39 facilities with CSOs.

Since 2010 there have been numerous on-the-ground changes within these sectors. For example, DEP has issued permits to new and expanded discharges, authorized facility mergers, and terminated permits. This document is the means by which DEP accounts for these changes to ensure that DEP's overall TN and TP loads do not exceed the total WLAs. Where it is determined that a sector is performing better than prescribed by the TMDL, excess load will be placed into a "**Point Source Reserve**." Where it is determined that a sector is not meeting its total WLAs, load from a different sector or the Point Source Reserve may be used to balance the load requirements.

Table 1 is used by DEP for accounting purposes to determine if the wastewater sector is meeting overall TMDL objectives. The performance values are total Cap loads for the Significant Sewage and IW sectors, WLAs for the CSO sector, and estimated performance based on monitoring data for the Non-Significant sector. Performance values do not consider movement of load from one sector to another, which is unnecessary to determine an overall balance for the wastewater sector. Targets are total WLAs for all sectors in the TMDL (edge of segment WLAs, rounded as appropriate). All values have units of lbs/yr.

Table 1: Point Source Reserve

Sector	Performance		Targets		Balance	
	TN	TP	TN	TP	TN	TP
Significant Sewage	9,990,618	1,320,268	9,994,689*	1,303,685*	4,071	-16,583
Significant IW	1,319,556	41,422	1,820,139	64,684	500,583	23,262
CSOs	212,920	34,709	212,920	34,709	0	0
Non-Significant	2,861,499	398,794	3,006,667	842,104	145,168	443,310
				TOTALS:	**649,822**	**449,990**

*** NOTE** – The actual Total TN and TP WLAs in the TMDL for the Significant Sewage sector are 10,635,817 and 1,386,402 lbs/yr, respectively. There were, however, numerous errors with the WLAs in Appendix Q. This document assumes those errors, which are presented in **Attachment A**, will be revised in the TMDL.

A. Changes within Sectors.

Table 2 contains the facilities that are now considered Significant that are not listed in the TMDL. The loads from these facilities have either been transferred from the non-significant sector or from another significant facility that has ceased discharging or reduced their loadings. Details about the changes are listed in **Attachment B**.

Table 2: Significant Facilities Not in the TMDL.

NPDES Permit No.	Facility	TN Cap Load (lbs/yr)	TP Cap Load (lbs/yr)	Sector
PA0021491	Williamstown Borough	7,306	974	Sewage
PA0028592	Bonneauville Borough	9,741	1,218	Sewage
PA0037737	Elizabethville Area Authority	7,306	974	Sewage
PA0038865	Zerbe Township Municipal Authority	7,306	974	Sewage
PA0046221	Newville Borough	7,306	974	Sewage
PA0060518	Hallstead-Great Bend Joint Sewer Authority	9,741	1,218	Sewage
PA0084212	Leacock Township	7,306	974	Sewage
PA0086304	Earl Township STP	7,306	974	Sewage
PA0208922	Woodward Township	10,228	1,364	Sewage
PA0228915	ORD Sewer Authority	9,748	1,218	Sewage
PA0234079	Tiadaghton Valley Municipal Authority	19,178	2,557	Sewage
PA0234117	West Branch Regional Authority	42,508	5,728	Sewage
PA0253812	Glendale Valley M.A.	7,808	1,041	Sewage
PA0261262	North Londonderry Township Authority	25,936	3,458	Sewage
PA0261670	Fredericksburg Water & Sewer Authority	7,306	974	Sewage
PA0266469	Weaverland Valley Authority	13,064	1,531	Sewage
PA0266566	Jackson Township STP	10,958	1,461	Sewage
PA0228842	Muddy Run Regional Auth. Madera WWTP	7,306	974	Sewage
PA0276227	Hegins Hubley Authority WWTP	0	0	Sewage
PA0055328	New Morgan Landfill Co. Inc.	12,500	64	Industrial
PA0080829	Keystone Protein	19,786	381	Industrial

Table 3 contains facilities that received Cap Loads in the TMDL but are no longer considered Significant. The sewage facilities have either ceased discharging and transferred their load to another facility or have reduced their flow and are considered non-significant. DEP has discovered that the industrial facilities listed in **Table 3** withdraw water from the same stream where the discharge occurs. The WLAs provided to these facilities in the TMDL are gross loads that include background nutrients withdrawn from those streams. When reviewing the *net* contribution from the facilities, it appears that the facilities do not meet the original thresholds used (75 lbs/day TN or 25 lbs/day TP) to determine the Significant IW discharger list, i.e., if their net loads had been considered, they would not have been considered significant. Facilities that are no longer considered significant have had their loads transferred to the non-significant sector.

Table 3: Facilities with Cap Loads in the TMDL No Longer Considered Significant or Have Terminated Permits.

NPDES Permit No.	Facility	TN Cap Load (lbs/yr)	TP Cap Load (lbs/yr)	Sector
PA0020699	Montgomery Borough	15,525	11,776	Sewage
PA0024287	Palmyra Borough	25,936	19,789	Sewage
PA0024325	Muncy Borough Municipal Authority	25,570	19,461	Sewage
PA0026123	Columbia Municipal Authority	36,529	31,171	Sewage
PA0028665	Jersey Shore Borough	19,178	13,740	Sewage
PA0029297	South Mountain Restoration Center	9,136	3,252	Sewage
PA0029432	PA Depart of Public Welfare	10,961	7,647	Sewage
PA0088048	New Morgan STP	9,132	4,189	Sewage
PA0088633	Lower Paxton STP	45,661	38,050	Sewage
PA0008869	PH Glatfelter Company	117,588	6,821	Industrial
PA0009857	USFW – Lamar National Fish Hatchery	60,138	1,919	Industrial
PA0010553	PAFBC – Benner Springs	110,347	2,285	Industrial
PA0010561	PAFBC – Pleasant Gap	55,049	1,591	Industrial
PA0037141	PAFBC – Huntsdale	53,512	2,804	Industrial
PA0038598	Susquehanna Aquaculture Inc.	54,007	3,530	Industrial
PA0040835	PAFBC – Bellefonte	78,988	2,636	Industrial
PA0044032	PAFBC – Upper Spring	7,000	50	Industrial
PA0112127	PAFBC – Tylersville	63,339	2,382	Industrial

Several facilities have received Cap Loads based on different flows than those expressed in the TMDL. Those facilities are listed in **Table 4** below.

Table 4: Permitted Flows Different Than the TMDL.

NPDES Permit No.	Facility	Cap Load Flow (MGD)	TMDL Flow (MGD)
PA0021539	Williamsburg Borough	0.4	0.5
PA0036269	Stewartstown Borough	0.625	0.74
PA0037966	Moshannon Valley Joint Sanitary Authority	2.037	1.73
PA0043257	New Freedom Borough	2.25	2.3
PA0081591	Eastern York County Sewer Authority	0.5	0.6
PA0020214	Mount Union Borough	1.1	0.95
PA0028576	Abington Regional WW Authority	3.34	2.5

B. Performance.

Significant Sewage Sector

Table 5 presents all NPDES permits for Significant Sewage dischargers with Cap Loads. The NPDES Permit No., phase, facility name, latest permit issuance date, expiration date, Cap Load compliance start date, TN and TP Cap Loads, and TN and TP Delivery Ratios are presented. In addition, if TN Offsets were incorporated into the TN Cap Loads when the permit was issued, the amount is shown; these Offsets will be removed from Cap Loads upon issuance of renewed permits to implement Section III of this document (i.e., a facility may use Offsets for compliance but may not register them as credits).

Table 5: Significant Chesapeake Bay Sewage NPDES Permits Issued

NPDES Permit No.	Phase	Facility	Latest Permit Issuance Date	Permit Expiration Date	Cap Load Compliance Start Date	TN Cap Load (lbs/yr)	TN Offsets Included in Cap Load (lbs/yr)	TP Cap Load (lbs/yr)	TN Delivery Ratio	TP Delivery Ratio
PA0020036	3	Blossburg Borough	6/2/2022	6/30/2027	10/1/2012	7,306	-	974	0.521	0.339
PA0020214	3	Mount Union Borough	4/17/2017	4/30/2022	10/1/2013	20,091	-	2,679	0.790	0.351
PA0020249	3	Roaring Spring Borough	1/31/2020	1/31/2025	1/1/2016	12,785	-	1,705	0.713	0.519
PA0020273	2	Milton Regional Sewage Authority	9/25/2017	9/30/2022	10/1/2009	72,217	-	10,049	0.816	.0461
PA0020320	1	Lititz Sewer Authority	7/19/2019	6/30/2023	10/1/2010	70,319	-	9,376	0.593	0.581
PA0020338	3	Kulpmont-Marion Heights Joint Municipal Authority	6/29/2022	6/30/2027	10/1/2011	9,132	-	1,218	0.693	0.386
PA0020486	1	Bellefonte Borough	6/1/2019	5/31/2024	10/1/2010	58,812	-	7,842	0.647	0.333
PA0020508	3	McConnellsburg Borough	1/14/2021	1/30/2026	10/1/2012	10,959	-	1,461	0.700	0.550
PA0020567	3	Northumberland Borough	1/17/2018	9/31/2023	10/1/2012	20,548	-	2,740	0.807	0.462
PA0020583	2	Middleburg Municipal Authority	7/16/2020	7/31/2025	10/1/2012	8,219	-	1,096	0.768	0.322
PA0020621	2	Waynesboro Borough	9/14/2018	9/30/2023	10/1/2013	29,223	-	3,896	0.864	0.725
PA0020664	1	Middletown STP	2/16/2021	2/28/2026	10/1/2011	40,182	-	5,358	0.837	0.503
PA0020800	3	White Deer Township	2/10/2021	2/28/2026	10/1/2011	10,959	-	1,461	0.789	0.448
PA0020818	2	Glen Rock Sewer Authority	9/29/2021	9/30/2026	10/1/2012	10,959	-	1,461	0.750	0.397
PA0020826	1	Dover Township Sewer Authority	6/2/2017	6/30/2022	10/1/2010	146,117	-	19,482	0.543	0.185
PA0020834	2	Franklin County Authority – Greencastle	5/21/2021	5/31/2026	10/1/2012	17,351	-	2,314	0.971	0.742
PA0020885	1	Mechanicsburg Borough Municipal Authority	4/27/2017	4/30/2022	10/1/2012	37,990	-	5,065	0.831	0.492
PA0020893	1	Manheim Borough Authority	3/16/2022	3/31/2027	10/1/2011	20,822	-	2,776	0.819	0.477
PA0020915	2	Pine Grove Borough Authority	3/21/2022	3/31/2027	10/1/2012	27,397	-	3,653	0.511	0.403
PA0020923	1	New Oxford Municipal Authority	11/15/2021	11/30/2026	10/1/2011	32,657	-	4,354	0.631	0.189
PA0021067	1	Mount Joy Borough	2/18/2021	2/28/2026	10/1/2010	27,945	-	3,726	0.698	0.477
PA0021229	3	Littlestown Borough	7/21/2020	7/31/2025	10/1/2014	18,265	-	2,435	0.570	0.720

Phase 3 WIP Wastewater Supplement
Revised, July 29, 2022

NPDES Permit No.	Phase	Facility	Latest Permit Issuance Date	Permit Expiration Date	Cap Load Compliance Start Date	TN Cap Load (lbs/yr)	TN Offsets Included in Cap Load (lbs/yr)	TP Cap Load (lbs/yr)	TN Delivery Ratio	TP Delivery Ratio
PA0021237	2	Newport Borough Municipal Authority	12/7/2016	12/31/2021	10/1/2014	7,306	-	974	0.821	0.374
PA0021245	2	Duncannon Borough	6/28/2018	6/31/2023	10/1/2013	13,516	-	1,802	0.769	0.400
PA0021491	3	Williamstown Borough	5/23/2016	5/31/2021	10/1/2010	7,306	-	974	0.803	0.447
PA0021539	3	Williamsburg Borough	3/22/2022	3/31/2027	10/1/2013	7,306	-	974	0.768	0.493
PA0021563	3	Gettysburg Municipal Authority	7/12/2018	7/31/2023	10/1/2012	44,748	-	5,966	0.563	0.720
PA0021571	3	Marysville Municipal Authority	9/20/2021	9/30/2026	10/1/2012	22,831	-	3,044	0.631	0.376
PA0021644	2	Dover Borough	9/8/2021	9/30/2026	10/1/2010	7,306	-	974	0.513	0.185
PA0021687	1	Wellsboro Municipal Authority	5/23/2022	5/31/2027	10/1/2010	36,529	-	4,871	0.447	0.356
PA0021717	2	Marietta-Donegal Joint Authority	12/10/2021	12/31/2026	10/1/2012	13,698	-	1,826	0.849	0.501
PA0021806	2	Annville Township	5/26/2022	5/31/2027	10/1/2012	13,698	-	1,826	0.756	0.483
PA0021814	3	Mansfield Boro Municipal Authority	7/20/2021	7/31/2026	10/1/2012	23,744	-	3,166	0.469	0.430
PA0021865	2	Adamstown Borough Authority	2/27/2020	2/28/2025	10/1/2013	10,959	-	1,461	0.530	0.563
PA0021881	3	Westfield Borough	9/3/2020	9/30/2025	10/1/2010	8,402	-	1,120	0.489	0.273
PA0021890	1	New Holland Borough Authority	3/16/2021	3/31/2026	10/1/2012	24,475	-	3,263	0.563	0.571
PA0022209	1	Bedford Borough Municipal Authority	2/26/2021	2/28/2026	10/1/2010	27,397	-	3,653	0.519	0.216
PA0022535	3	Millersburg Borough Authority	11/27/2017	11/30/2022	10/1/2013	18,265	-	2,435	0.801	0.413
PA0023108	1	Elizabethtown Borough	4/20/2022	4/30/2027	10/1/2010	109,500	-	13,688	0.836	0.486
PA0023141	3	Hastings Area Sewer Authority	5/16/2018	5/16/2023	10/1/2016	10,959	-	1,461	0.525	0.239
PA0023183	3	Mt. Holly Springs Borough Authority	5/11/2022	5/31/2027	10/1/2013	10,959	-	1,461	0.658	0.410
PA0023248	1	Berwick Municipal Authority	12/13/2019	12/31/2024	10/1/2010	66,848	-	8,913	0.811	0.495
PA0023264	2	Twin Boroughs Sanitary Authority	2/24/2022	2/28/2027	10/1/2012	16,438	-	2,192	0.812	0.401

NPDES Permit No.	Phase	Facility	Latest Permit Issuance Date	Permit Expiration Date	Cap Load Compliance Start Date	TN Cap Load (lbs/yr)	TN Offsets Included in Cap Load (lbs/yr)	TP Cap Load (lbs/yr)	TN Delivery Ratio	TP Delivery Ratio
PA0023442	3	Wrightsville Borough Municipal Authority	8/3/2017	8/31/2022	10/1/2011	7,306	-	974	0.805	0.387
PA0023531	1	Danville Municipal Authority	2/26/2021	2/28/2026	10/1/2011	66,118	-	8,816	0.802	0.459
PA0023558	3	Ashland Borough	4/23/2012	4/30/2017	10/1/2013	23,744	-	3,166	0.793	0.458
PA0023736	3	Tri-Boro Municipal Authority	7/13/2021	7/31/2026	10/1/2013	9,132	-	1,218	0.515	0.372
PA0023744	1	Northeastern York County Sewer Authority	7/12/2022	7/31/2027	10/1/2010	33,485	-	4,627	0.836	0.486
PA0024040	1	Highspire Borough	2/24/2022	2/28/2027	10/1/2010	36,529	-	4,871	0.830	0.503
PA0024139	3	Cumberland Township Municipal Authority (North)	11/13/2019	11/30/2024	10/1/2013	9,132	-	1,218	0.563	0.720
PA0024147	3	Cumberland Township Municipal Authority (South)	11/13/2019	11/30/2024	10/1/2013	11,872	-	1,583	0.681	0.720
PA0024384	2	North Middleton Township Authority	5/10/2022	5/31/2027	10/1/2012	16,895	-	2,253	0.748	0.444
PA0024406	2	Mt. Carmel Municipal Sewage Authority	10/25/2017	10/31/2022	10/1/2010	41,095	-	5,479	0.792	0.517
PA0024431	1	Dillsburg Borough Authority	12/29/2021	12/31/2026	10/1/2011	27,945	-	3,726	0.635	0.408
PA0024708	3	Union Township	5/11/2022	5/31/2027	10/1/2012	11,872	-	1,583	0.705	0.416
PA0024759	3	Curwensville Municipal Authority	5/8/2018	5/31/2023	10/1/2014	13,698	-	1,826	0.630	0.386
PA0024902	3	Upper Allen Township	8/6/2020	10/31/2022	10/1/2012	20,091	-	2,679	0.682	0.410
PA0025381	3	Saxton Borough Municipal Authority	8/17/2017	8/31/2022	10/1/2011	7,306	-	974	0.641	0.200
PA0025933	1	Lock Haven Borough	9/16/2016	9/30/2021	10/1/2011	68,492	-	9,132	0.772	0.428
PA0026051	1	Chambersburg Borough	6/27/2022	6/30/2027	10/1/2012	124,199		16,560	0.997	0.742
PA0026077	1	Carlisle Borough	10/13/2017	10/31/2022	10/1/2008	127,852	-	17,047	0.748	0.444
PA0026107	1	Wyoming Valley Sewer Authority	2/4/2008	2/28/2013	10/1/2010	584,467	-	77,929	0.813	0.512
PA0026191	1	Huntingdon Borough	2/16/2017	2/28/2022	10/1/2011	73,058	-	9,741	0.796	0.373
PA0026239	1	University Area Joint Authority	9/11/2019	9/30/2024	10/1/2010	164,381	-	21,918	0.641	0.323

NPDES Permit No.	Phase	Facility	Latest Permit Issuance Date	Permit Expiration Date	Cap Load Compliance Start Date	TN Cap Load (lbs/yr)	TN Offsets Included in Cap Load (lbs/yr)	TP Cap Load (lbs/yr)	TN Delivery Ratio	TP Delivery Ratio
PA0026263	1	York City	8/3/2017	8/31/2022	10/1/2011	474,880	-	63,317	0.841	0.492
PA0026280	1	Lewistown Borough	1/5/2018	1/31/2023	10/1/2013	51,964	-	6,942	0.819	0.432
PA0026310	1	Clearfield Borough	1/11/2008	1/31/2013	10/1/2010	82,191	-	10,959	0.630	0.386
PA0026361	1	Lower Lackawanna Valley Sewer Authority	9/23/2021	9/30/2026	10/1/2010	109,588	-	14,612	0.555	0.498
PA0026441	1	Lemoyne Borough Municipal Authority	6/27/2022	6/30/2022	10/1/2015	19,433	-	2,429	0.833	0.500
PA0026484	1	Derry Township Municipal Authority	4/27/2022	4/30/2027	10/1/2010	91,668	-	12,225	0.808	0.468
PA0026492	1	PA American Water Company Scranton WWTP	11/29/2019	11/30/2024	10/1/2013	365,292	-	48,706	0.556	0.506
PA0026557	1	Sunbury City Municipal Authority	1/18/2008	1/31/2013	10/1/2010	76,711	-	10,228	0.784	0.454
PA0026620	3	Millersville Borough	6/29/2021	6/30/2026	10/1/2013	33,790	-	4,505	0.705	0.564
PA0026654	2	New Cumberland Borough Authority	4/22/2022	4/30/2027	10/1/2013	22,831	-	3,044	0.841	0.517
PA0026727	1	Tyrone Borough Sewer Authority	2/28/2020	2/28/2025	10/1/2011	164,381	-	21,918	0.683	0.589
PA0026735	1	Swatara Township	1/10/2022	1/31/2027	10/1/2011	118,339	-	15,866	0.808	0.468
PA0026743	1	Lancaster City	6/18/2012	7/31/2015	10/1/2007	620,348	1,300	77,381	0.663	0.609
PA0026808	1	Springettsbury Township	1/26/2016	1/31/2022	10/1/2010	273,969	-	36,529	0.841	0.492
PA0026875	1	Hanover Borough	12/27/2016	12/31/2021	10/1/2012	82,991	-	10,959	0.569	0.187
PA0026921	1	Greater Hazleton Municipal Authority	2/3/2022	2/28/2027	10/1/2011	216,739	-	27,092	0.784	0.498
PA0027014	1	Altoona City Authority – East	9/29/2021	9/30/2026	10/1/2012	146,117	-	19,482	0.626	0.509
PA0027022	1	Altoona City Authority – West	9/29/2021	9/30/2026	10/1/2011	164,381	-	21,918	0.699	0.519
PA0027049	1	Williamsport Sanitary Authority – West	10/25/2017	10/31/2022	10/1/2012	71,597	-	9,546	0.806	0.457
PA0027057	1	Williamsport Sanitary Authority – Central	4/13/2022	4/30/2027	10/1/2012	153,423	-	20,456	0.819	0.500
PA0027065	2	Lackawanna River Basin Sewer Authority	9/23/2015	9/30/2020	10/1/2011	109,587	-	14,612	0.428	0.444

Phase 3 WIP Wastewater Supplement
Revised, July 29, 2022

NPDES Permit No.	Phase	Facility	Latest Permit Issuance Date	Permit Expiration Date	Cap Load Compliance Start Date	TN Cap Load (lbs/yr)	TN Offsets Included in Cap Load (lbs/yr)	TP Cap Load (lbs/yr)	TN Delivery Ratio	TP Delivery Ratio
PA0027081	3	Lackawanna River Basin Sewer Authority	11/7/2016	11/30/2021	10/1/2011	12,786	-	1,705	0.423	0.426
PA0027090	1	Lackawanna River Basin Sewer Authority	8/15/2016	8/31/2021	10/1/2011	127,852	-	17,047	0.556	0.506
PA0027171	1	Bloomsburg Municipal Authority	10/25/2017	3/31/2022	10/1/2010	78,355	-	10,447	0.805	0.483
PA0027189	1	Lower Allen Township Authority	5/25/2022	5/31/2027	10/1/2015	114,154		15,221	0.805	0.483
PA0027197	1	Harrisburg Sewerage Authority	12/4/2009	12/31/2014	10/1/2012	688,575	-	91,810	0.798	0.502
PA0027316	1	Lebanon City Authority	12/23/2016	12/31/2021	10/1/2012	146,117	-	19,482	0.685	0.483
PA0027324	1	Shamokin-Coal Township Joint Sanitary Authority	12/16/2020	12/31/2025	10/1/2012	127,852	-	17,047	0.784	0.454
PA0027405	1	Ephrata Borough Authority	7/28/2021	7/31/2026	10/1/2012	79,049	-	9,881	0.629	0.558
PA0027553	2	Pine Creek Municipal Authority	10/22/2015	8/31/2016	10/1/2011	23,744	-	3,166	0.789	0.388
PA0028088	3	Brown Township Municipal Authority	1/10/2022	1/31/2027	10/1/2014	10,959	-	1,461	0.835	0.416
PA0028142	1	Fort Indiantown Gap	11/7/2011	11/30/2016	10/1/2005	24,353	-	3,044	0.776	0.463
PA0028266	3	Troy Borough	10/26/2016	10/31/2021	10/1/2011	7,306	-	974	0.706	0.420
PA0028347	3	Martinsburg Borough	7/26/2022	7/31/2027	10/1/2013	12,785	-	1,705	0.649	0.519
PA0028461	3	Mifflinburg Borough Municipal Authority	4/6/2022	4/30/2027	10/1/2011	25,570	-	3,409	0.806	0.408
PA0028576	1	Abington Regional WW Authority	3/9/2018	3/31/2023	10/1/2014	66,483	-	8,310	0.486	0.379
PA0028592	3	Bonneauville Borough	10/28/2019	10/31/2024	1/1/2009	9,741	-	1,218	0.567	0.720
PA0028631	3	Emporium Borough (Mid-Cameron Authority)	5/26/2021	5/31/2026	10/1/2011	17,100	-	2,140	0.399	0.279
PA0028673	3	Gallitzin Borough	8/6/2020	8/31/2025	10/1/2016	7,306	-	974	0.486	0.347
PA0028681	2	Kelly Township Municipal Authority	4/5/2022	4/30/2027	10/1/2011	68,492	-	9,132	0.816	0.461
PA0028738	2	Ralpho Township Municipal Authority	8/24/2021	8/31/2026	10/1/2011	13,132	-	1,751	0.784	0.454
PA0028886	3	Quarryville Borough Authority	2/26/2020	2/28/2025	10/1/2014	7,306	-	974	0.493	0.553

NPDES Permit No.	Phase	Facility	Latest Permit Issuance Date	Permit Expiration Date	Cap Load Compliance Start Date	TN Cap Load (lbs/yr)	TN Offsets Included in Cap Load (lbs/yr)	TP Cap Load (lbs/yr)	TN Delivery Ratio	TP Delivery Ratio
PA0029106	2	Greenfield Township Municipal Authority	9/7/2021	9/30/2026	10/1/2012	14,612	-	1,948	0.763	0.519
PA0030139	3	Dallas State Correctional Institution	9/10/2019	9/30/2024	10/1/2009	9,741	-	1,218	0.706	0.403
PA0030597	3	Franklin County General Authority	12/23/2021	12/31/2026	10/1/2012	9,132	-	1,218	0.625	0.351
PA0030643	1	Shippensburg Borough Authority	9/29/2015	1/31/2019	10/1/2010	60,273	-	8,036	0.680	0.419
PA0032051	2	Granville Township	5/6/2020	9/30/2022	10/1/2011	15,196	-	1,899	0.819	0.432
PA0032492	3	DCNR Bald Eagle State Park	6/15/2017	6/30/2022	10/1/2013	8,219	-	1,096	0.689	0.318
PA0032557	3	Logan Township	5/22/20	5/31/2025	10/1/2008*	15,013	-	1,876	0.683	0.509
PA0032883	2	Duncansville Borough	6/23/20	6/30/2025	10/1/2011	22,228	-	2,963	0.705	0.519
PA0034576	2	Towanda Municipal Authority	8/17/2020	8/31/2025	10/1/2010	21,187	-	2,825	0.798	0.492
PA0036269	3	Stewartstown Borough	8/11/2021	8/31/2026	10/1/2010	11,415	-	1,522	0.942	0.846
PA0036820	3	Galeton Borough Authority	7/16/2021	7/31/2026	10/1/2011	9,132	-	1,218	0.568	0.328
PA0037150	1	Penn Township	6/1/2017	6/30/2022	10/1/2011	76,711	-	10,228	0.634	0.411
PA0037711	3	Everett Boro Municipal Authority	4/19/2021	4/30/2026	10/1/2013	15,890	-	2,119	0.599	0.229
PA0037737	3	Elizabethville Area Authority	12/14/2017	12/31/2022	10/1/2013	7,306	-	974	0.803	0.447
PA0037966	2	Moshannon Valley Joint Sanitary Authority	2/8/2022	2/28/2027	10/1/2012	37,205	-	4,960	0.595	0.323
PA0038385	3	Defense Distribution Depot Susquehanna	5/25/2017	5/31/2022	10/1/2011	9,132	-	1,218	0.825	0.465
PA0038415	1	East Pennsboro Township	10/13/2021	10/31/2026	10/1/2012	72,206	-	9,589	0.831	0.492
PA0038865	3	Zerbe Township Municipal Authority	3/26/2021	3/31/2026	10/1/2015	7,306	-	974	0.724	0.417
PA0038920	3	Burnham Borough	3/28/2022	3/31/2027	10/1/2013	11,689	-	1,559	0.835	0.416
PA0042269	1	Lancaster Area Sewer Authority	7/11/2022	7/31/2027	10/1/2010	310,498	-	41,400	0.849	0.494
PA0042951	3	Tremont Municipal Authority	4/22/2016	4/30/2021	10/1/2013	9,132	-	1,218	0.511	0.403
PA0043257	3	New Freedom Borough	4/20/2022	4/30/2027	10/1/2015	41,095	-	5,479	0.750	0.397

NPDES Permit No.	Phase	Facility	Latest Permit Issuance Date	Permit Expiration Date	Cap Load Compliance Start Date	TN Cap Load (lbs/yr)	TN Offsets Included in Cap Load (lbs/yr)	TP Cap Load (lbs/yr)	TN Delivery Ratio	TP Delivery Ratio
PA0043273	2	Hollidaysburg Regional Sewer Authority	2/10/2017	2/28/2022	10/1/2012	109,588	-	14,612	0.763	0.519
PA0043575	3	Lykens Borough	2/5/2018	2/28/2023	10/1/2012	7,488	-	998	0.803	0.447
PA0043681	3	Valley Joint Sewer Authority	10/18/2017	10/31/2022	10/1/2012	41,095	-	5,479	0.773	0.477
PA0043893	3	Western Clinton County Municipal Authority	7/21/2017	7/31/2022	10/1/2011	16,438	-	2,192	0.718	0.233
PA0044113	2	South Middleton Township Municipal Authority	4/27/2017	4/30/2022	10/1/2014	27,397	-	3,653	0.682	0.410
PA0044661	1	Lewisburg Area Joint Sanitary Authority	3/12/2019	3/31/2024	10/1/2012	44,200	-	5,893	0.805	0.464
PA0045985	1	Mountaintop Area Sewer Authority	6/1/2019	5/31/2024	10/1/2010	76,318	-	10,185	0.615	0.383
PA0046221	3	Newville Borough	5/21/2021	5/31/2026	10/1/2011	7,306	-	974	0.670	0.440
PA0046272	3	Porter-Tower Joint Municipal Authority	9/21/2017	9/30/2022	10/1/2013	9,922	-	1,321	0.764	0.447
PA0046388	3	Butler Township St. Johns	3/16/2022	3/31/2027	10/1/2009	40,182	-	5,357	0.675	0.374
PA0060046	3	Can-Do Inc	4/27/2020	4/30/2025	10/1/2012	18,265	-	2,435	0.637	0.466
PA0060135	3	Shickshinny Borough Sewer Authority	10/26/2017	10/31/2022	10/1/2013	8,219	-	1,096	0.766	0.403
PA0060518	3	Hallstead-Great Bend Joint Sewer Authority	11/19/2020	11/30/2025	10/1/2012	9,741	-	1,218	0.516	0.372
PA0060801	2	Montrose Municipal Authority	2/25/2011	2/29/2016	10/1/2013	14,977	-	1,997	0.724	0.380
PA0061034	3	Waverly Township	7/1/2011	7/31/2016	10/1/2013	9,132	-	1,218	0.438	0.386
PA0061590	3	Little Washington Wastewater Co.	5/1/2019	4/30/2024	10/1/2013	24,073	-	3,210	0.705	0.433
PA0062201	2	Schuylkill County Municipal Authority	8/19/2016	8/31/2021	10/1/2012	10,959	-	1,461	0.793	0.458
PA0062219	1	Frackville Area Municipal Authority	8/26/2021	8/31/2026	10/1/2010	25,570	-	3,409	0.691	0.458
PA0064025	2	KBM Regional Authority	3/24/2021	3/31/2026	10/1/2009	13,637	-	1,705	0.769	0.459
PA0070041	3	Mahanoy City	6/13/2012	6/30/2017	10/1/2012	25,205	-	3,361	0.793	0.458
PA0070386	3	Shenandoah Municipal Sewer Authority	10/6/2017	10/31/2022	10/1/2011	36,529	-	4,871	0.687	0.346
PA0070424	2	Carnarvon Township	3/23/2018	3/31/2023	10/1/2013	12,785	-	1,705	0.625	0.535

NPDES Permit No.	Phase	Facility	Latest Permit Issuance Date	Permit Expiration Date	Cap Load Compliance Start Date	TN Cap Load (lbs/yr)	TN Offsets Included in Cap Load (lbs/yr)	TP Cap Load (lbs/yr)	TN Delivery Ratio	TP Delivery Ratio
PA0080225	3	Washington Township Municipal Authority	1/12/2018	1/31/2023	10/1/2013	35,433	-	4,724	0.908	0.725
PA0080314	1	Hampden Township Sewer Authority	7/1/2019	6/30/2024	10/1/2014	117,696	-	14,441	0.831	0.492
PA0080438	3	Northern Lancaster County Authority	1/1/2019	12/31/2023	10/1/2013	8,219	-	1,096	0.552	0.563
PA0080519	3	Antrim Township	2/21/2020	4/30/2023	10/1/2011	21,918	-	2,922	0.987	0.802
PA0080748	2	Northern Lebanon County Authority	6/23/2022	6/30/2027	10/1/2013	7,397	-	989	0.745	0.434
PA0081001	3	St. Thomas Township Municipal Authority	8/8/2017	8/31/2022	10/1/2013	7,306	-	974	0.921	0.742
PA0081574	2	Salisbury Township	12/13/2019	12/31/2024	10/1/2012	13,150	-	1,643	0.552	0.553
PA0081591	2	Eastern York County Sewer Authority	11/16/2021	11/30/2026	10/1/2012	9,132	-	1,218	0.711	0.387
PA0081868	1	Fairview Township	4/29/2022	1/31/2027	10/1/2010	14,322	-	2,262	0.791	0.504
PA0081949	3	Lancaster Area Sewer Authority – Brownstown WWTP	1/14/2021	12/31/2023	10/1/2010	8,219	-	1,096	0.632	0.563
PA0082392	2	Derry Township Municipal Authority – Southwest	5/26/2022	5/31/2027	10/1/2012	10,959	-	1,461	0.808	0.468
PA0082589	2	Fairview Township	4/26/2021	8/31/2021	10/1/2012	9,132	-	1,218	0.680	0.410
PA0083011	2	Newberry Township	2/23/2017	2/28/2022	10/1/2012	23,744	-	3,166	0.828	0.464
PA0083593	3	Silver Spring Township	6/3/2021	6/30/2026	10/1/2010	21,918	-	2,922	0.831	0.492
PA0084026	2	Northwestern Lancaster County Authority	8/12/2020	8/31/2025	10/1/2008	14,612	-	1,827	0.819	0.477
PA0084212	3	Leacock Township	11/16/2021	11/30/2026	10/1/2012	7,306	-	974	0.502	0.571
PA0084425	3	Conewago Township Sewer Authority	1/24/2020	6/30/2021	10/1/2011	9,132	-	1,218	0.617	0.185
PA0085511	2	West Hanover	10/12/2016	10/31/2021	10/1/2012	14,246	-	1,900	0.681	0.409
PA0086304	3	Earl Township STP	1/14/2022	1/31/2027	10/1/2018	7,306	-	974	0.563	0.571
PA0086860	3	Springfield Township Sewer Authority	1/30/2020	1/31/2025	10/1/2012	12,785	-	1,704	0.685	0.397
PA0087181	1	Ephrata Borough Authority (#2)	7/28/2021	7/31/2026	10/1/2008	54,550	-	6,818	0.628	0.552

NPDES Permit No.	Phase	Facility	Latest Permit Issuance Date	Permit Expiration Date	Cap Load Compliance Start Date	TN Cap Load (lbs/yr)	TN Offsets Included in Cap Load (lbs/yr)	TP Cap Load (lbs/yr)	TN Delivery Ratio	TP Delivery Ratio
PA0087661	3	Chestnut Ridge Area Joint Municipal Authority	11/17/2017	11/30/2022	10/1/2013	12,877	-	1,717	0.540	0.225
PA0110361	3	Freedom Township Water & Sewer Authority	11/22/2017	11/30/2022	10/1/2013	10,959	-	1,461	0.763	0.519
PA0110469	3	Patton Borough	11/17/2017	11/30/2022	10/1/2013	9,863	-	1,315	0.572	0.239
PA0110582	1	Eastern Snyder County Regional Authority	5/5/2022	5/31/2027	10/1/2012	51,141	-	6,819	0.831	0.514
PA0110965	2	Mid-Centre County Authority	3/7/2018	3/31/2023	10/1/2011	18,265	-	2,435	0.673	0.255
PA0113298	3	Elkland Municipal Authority	8/1/2019	7/31/2024	10/1/2010	10,277	-	1,285	0.442	0.317
PA0114821	3	Gregg Township	3/16/2022	10/31/2024	10/1/2008	24,155	-	3,250	0.798	0.422
PA0114961	3	Hughesville-Wolf Township Joint Sewer Authority	1/19/2017	1/31/2022	10/1/2011	12,329	-	1,644	0.761	0.388
PA0205869	2	West Branch Sewer Authority	2/9/2022	2/28/2027	10/1/2012	16,438	-	2,192	0.554	0.234
PA0208922	3	Woodward Township	8/31/2015	8/31/2020	10/1/2013	10,228	-	1,364	0.553	0.406
PA0209228	2	Lycoming County Water & Sewer Authority	1/17/2018	1/31/2023	10/1/2011	34,703	-	4,627	0.789	0.408
PA0228915	3	ORD Sewer Authority	10/13/2020	10/31/2025	10/1/2010	9,748	-	1,218	0.610	0.406
PA0234079	2	Tiadaghton Valley Municipal Authority	7/3/2018	7/31/2023	10/1/2012	19,178	-	2,557	0.805	0.448
PA0234117	1	West Branch Regional Authority	4/2/2018	4/30/2023	10/1/2011	42,508	-	5,728	0.784	0.423
PA0247391	2	North Codorus Township	1/31/2020	1/31/2025	10/1/2006	13,394	-	1,674	0.781	0.439
PA0253812	3	Glendale Valley M.A.	6/1/2018	6/30/2023	10/1/2013	7,808	-	1,041	0.511	0.347
PA0261262	1	North Londonderry Township Authority	12/27/2018	12/31/2023	10/1/2012	25,936	-	3,458	0.705	0.483
PA0261670	3	Fredericksburg Water & Sewer Authority	6/15/2018	6/30/2023	10/1/2014	7,306	-	974	0.741	0.467
PA0266566	3	Jackson Township STP	1/19/2018	1/31/2023	2/1/2018	10,958	-	1,461	0.796	0.439
PA0266469	3	Weaverland Valley Authority	9/21/21	4/30/2024	10/1/2021	13,064	-	1,531	0.608	0.611
PA0228842	3	Muddy Run Regional Authority WWTP	1/27/2020	1/31/2025	10/1/2020	7,306	-	974	0.505	0.344

Phase 3 WIP Wastewater Supplement
Revised, July 29, 2022

NPDES Permit No.	Phase	Facility	Latest Permit Issuance Date	Permit Expiration Date	Cap Load Compliance Start Date	TN Cap Load (lbs/yr)	TN Offsets Included in Cap Load (lbs/yr)	TP Cap Load (lbs/yr)	TN Delivery Ratio	TP Delivery Ratio
PA0276227	3	Hegins Hubley Authority	9/24/2019	9/30/2024	10/1/2019	0	-	0	0.574	0.429

Several facilities had TN Offsets incorporated into their WLAs. Those Offsets were mistakenly included in Cap Loads during the initial round of permitting and were or will be removed upon subsequent renewals. The facilities that have had Offsets removed from their Cap Loads are listed in **Table 6** below.

Table 6: Facilities with Offsets Incorporated into Their Cap Loads in the TMDL.

NPDES Permit No.	Facility	Offsets In WLA (lbs TN)
PA0020273	Milton Regional Sewage Authority	17,575
PA0020885	Mechanicsburg Borough Municipal Authority	575
PA0020893	Manheim Borough Authority	1,025
PA0020923	New Oxford Municipal Authority	2,400
PA0023744	Northeastern York County Sewer Authority	13,050
PA0024384	North Middleton Township Authority	5,225
PA0024431	Dillsburg Borough Authority	3,400
PA0025933	Lock Haven Borough	21,700
PA0026077	Carlisle Borough	6,425
PA0026727	Tyrone Borough Sewer Authority	1,850
PA0026735	Swatara Township	300
PA0026875	Hanover Borough	450
PA0027049	Williamsport Sanitary Authority – West	71,597
PA0037150	Penn Township	5,100
PA0044113	South Middleton Township Municipal Authority	1,925
PA0080314	Hampden Township Sewer Authority	3,125
PA0085511	West Hanover	2,250

At this time, there are 1,300 lbs/yr TN Offsets still incorporated into Cap Loads as listed in **Table 5**.

In addition, DEP estimates that there are 440,086 lbs/yr TN and 1,809 lbs/yr TP Offsets for on-lot and wildcat connections that are recognized by permits as a mechanism to achieve compliance but are not incorporated into Cap Loads (an estimated 17,615 on-lot and wildcat system connections).

Expansions by any Significant Sewage discharger will not result in any increase in Cap Loads. Where non-significant facilities expand to a design flow of 0.4 MGD or greater, the lesser of baseline Cap Loads of 7,306 lbs/yr TN and 974 lbs/yr TP or existing performance will be used for permits, and the load will be moved from the Non-Significant sector load to the Significant Sewage sector load. If considered necessary for environmental protection, DEP may decide to move load from the Point Source Reserve to the Significant Sewage sector in the future.
The minimum monitoring frequency for TN species and TP in new or renewed NPDES permits for Significant Sewage dischargers is 2/week.

Significant IW Sector

Final NPDES permits with Cap Loads have been issued to all significant IW dischargers as presented in **Table 7**.

Table 7: Significant IW Facilities That Have Received Final Cap Loads.

NPDES Permit No.	Facility	Latest Permit Issuance Date	Permit Expiration Date	Cap Load Compliance Start Date	TN Cap Load (lbs/yr)	TP Cap Load (lbs/yr)	TN Delivery Ratio	TP Delivery Ratio
PA0007498	Wise Foods Inc.	4/12/18	4/30/23	10/1/13	19,957	898	0.805	0.483
PA0007552	Empire Kosher Poultry	1/23/17	1/31/22	10/1/15	21,928	740	0.812	0.401
PA0007919	Cascades Tissue Group	12/24/13	10/31/18	11/1/13	40,569	1,941	0.758	0.432
PA0008231	Guilford Mills Inc.	8/3/11	8/31/16	10/1/11	7,065	271	0.501	0.403
PA0008265	Appvion Inc.	2/23/17	2/28/22	10/1/17	61,666	7,367	0.763	0.519
PA0008419	Cherokee Pharmaceutical	9/8/16	9/30/21	10/1/16	64,884	11,748	0.802	0.459
PA0008591	Gold Bond Building Products, LLC	10/8/2021	10/31/22	10/1/12	2,758	132	0.766	0.448
PA0008885	Proctor & Gamble Paper Products	8/25/17	8/31/22	10/1/11	100,360	5,441	0.797	0.592
PA0009024	Global Tungsten (Osram)	9/18/17	9/30/22	10/1/12	600,515	1,577	0.770	0.492
PA0009229	Norfolk Southern Railway Co,	9/26/19	9/30/24	10/1/13	2,539	93	0.788	0.365
PA0009270	Del Monte Corp.	4/24/14	9/30/17	10/1/14	33,196	1,492	0.805	0.483
PA0009326	Motts Inc.	12/1/2020	12/31/2025	10/1/15	18,645	729	0.621	0.189
PA0009911	Papetti's Acquisition Inc.	12/29/16	12/31/21	10/1/13	8,104	532	0.574	0.429
PA0055328	New Morgan Landfill Co. Inc.	11/22/16	7/31/20	10/1/15	12,500	64	0.551	0.309
PA0266345	Keystone Protein	9/27/2018	10/31/2022	10/26/2017	19,786	380.5	0.749	0.517
PA0024228	Hain Pure Protein	7/19/18	7/31/23	10/1/14	18,982	766	0.680	0.467
PA0035092	Tyson Foods	6/27/2022	6/30/2027	10/1/14	54,794	559	0.548	0.571
PA0035157	Farmer's Pride Inc.	7/8/2021	7/31/2026	10/1/15	16,438	1,370	0.680	0.467
PA0044741	Hanover Foods Corp.	9/22/15	9/30/20	10/1/17	26,385	979	0.634	0.411
PA0046680	Republic Services of PA LLC	4/21/17	1/31/22	10/1/17	50,803	300	0.631	0.387
PA0110540	Furman Foods	3/19/18	3/31/23	10/1/12	45,450	1,624	0.768	0.447
PA0111759	Cargill Meat Solutions	12/3/18	12/31/23	10/1/13	19,483	1,218	0.795	0.418
PA0008443	PPL Montour LLC	6/11/2021	8/31/23	10/1/18	72,749	1,200	0.698	0.415
				TOTALS:	**1,319,556**	**41,422**		

Expansions by any Significant IW discharger will not result in any increase in Cap Loads. New Significant IW dischargers will be given Cap Loads of 0 lbs/yr TN & TP. The minimum monitoring frequency for TN species and TP in new or renewed NPDES permits for Significant Industrial dischargers is 2/week.

Non-Significant Sector

Non-significant dischargers include sewage facilities (Phase 4 facilities: ≥ 0.2 MGD and < 0.4 MGD and Phase 5 facilities: > 0.002 MGD and < 0.2 MGD), small flow/single residence sewage treatment facilities (≤ 0.002 MGD), and non-significant IW facilities, all of which may be covered by statewide General Permits or may have individual NPDES permits.

At this time, there are approximately 908 Phase 4 and 5 sewage facilities, approximately 709 small flow sewage treatment facilities covered by a statewide General Permit, and approximately 292 non-significant IW facilities.

For Significant Sewage and IW sectors, DEP's Cap Loads represent the performance standards by which comparisons can be made to WLAs in the TMDL. Since Cap Loads are not typically established in non-significant facility permits, DEP uses estimates of actual performance through a facility-specific evaluation of 1) Discharge Monitoring Report (DMR) data and 2) DEP inspection sampling results. Where neither of these two sources of performance data exist, DEP uses default data generally used by the Chesapeake Bay Program.

The aggregate WLAs in the TMDL for all non-significant sewage and industrial waste dischargers are as follows:

- 3,006,667 lbs/yr TN
- 842,104 lbs/yr TP

At this time, the following total loads have been estimated for the Non-Significant sector:

- 2,861,499 lbs/yr TN
- 398,794 lbs/yr TP

A list of non-significant sewage and industrial waste dischargers with Cap Loads in NPDES permits is presented in **Attachment C**.

CSO Sector

The aggregate WLAs are as follows:

- 212,920 lbs/yr TN
- 34,709 lbs/yr TP

DEP intends to continue addressing CSOs through its CSO Policy (DEP ID No. 385-2000-011), including the Nine Minimum Controls (NMCs), Long-Term Control Plans (LTCPs) and Post-Construction Monitoring. DEP does not intend to impose monitoring or Cap Loads in NPDES permits for CSOs.

III. Additional Implementation Measures

A. Cap Loads

Cap Loads will be established in permits as Net Annual TN and TP loads (lbs/yr) that apply during the period of October 1 – September 30. For facilities that have received Cap Loads in any other form, the Cap Loads will be modified accordingly when the permits are renewed.

Offsets have been incorporated into Cap Loads in several permits issued to date. From this point forward, permits will be issued with the WLAs as Cap Loads and will identify Offsets separately to facilitate nutrient trading activities and compliance with the TMDL.

In general, the Cap Loads specified in NPDES permits may be modified only if one or more of the following occur:

- Consolidation of NPDES-permitted discharges, in which the lesser of existing annual loads or the Cap Loads from the treatment facility that will no longer discharge will be added to the Cap Loads in the permit for the treatment facility that will continue discharging.

- DEP or EPA determines that modified Cap Loads are necessary to achieve water quality standards for the protection of the Chesapeake Bay.

B. Offsets

Offsets may be approved for the following nutrient load reduction activities upon receipt of written approval from DEP:

- Connection of on-lot septic systems to the public sewer system, if such on-lot systems were in existence prior to January 1, 2003 and where the facility has the existing hydraulic and organic Capacity to allow such connections. An offset of 25 lbs/yr of TN per dwelling connected may be approved. Such Offsets are cumulative and may be applied annually to meet compliance with Cap Loads.

- Connection of dwellings served by wildcat sewers to the public sewer system. Offsets of 25 lbs/yr of TN and 3 lbs/yr TP may be approved. Such Offsets are cumulative and may be applied annually to meet compliance.

- Receipt of hauled-in septage at the permittee's facility from residential sources within the municipal Act 537 planning area. Three pounds (3 lbs) of TN Offsets per year may be approved per 1,000 gallons of septage accepted and processed at the facility. Offsets may be approved for the acceptance of residential septage only. For the purpose of these Offsets, septage is defined as material removed from a septic tank by pumping. No other hauled-in wastes, including but not limited to holding tank wastes, solids and sludges generated at other facilities, may be approved. Such approved Offsets may only be applied in the Compliance Year in which the septage was accepted, and are not cumulative.

  If a joint municipal or regional authority is the permittee, the Act 537 planning area is the combination of all 537 planning areas in municipalities that receive sewer services from the authority. If a treatment facility provides sewer service to one municipality only, the 537 planning area is the entirety of the one municipality.

- The transfer of load between facilities owned by the same entity, where the facilities have Cap Loads. Such Offsets may only be applied in the Compliance Year in which the load was transferred, and are not cumulative. Such transfers may only be authorized if (1) the facility receiving the transfer does not discharge to receiving waters that are classified as impaired for nutrients and (2) the facilities have the same Delivery Ratio for TN or TP, as applicable.

  This transfer can occur in two ways: 1) Facility A has discharged a load that is below the Cap Load, in which the difference may be transferred to Facility B (owned by the same entity); or 2) Facility A has Offsets approved in a permit that are not needed to achieve compliance with Cap Loads, and may be transferred to Facility B (owned by the same entity).

- The diversion of flow from an indirect discharger to a new facility. If for example Municipality A is connected to Municipality B's public sewer system for treatment, and Municipality A decides to divert its flows to Municipality C, Municipality C may be approved for Offsets equivalent to Municipality A's actual annual average flow and loads, and Municipality B's Cap Loads may be decreased accordingly.

- Other nutrient load reduction activities may be approved at DEP's discretion. All new proposals for the generation of Offsets must be coordinated with DEP's Bureau of Clean Water.

  Offsets may not be approved for new or existing indirect discharges to public sewer systems.

Unless DEP has specifically authorized to do so in a permit or other agreement, Offsets may not be sold as Credits.

Once approval for Offsets is obtained, the permittee must report the Offsets on the Nitrogen Budget worksheet of DEP's Annual Chesapeake Bay Spreadsheet to apply the Offsets toward compliance with the Cap Loads.

C. Connection of Facilities

If Facility A has a permitted discharge and decides to eliminate the discharge through connection to Facility B, the lesser of the existing annual TN and TP loads or Cap Loads of Facility A may be transferred to Facility B's Cap Load. The transferred loads are not considered Offsets and can be used for nutrient trading purposes.

If Facility A is an indirect discharger to Facility B and decides to remove its flow, opting to obtain an NPDES permit for its own discharge, Facility A will receive zero (0) for Cap Loads and Facility B will retain its original Cap Loads.

D. Non-Significant Facilities

Non-Significant Sewage Facilities

For Phase 4 sewage facilities (average annual design flow on August 29, 2005 ≥ 0.2 MGD and < 0.4 MGD), a future decision may be made as to the establishment of Cap Loads in permits. Until then, DEP will permit Phase 4 sewage facilities as follows:

1. Renewed or amended permits for facilities that do not increase design flow (compared to the date of the latest prior permit action) will contain monitoring and reporting for TN and TP throughout the permit term at a frequency no less than monthly.

2. Renewed or amended permits that include an increase in design flow will contain Cap Loads based on the lesser of a) existing TN and TP concentrations at current design average annual flow or b) 7,306 lbs/yr TN and 974 lbs/yr TP.

For Phase 5 sewage facilities with individual permits (average annual design flow on August 29, 2005 > 0.002 MGD and < 0.2 MGD), DEP will issue individual permits with monitoring and reporting for TN and TP throughout the permit term at a frequency no less than annually, unless 1) the facility has already conducted at least two years of nutrient monitoring and 2) a summary of the monitoring results are included in the next permit's fact sheet. If, however, Phase 5 facilities choose to expand, the renewed or amended permits will contain Cap Loads based on the lesser of a) existing TN/TP concentrations at current design average annual flow or b) 7,306 lbs/yr TN and 974 lbs/yr TP.

If no data are available to determine existing concentrations for expanding Phase 4 or 5 facilities, default concentrations of 25 mg/l TN and 4 mg/l TP may be used (these are the average estimated concentrations of all non-significant sewage facilities).

DEP will not issue permits to existing Phase 4 and 5 facilities containing Cap Loads unless it is done on a broad scale or unless the facilities are expanding.

For new Phase 4 and 5 sewage discharges, in general DEP will issue new permits containing Cap Loads of "0" and new facilities will be expected to purchase credits and/or apply offsets to achieve compliance, with the exception of small flow and single residence facilities.

Non-Significant IW Facilities

For non-significant IW facilities, monitoring and reporting of TN and TP will be required throughout the permit term in renewed or amended permits anytime the facility has the potential to introduce a net TN or TP increase to the load contained within the intake water used in processing. In general, facilities that discharge

groundwater and cooling water with no addition of chemicals containing N or P do not require monitoring. Monitoring for facilities with other discharges will generally conform to the following minimum sampling frequencies, with the permit writer having final discretion:

- Food processing and related discharges, discharges associated with textiles, lumber and paper processing, discharges associated with residual waste management (e.g., landfill leachate, coal ash sluice water) – 1/month.
- Stormwater expected to contain TN or TP, discharges from metal finishing and related processing, discharges associated with chemicals, plastics and allied product manufacturing – 1/quarter.
- Cooling water or other discharges treated with chemical additives containing N and/or P – 1/year.

Non-significant IW facilities that propose expansion or production increases and as a result will discharge at least 75 lbs/day TN or 25 lbs/day TP (on an annual average basis), will be classified as Significant IW dischargers and receive Cap Loads in their permits based on existing performance (existing TN/TP concentrations at current average annual flow).

In general, for new non-significant IW discharges (including existing facilities discharging without a permit), DEP will issue permits containing Cap Loads of "0" and these facilities will be expected to purchase credits and/or apply offsets to achieve compliance.

E. Compliance Schedules

Compliance schedules will continue to be placed in permits through the completion of the initial round of permitting. Compliance schedules may also be used in permits for facilities that are expanding. In general, once a compliance schedule is issued in a final permit and is administratively final, the final date to achieve compliance with Cap Loads should not be modified. In the event a facility is not able to meet Cap Loads by the final compliance date in the permit, nutrient Credits may be purchased to achieve compliance. If the compliance schedule will exceed one year to achieve compliance with Cap Loads, interim milestones must be used in intervals no less than one year.

F. Reporting

Facilities with NPDES permits must use DEP's eDMR system for reporting, except small flow treatment facilities. An Annual DMR must be submitted by the end of the Truing Period, November 28. As attachments to the Annual DMR a facility must submit a completed Annual Chesapeake Bay Spreadsheet, available through DEP's Supplemental Reports website, which contains an Annual Nutrient Monitoring worksheet and an Annual Nutrient Budget worksheet. This Spreadsheet will be submitted once per Compliance Year only, and reflect all nutrient sample results (for the period October 1 – September 30), Credit transactions (including the Truing Period) and Offsets applied during the Compliance Year.

G. Nutrient Credits

Nutrient Credits may be used for compliance with the Cap Loads where authorized under 25 Pa. Code § 96.8 (Use of offsets and tradable credits from pollution reduction activities in the Chesapeake Bay Watershed), including amendments, updates and revisions thereto; in accordance with this Wastewater Supplement; the Phase 2 WIP Nutrient Trading Supplement (Nutrient Trading Supplement); and additional guidance available on DEP's website (see www.dep.pa.gov/nutrient_trading).

H. Unanticipated Events

DEP may waive the collection of samples and/or the use of data for compliance assessment purposes where flooding or other natural disasters preclude the collection of quality data. Such waivers would be issued to specific facilities based on actual conditions in the field. If such waivers are granted, Credits may not be verified for the period of time covered by the waiver. Facilities will be instructed to use a "no discharge" code on their DMR.

In addition, where non-compliance with a Cap Load is the result of an unmet obligation of a contractual agreement for Credits resulting from failure of the pollutant reduction activity, the failure of the pollutant reduction activity was due to uncontrollable or unforeseeable circumstances, and the permittee provides timely notice to DEP, DEP may consider the factors contained in 25 Pa. Code 96.8(h)(5)(i), (ii), and (iii) to determine the appropriate resolution.

I. Adaptive Management

DEP will continue to use an adaptive management philosophy to guide decision-making for TMDL implementation. DEP may deviate from the guidelines stated herein where warranted to ensure that total aggregate loads remain at or below the WLAs prescribed by the TMDL. Where DEP deviates from these guidelines, it will be done in a systematic, centralized manner, and will be documented through the submission of status/milestone reports to EPA.

ATTACHMENT A

TMDL WLA ERRORS FOR CERTAIN SIGNIFICANT SEWAGE DISCHARGERS

The following facilities were credited with additional WLA in the TMDL than was intended.

Phase 1 WLA Errors

- Berwick Municipal Authority (PA0023248): additional 92,198 lbs/yr TN and 8,913 lbs/yr TP
- Danville Municipal Authority (PA0023531): additional 66,118 lbs/yr TN and 8,816 lbs/yr TP
- Dillsburg Borough Authority (PA0024431): additional 31,345 lbs/yr TN and 3,726 lbs/yr TP
- Hanover Borough (PA0026875): additional 83,441 lbs/yr TN and 10,959 lbs/yr TP
- Lower Allen Township Authority (PA0027189): additional 114,154 lbs/yr TN and 15,221 lbs/yr TP
- Shippensburg Borough Authority (PA0030643): additional 60,273 lbs/yr TN and 8,036 lbs/yr TP

Phase 2 WLA Errors

- Mt. Carmel Municipal Authority (PA0024406): additional 82,190 lbs/yr TN and 10,958 lbs/yr TP
- Moshannon Valley Authority (PA0037966): additional 31,670 lbs/yr TN and 4,218 lbs/yr TP
- KBM Regional Authority (PA0064025): additional 13,637 lbs/yr TN and 1,705 lbs/yr TP

Phase 3 WLA Errors

- Lackawanna River Basin Sewer Authority (PA0027081): additional 25,572 lbs/yr TN and 3,410 lbs/yr TP
- Little Washington Wastewater Co. (PA0061590): additional 24,073 lbs/yr TN and 3,210 lbs/yr TP
- Gregg Township (PA0114821): additional 23,013 lbs/yr TN and 3,068 lbs/yr TP

ATTACHMENT B

CHANGES BETWEEN SIGNIFIGANT AND NON-SIGNIFIGANT SEWAGE

Numerous changes have occurred since 2010. The following is a summary of changes that have occurred.

- New Morgan Landfill Co. Inc. ("Conestoga Landfill", PA0055328) is now a Significant IW facility because it has modified its treatment process which will result in additional TN load. DEP has issued a final NPDES permit to New Morgan Landfill with Cap Loads of 12,500 lbs/yr TN and 64 lbs/yr TP, with a compliance start date of October 1, 2016. These loads have been moved from the Non-Significant sector to the Significant IW sector.

- Keystone Protein Co. (PA0080829) is a Significant IW discharger due to its existing discharge loads of TN and TP. A final NPDES permit was issued to Keystone Protein with Cap Loads of 19,786 lbs/yr TN and 381 lbs/yr TP at a design flow of 0.15 MGD. These loads have been moved from the Non-Significant sector to the Significant IW sector. However, a new permit (PA0266345) was issued on 10/27/2017 for a new facility which was constructed adjacent to the existing facility (PA0080829). The existing facility's permit was terminated and all loads transferred to the new facility, which has a design flow of 3 MGD, as of 5/29/2022.

- Swatara Township Authority's NPDES Permit (PA0026735) was amended on August 19, 2015 to account for the connection of a non-significant facility, Lower Paxton Township (Springford Village) (NPDES Permit No. PA0087017). The Cap Loads for Swatara were increased by 3,272 lbs/yr TN and 524 lbs/yr TP due to this connection, and 300 lbs/yr of TN Offsets that were incorporated into Swatara's Cap Load were removed.

- West Branch Regional Authority (PA0234117) has consolidated flows from Montgomery Borough (PA0020699) and Muncy Borough (PA0024325), and Montgomery's and Muncy's permits have been terminated. Cap Loads from Montgomery and Muncy have been reassigned to West Branch. In addition, the Cap Loads for West Branch have been increased by 728 lbs/yr TN and 139 lbs/yr TP for connecting PA College of Technology WWTP (PA0041327), and by 685 lbs/yr TN and 110 lbs/yr TP for connecting Moran Industries (PA0010421). Both industrial facilities have ceased discharging to surface waters and permits were terminated on July 25, 2017 and November 13, 2017 respectively.

- New Morgan Borough STP (PA0088048) has planning approval to expand to 0.5 MGD, but has not submitted a Water Quality Management (WQM) permit application to construct upgraded facilities, and is currently discharging flows below the threshold for significant Chesapeake Bay dischargers (0.4 MGD). The submission of a WQM permit application and issuance of a WQM permit by DEP is required prior to an upgrade. New Morgan's WLAs of 9,132 lbs/yr TN and 1,218 lbs/yr TP have been moved from the Significant Sewage sector to the Non-Significant sector.

- Lower Paxton (PA0088633) was slated to receive Cap Loads of 45,662 lbs/yr TN and 6,088 lbs/yr TP, but has not received an NPDES permit. These WLAs have been retained in the Significant Sewage sector.

- PA Department of Public Welfare (PA0029432) has reduced its design flow from 0.6 MGD to 0.395 MGD. As a result, this facility is no longer considered significant, and Cap Loads were not established in its permit. This facility was projected to receive Cap Loads of 10,961 lbs/yr TN and 1,459 lbs/yr TP which will remain in the Significant Sewage sector in the TMDL. The annual loads for this facility have been moved to the non-significant sector in this document.

- South Mountain Restoration Center (PA0029297) has reduced its design flow from 0.5 MGD to 0.395 MGD. As a result, this facility is no longer part of Phase 3 and Cap Loads were not established in the permit. This facility was projected to receive Cap Loads of 9,136 lbs/yr TN and 1,217 lbs/yr TP in the TMDL, which will remain in the Significant Sewage sector in the TMDL. The annual loads for this facility have been moved to the non-significant sector in this document.

- Bonneauville Borough Authority (PA0028592) has expanded its design flow from 0.331 MGD to 0.55 MGD. A final permit was issued to this facility on October 30, 2006 with Cap Loads of 9,741 pounds/year TN and 1,218 lbs/yr TP. This facility was previously considered non-significant, and so its load will be moved from the Non-Significant sector to the Significant Sewage sector.

- Elizabethville Area Authority (PA0037737) has a design flow of 0.4 MGD, but was overlooked for the original Significant Sewage sector. It has been issued a final permit with Cap Loads of 7,481 lbs/yr TN and 974 lbs/yr TP. This facility was previously considered non-significant, and so its load will be moved from the Non-Significant sector to the Significant Sewage sector.

- ORD Sewer Authority (PA0228915) has a design flow of 0.4 MGD, but was overlooked for the original Significant Sewage sector. It has been issued a final permit with Cap Loads of 9,748 lbs/yr TN and 1,218 lbs/yr TP. This facility was previously considered non-significant, and so its load will be moved from the Non-Significant sector to the Significant Sewage sector.

- Newville Borough (PA0046221) is expanding to a design flow of 0.6 MGD. It has been issued a final permit with Cap Loads of 7,306 lbs/yr TN and 974 lbs/yr TP. This facility was previously considered non-significant, and so its load will be moved from the Non-Significant sector to the Significant Sewage sector.

- Williamstown Borough (PA0021491) is expanding to a design flow to 0.45 MGD. It has been issued a final permit with Cap Loads of 7,306 lbs/yr TN and 974 lbs/yr TP. This facility was previously considered non-significant, and so its load will be moved from the Non-Significant sector to the Significant Sewage sector.

- Woodward Township (PA0208922) has a design flow of 0.56 MGD, but was overlooked for the original Significant Sewage sector. A permit with Cap Loads of 10,288 lbs/yr TN and 1,364 lbs/yr TP was issued on June 11, 2013. This facility was previously considered non-significant, and so its load will be moved from the Non-Significant sector to the Significant Sewage sector.

- Hallstead-Great Bend Joint Sewer Authority (PA0060518) will be upgrading to a design flow of 0.5 MGD. This facility was originally a non-significant discharger (0.35 MGD). A permit has been issued with Cap Loads of 9,741 lbs/yr TN and 1,218 lbs/yr TP. This facility was previously considered non-significant, and so its load will be moved from the Non-Significant sector to the Significant Sewage sector.

- Leacock Township (PA0084212) will be upgrading to a design flow of 0.45 MGD. It has been issued a final permit with Cap Loads of 7,306 lbs/yr TN and 974 lbs/yr TP. This facility was previously considered non-significant, and so its load will be moved from the Non-Significant sector to the Significant Sewage sector.

- Fredericksburg Sewer & Water Authority (PA0261670) is a new facility with a design flow of 0.433 MGD. It has been issued a final permit with Cap Loads of 7,306 lbs/yr TN and 974 lbs/yr TP. This facility was previously considered non-significant, and so its load will be moved from the Non-Significant sector to the Significant Sewage sector.

- Glendale Valley Municipal Authority (PA0253812) has increased it's design flow to 0.45 MGD. Cap Loads are 7,808 lbs/yr TN and 1,041 lbs/yr TP have been issued in the permit. Four non-significant sewage facilities will be have been connected to Glendale Valley Municipal Authority: Glendale Yearound STP (PA0097705), Glendale School District (PA0097411), Matthews Mobile Home Park (PA0035262), and Noel Zimmerman WWTP (PA0204587).

- Zerbe Township Municipal Authority (PA0038865) has expanded to a design flow of 0.5 MGD. Cap Loads of 7,306 lbs/yr TN and 974 lbs/yr TP were issued in the permit. This facility was previously considered non-significant, and so its load will be moved from the Non-Significant sector to the Significant Sewage sector.

- Milton Regional Sewage Authority's (PA0020273) Cap Loads have been revised in the renewed permit. Two non-significant sewage facilities, Watsontown Borough (PA0021733) and Delaware Township Municipal Authority (PA0028606), ceased discharging and connected to the Milton's facility on May 8, 2013, and July 8, 2013, respectively. The NPDES permits for Watsontown and Delaware have been terminated and removed from the non-significant dischargers list. A total of 9,752 lbs/yr TN (7,306 for Watsontown and

2,446 for Delaware) and 1,720 lbs/yr TP (974 for Watsontown and 746 for Delaware) have been added to Milton's respective Cap Loads. Offsets due to 703 on-lot retiring systems, which were earlier included in Milton's TN Cap Load, have been removed.

- On December 7, 2011, DEP issued a permit amendment to Lemoyne Borough (PA0026441). The amendment removed the Cap Loads that were to take effect on October 1, 2012. Those Cap Loads were 46,270 lbs/yr TN and 5,784 lbs/yr TP. The permit also specifies that new Cap Loads of 19,433 lbs/yr TN and 2,429 lbs/yr TP will become effective on October 1, 2015, which is beyond the term of the current permit. These Cap Loads were established in the renewed permit. The reduction in Cap Loads is a result of two municipalities deciding to remove its flows that are tributary to Lemoyne's facility, and connect to other facilities:Hampden Township (PA0080314) and East Pennsboro Township (PA0038415) .

- A permit was issued to Tiadaghton Valley Municipal Authority (PA0234079), a new facility, on March 16, 2012 with the same cap loads as those for Jersey Shore Borough (PA0028665). Ownership of the Jersey Shore facility was transferred to Tiadaghton Valley Municipal Authority on October 24, 2012. Permit No. PA0028665 was terminated on January 20, 2015.

- On December 7, 2011, DEP issued a permit amendment to East Pennsboro Township (PA0038415). The Cap Loads were increased from 67,579 lbs/yr TN and 9,011 lbs/yr TP to 72,206 lbs/yr TN and 9,589 lbs/yr TP, due to the receipt of new flows that was diverted from Lemoyne Borough.

- Lycoming County Water & Sewer Authority (PA0209228) has been issued a final permit amendment in which cap loads have been increased by 7,306 lbs/yr TN and 974 lbs/yr TP due to the receipt of sewage flows (0.1 MGD) from the Crown American Lycoming Mall Sewer Plant (PA0046167), which was decommissioned in 2006. This increase of 7,306 TN and 974 TP will be deducted from the Non-Significant sector.

- The permit for Palmyra Borough Authority (PA0024287) has been terminated. The Cap Loads of for Palmyra have been transferred to Londonderry Regional Authority (PA0261262).

- Jackson Township (PA0266566) and Spring Grove Borough (PA0266086) in York County have sewage treatment plants that discharged effluent into PH Glatfelter Company's industrial wastewater treatment facility (PA0008869). Glatfelter used the effluent as a nutrient source for its treatment processes. Glatfelter has notified Jackson and Spring Grove that they must remove their discharges to Glatfelter's facility. Glatfelter was originally considered a Significant IW discharger in the Bay TMDL. Glatfelter has not been assigned Cap Loads to date because of the current belief that they do not actually meet the criteria for a Significant IW discharger. The WLAs assigned to Glatfelter have been moved to the Non-Significant sector. Normally DEP would authorize no new loads to a facility proposing a stream discharge that withdraws from another facility with Cap Loads; however, since Glatfelter does not have Cap Loads, DEP will authorize new loads for Jackson (proposed 0.6 MGD discharge) and Spring Grove (proposed 0.33 MGD discharge). Jackson Township is a Significant Sewage discharger, while Spring Grove is a non-significant discharger. Cap Loads that are assigned to Jackson Township will be moved from the Non-Significant sector to the Significant Sewage Sector (from Glatfelter's original WLAs).

- The Cap Loads for Lewistown Borough (PA0026280) have been increased by 494 lbs/yr TN and 79 lbs/yr TP due to the connection of East Derry Elementary School (PA0083135), whose permit was terminated on January 13, 2010. The annual average design flow for PA0083135 was 0.0065 MGD.

- Columbia Municipal Authority (PA0026123) has ceased discharging and transitioned its flows to Lancaster Area Sewer Authority (LASA) (PA0042269). Columbia's Cap Loads of 36,529 lbs Total TN and 4,871 lbs TP have been transferred to LASA, resulting in Cap Loads of 310,498 lbs/yr TN and 41,400 lbs/yr TP for LASA, effective September 24, 2018.

- Earl Township, Lancaster County (PA0086304) completed an expansion in September 2018, in which the design flow increased from 0.28 MGD to 0.65 MGD. Cap Loads of 7,306 lbs/yr TN and 974 lbs/yr TP are now in effect for the expanded facility.

- The Cap Loads for Porter-Tower Joint Sanitary Authority (PA0046272) have increased by 2,068 lbs/yr TN and 274 lbs/yr TP due to the connection of Williams Valley School District WWTP (PA0083062), whose permit was terminated. The load has been moved the non-significant sector to the significant sector.

- A permit was issued to Weaverland Valley Authority (PA0266469), a new facility with a design flow of 0.41 MGD, on May 1, 2019. The new facility will receive flow from the Terre Hill Borough WWTP (PA0020222), the Conestoga Wood Specialties WWTP (PA0083909), the Goodville Industrial Center WWTP (PA0085448) and 224 Onlot Disposal Systems. The final permit has Cap Loads of 13,064 lbs/yr TN and 1,531 lbs/yr TP based on the existing loads from Conestoga Wood Specialties WWTP (5,303 lbs/yr TN & 508 lbs/yr TP) and Goodville Industrial Center WWTP (455 lbs/yr TN & 49 lbs/yr TP) and 7,306 lbs/yr TN and 974 lbs/yr TP which is more stringent that existing load (13,064 lbs/yr TN & 1,531 lbs/yr TP) from the Terrehill Borough WWTP. Additionally; offsets of 5,600 lbs/yr of TN Offsets was issued in the final permit for retiring 224 Onlot Disposal Systems connected to the Weaverland Valley Authority WWTP.

- The Cap Loads for Mountaintop Area Joint Sanitary Authority (PA0045985) have increased by 337 lbs/yr TN and 54 lbs/yr TP due to the connection of the Crestwood School District Rice Elementary School STP (PA0060941), whose permit was terminated on December 9, 2013. The load has been moved the non-significant sector to the significant sector.

- In 2005, the Muddy Run Regional Authority (PA0228842) constructed the 0.4 MGD Madera Wastewater Treatment Plant to address the area's on-lot disposal malfunctions. The NPDES permit was first issued in 2004, and several renewal applications erroneously listed the avg annual design flow at 0.345 MGD. The permit was renewed in January of 2020 with the correct 0.4 MGD, and was assigned nutrient Cap Loads of 7,306 lbs/yr TN and 974 lbs/yr TP. The nutrient loading from this facility has been removed from the Non-Significant Sewage sector and the Cap Loads have been added to the Performance totals for the Significant Sewage sector.

- The Hegins Hubley Authority (PA0276227) was issued a NPDES permit for a new discharge of 0.6 MGD on September 24, 2019. This permit has been added to the Significant Sewage sector with Cap Loads of 0 lbs/yr for both TN and TP.

- The non-significant discharger White Deer Run (PA0114057) ceased discharging on May 18, 2020. The facility was converted to a pump station and its flows were directed to the significant discharger Gregg Township Municipal Authority STP (PA0114821). White Deer Run has been removed from the Non-Significant Sewage sector and its flows have been incorporated into the Cap Loads for Gregg Township, resulting in new Cap Loads of 24,155 lbs/yr TN and 3,250 lbs/yr TP.

- Frystown STP (PA0247910) increased its design flow from 0.0724 MGD to 0.113 MGD, and took on flows from the Pilot Travel Center STP (PA0070360). Pilot Travel Center STP's discharge has now been eliminated, and Frystown STP has received Cap Loads of 8045 lbs/yr TN and 188 lbs/yr TP.

- The non-significant discharger Brady Township SE (PA0228435) ceased discharging in July 2021. Flows from the facility were directed to the significant discharger Gregg Township Municipal Authority STP (PA0114821). Brady Township SE has been removed from the Non-Significant Sewage Sector and its flows have been incorporated into the Cap Loads for Gregg Township, resulting in new Cap Loads of 24,301 lbs/yr TN and 3,278 lbs/yr TP issued on 3/16/2022.

- The non-significant discharger Swatara Mobile Home Park (PA0084255) was decommissioned and ceased discharging April 29, 2022. The flows from the facility were directed to significant discharger Northern Lebanon County Authority (PA0080748), resulting in an increase in Cap Loads of 91 lbs/yr TN and 15 lbs/yr TP. The final Cap Loads for PA0080748 are now 7,397 lbs/yr TN and 989 lbs/yr TP.

ATTACHMENT C

NON-SIGNIFICANT DISCHARGERS WITH CAP LOADS IN NPDES PERMITS

NPDES Permit No.	Facility	Latest Permit Issuance Date	Permit Expiration Date	Cap Load Compliance Start Date	TN Cap Load (lbs/yr)	TP Cap Load (lbs/yr)	TN Delivery Ratio	TP Delivery Ratio
PA0008281	PPL BRUNNER ISLAND INDUSTRIAL WASTES	7/27/2018	7/31/2023	10/1/2009	0	0	0.836	0.486
PA0020851	HYNDMAN STP	1/31/2020	1/31/2025	10/1/2013	7,306	974	1.00	0.499
PA0021652	KREAMER MUNI AUTH SEW STP	3/11/2015	3/31/2020	4/1/2015	7,306	974	0.748	0.330
PA0021776	FAIRFIELD STP	11/14/19	11/30/2024	10/1/2012	7,306	974	0.540	0.681
PA0021849	MILLERSTOWN STP	6/22/2016	5/31/2021	10/1/2013	6,697	974	0.0688	0.359
PA0024651	ATGLEN BOROUGH STP	4/13/2022	4/30/2027	10/1/2014	7,306	974	0.922	0.778
PA0027952	SUNOCO INC – LAWN SERVICE PLAZA	11/29/2021	11/30/2026	4/1/2009	-	304	0.590	0.448
PA0036846	NEW BERLIN BORO MUNI AUTH WTP	3/12/2021	3/31/2026	10/1/2016	7,020	819	0.812	0.442
PA0043494	LOYSVILLE STP	4/27/2022	4/30/2027	TBD	7,306	314	0.690	0.343
PA0044598	HARRISBURG AIRPORT STP	8/18/2015	8/31/2020	9/1/2015	7,306	974	0.837	0.503
PA0061123	MOSCOW SEW AUTH STP	1/25/2017	1/31/2022	10/1/2013	9,740	1,217	0.395	0.204
PA0065145	DUNN LAKE LLC	12/3/2018	12/31/2023	5/1/2013	0	0	0.098	0.013
PA0065307	COMM ENV SYS LANDFILL	3/13/2014	11/30/2016	10/1/2013	0	0	0.471	0.403
PA0080756	HERSHEY FARM MOTOR LODGE	2/27/2020	2/28/2025	10/1/2012	7,306	852	0.590	0.553
PA0080799	NEWBURG HOPEWELL JOINT AUTHORITY	10/5/2017	10/31/2022	11/1/2017	3380	325	0.707	0.444
PA0081264	PENN NATL HORSE RACE TRACK AND HOLLYWOOD CASINO – WWTP	10/22/2018	10/31/2023	2/1/2014	5,601	700	0.691	0.409
PA0082279	SPRING CREEK STP	9/23/2015	9/20/2020	10/1/2015	7,306	974	0.766	0.351
PA0083607	UNION TWP LEB CO LICKDALE STP	4/26/2016	4/30/2021	10/1/2012	7,306	974	0.722	0.434
PA0111422	THOMPSONTOWN STP	9/22/2015	9/30/2020	10/1/2015	7,032	974	0.816	0.392
PA0113093	CHRIST WESLEYAN CHURCH SEWER SYSTEM	8/18/2017	8/31/2022	9/1/2020	152	24	0.754	0.461
PA0021202	EAST BERLIN JOINT AUTHORITY – STP	5/7/2021	5/31/2026	10/1/2015	7,306	974	0.684	0.189
PA0232513	KELLY CROSSROADS SANI SEW SYS	8/10/2015	8/31/2020	9/1/2015	0	0	0.720	0.408
PA0232751	POTTER MILLS CENTRAL TREATMENT SYSTEM	8/31/2021	8/31/2026	10/1/2016	0	0	0.747	0.517

NPDES Permit No.	Facility	Latest Permit Issuance Date	Permit Expiration Date	Cap Load Compliance Start Date	TN Cap Load (lbs/yr)	TP Cap Load (lbs/yr)	TN Delivery Ratio	TP Delivery Ratio
PA0232971	FRANKLIN TWP LAIRDSVILLE WWTP	7/30/2018	7/31/2023	10/1/2018	60	9.7	0.656	0.517
PA0233692	SOUTH CREEK TOWNSHIP WWTP	6/11/2020	6/30/2025	2/1/2015	0	0	0.732	0.399
PA0234028	WETLAND EXT PROJ	5/22/2019	5/31/2024	10/1/2013	0	0	0.641	0.323
PA0247715	AMBLEBROOK GETTYSBURG	11/19/2020	5/31/2022	01/01/2009	5479	274	0.514	0.720
PA0248029	HUSTONTOWN STP	7/16/2020	7/31/2025	2/1/2013	682	85	0.683	0.298
PA0248061	JEFFERSON CODORUS STP	9/21/2020	9/30/2025	10/1/2013	6,624	828	0.709	0.411
PA0260738	NITTERHOUSE CONCRETE PRECAST PLT	11/22/2017	11/30/2022	10/1/2017	0	0	0.932	0.851
PA0261131	TAMARACK MHP	3/1/2019	2/29/2024	10/1/2008	1,260	0	0.558	0.553
PA0261343	JOSHUA HILL STP	7/21/2015	7/31/2020	8/1/2015	0	0	0.175	0.322
PA0261378	SHEETZ CLARKS FERRY	11/22/2016	11/30/2021	10/1/2013	38	3.8	0.739	0.400
PA0261416	READING TWP LAUCHMANS BOTTOM STP	1/12/2018	1/31/2023	12/1/2011	0	0	0.684	0.189
PA0261572	MT HOPE NAZARENE RETIREMENT COMM	1/23/2020	1/31/2025	10/1/2011	605	0	0.596	0.477
PA0261645	HERITAGE HOUSE WHITE SULPHUR SPRINGS	11/17/2017	11/30/2022	10/1/2011	380	0	0.472	0.216
PA0261661	COMFORT INN WASTEWATER	3/26/2020	3/31/2025	10/1/2012	181	0	0.780	0.477
PA0261718	WINTER GREENES HOMEOWNERS ASSOCIATION	10/26/2018	10/31/2023	7/1/2012	0	0	0.668	0.063
PA0262072	KNOUSE FOODS PEACH GLEN FRUIT PROC FAC	4/20/2016	4/30/2021	5/1/2016	0	0	0.495	0.218
PA0262137	LOG CABIN MHP STP	9/15/2015	9/30/2020	10/1/2015	0	0	0.602	0.563
PA0263711	BENEZETTE WWTP	4/17/2018	4/30/2023	10/1/2012	0	0	0.644	0.241
PA0266086	SPRING GROVE STP	9/23/2015	9/30/2020	10/1/2015	7,306	974	0.796	0.439
PA0266663	GETTYSBURG BATTLEFIELD RESORT STP	6/21/2018	6/30/2023	10/1/2018	0	0	0.631	0.720
PA0276073	LAKE CAREY WWTP	7/19/2018	7/31/2023	10/1/2018	0	0	0.806	0.517
PA0247910	BETHEL TOWNSHIP FRYSTOWN STP	5/24/2021	7/31/2024	6/1/2021	8,045	188	0.735	0.455

Table 27. A summary of the wasteload allocation totals.

Wasteload allocation	Spring season total phosphorus (MT)	Daily total phosphorus (kg)
Wasteload allocation, total	**109.3**	**714.6**
Individual permitted discharging NPDES facilities*	73.6	481.1
Combined sewage overflows*	0.37	2.4
Discharging small sanitary general permit (OHS000005)	0.45	3.0
Discharging HSTS general permit (OHK000004)	14.2	92.9
Permitted stormwater facilities**	1.45	9.5
Construction general permit (OHC000005)	0.39	2.5
Individual MS4 permit – Toledo (2PI00003)	2.7	17.8
General MS4 general permit (OHQ000004)	16.1	105.3

Note:

*Itemized wasteload allocation for these facilities are listed in Appendix 4.

**The facilities in this wasteload allocation include industrial and municipal facilities subject to the multi-sector stormwater general permit (OHR000007) and equivalent stormwater permit provisions in individual permits.

Table 28. Load allocation breakdown.

Load allocation	Spring season total phosphorus (MT)	Daily total phosphorus (kg)
Load allocation, total	**555.9**	**3,633.2**
Grouped landscape nonpoint source load	547.0	3,575.4
On-site HSTS	8.8	57.8

Table 29. Areas within permitted stormwater.

Wasteload allocation	Area		% of developed land within Ohio
	Mile^2	Acres	
Multi-sector stormwater general permit (OHR000007)	7.21	4,612	1.4
Individual NPDES permits with stormwater (multiple permits)	4.71	3,016	0.9
Construction general permit (OHC000005)	3.17	2,031	0.6
General MS4 general permit (OHQ000004)	165.41	105,863	31.8
Individual MS4 permit – Toledo (2PI00003)	27.96	17,895	5.4

6.2. Model verification

Section 5.5 explains the model verification methods. The overall objective of this verification is to assess the mass balance method's predictive ability for loads downstream of the Waterville monitoring station. To do this, the mass balance method is projected to 10 upstream monitoring stations to determine the spring season's total phosphorus load for five spring seasons (2017–2021). The spring load for these station-years is also calculated using a drainage area ratio approach. Table 30 shows the average results for each upstream station assessed with these two methods compared to the observed load at each station. Figure 46 presents these results graphically.

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Combined sewage overflows*	0.37	2.4
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Discharging HSTS general permit (OHK000004)	14.2	92.9
~~Individual~~Permitted stormwater facilities**	~~0.57~~ 1.45	~~3.8~~ 9.5
Construction general permit (OHC000005)	0.39	2.5
Individual MS4 permit – Toledo (2PI00003)	2.7	17.8
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Note:

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**The facilities in this wasteload allocation include industrial and municipal facilities subject to the multi-sector stormwater general permit (OHR000007) and equivalent stormwater permit provisions in individual permits.

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Section 5.5 explains the model verification methods. The overall objective of this verification is to assess the mass balance method's predictive ability for loads downstream of the Waterville monitoring station. To do this, the mass balance method is projected to 10 upstream monitoring stations to determine the spring season's total phosphorus load for five spring seasons (2017–2021). The spring load for these station-years is also calculated using a drainage area ratio approach. Table 30 shows the average results for each upstream station assessed with these two methods compared to the observed load at each station. Figure 46 presents these results graphically.

Appendix 4. Individual NPDES Wasteload Allocations

This appendix presents the wasteload allocations the individually permitted facilities within this TMDL project. Table A4.1 shows the wasteload allocations for the regular effluent discharge of the NPDES permits that are in the grouped load category for consideration of a general permit. Table A4.2 shows the remainder of the discharging facilities wasteload allocations. Note that the wasteload allocations on those first two tables does not include the combined sewage overflows for communities with CSOs. Table A4.3 presents the combined sewer overflow wasteload allocations.

At the end of this appendix is an analysis of the load discharged in recent years from the facilities in the proposed grouped load category. Table A4.4 shows the existing loads for NPDES pemrits in the grouped load category.

Table A4.1. Wasteload allocations for individual discharging NPDES permits in the grouped load category.

Permit #	Facility Name	Spring season total phosphorus (metric tons)	Daily total phosphorus (kg)
Proposed grouped load TOTAL		64.1	418.8
2PF00000	Toledo Bay View Park WWTP	27.9	182.1
2PK00000	Lucas Co WRRF	4.8	31.5
2PE00000	Lima WWTP	4.0	25.9
2PD00008	Findlay WPCF	3.2	21.0
2PD00002	Perrysburg WWTP	2.0	13.4
2PD00013	Defiance WWTP	1.5	10.0
2PD00006	Van Wert WWTP	1.0	6.7
2PD00019	Wapakoneta WWTP	1.0	6.7
2PD00029	Delphos WWTP	1.0	6.4
2PD00018	Bryan WWTP	0.79	5.2
2PD00026	St Marys City WWTP	0.77	5.0
2PD00028	Ottawa WWTP	0.77	5.0
2PD00000	Napoleon WWTP	0.64	4.2
2PD00017	Archbold WWTP	0.64	4.2
2PB00050	Ada WWTP	0.51	3.3
2PK00002	Shawnee No 2 WWTP	0.51	3.3
2PC00005	Bluffton WWTP	0.49	3.2
2PB00040	Leipsic WWTP	0.38	2.5
2PD00016	Wauseon WWTP	0.38	2.5
2PH00007	American-Bath WWTP	0.38	2.5
2PH00006	American No 2 WWTP	0.31	2.0
2PD00003	Montpelier WWTP	0.26	1.7
2PB00025	Swanton WRRF	0.64	4.2
2PB00042	Hicksville WWTP	0.40	2.6
2PB00034	New Bremen WWTP	0.38	2.5
2PC00004	Columbus Grove WWTP	0.35	2.3
2PB00048	Cridersville WWTP	0.34	2.2
2PB00003	Delta WWTP	0.31	2.0
2PB00046	Elida WWTP	0.21	1.4
2PD00027	Paulding WWTP	0.55	3.6
2ID00018	Toledo HBI Facility	0.43	2.8
2IF00004	PCS Nitrogen Ohio LP	1.8	12.0
2IG00001	Lima Refinery	0.6	3.7
2IH00021	Campbell Soup Supply	2.6	16.7
2IH00110	Cooper Farms Cooked Meats	0.12	0.81
2IK00002	G.A. Wintzer and Son Co	0.11	0.69
2IW00010	McDowell/Bowling Green	0.29	1.9
2IW00070	Delta WTP	0.18	1.2
2IW00190	Napoleon WTP	0.14	0.91
NA	Allowance for future growth	1.4	9.2

Table A4.2. Wasteload allocations for individual discharging NPDES permits not in the grouped load category.

Permit #	Facility Name	County	Spring season total phosphorus (metric tons)	Daily total phosphorus (kg)
2IN00004	General Motors LLC	Defiance	0.20	1.3
2ID00015	North Star BlueScope Steel LLC	Fulton	0.065	0.42
2ID00014	Worthington Industries Inc	Fulton	0.0082	0.054
2IF00008	Chemtrade Logistics Inc	Allen	0.034	0.22
2IC00024	Ohio Electro Polishing Co Inc	Van Wert	4.3E-04	0.0028
2IN00030	Pilkington North America Inc	Wood	0.0017	0.011
2IH00107	Spangler Candy Co	Williams	0.0066	0.043
2IH00113	Bunge North America East LLC	Van Wert	0.015	0.10
2IN00212	Koneta Rubber Co	Auglaize	0.0017	0.011
2IR00025	Federal Mogul Corp	Van Wert	0.061	0.40
2PA00002	Ottoville WWTP	Putnam	0.40	2.6
2PA00026	Haskins WWTP	Wood	0.23	1.5
2PA00029	Grand Rapids WWTP	Wood	0.053	0.35
2PA00031	Edon WWTP	Williams	0.15	1.0
2PA00047	Kalida STP	Putnam	0.42	2.7
2PA00049	LaFayette WWTP	Allen	0.083	0.54
2PB00005	Convoy WWTP	Van Wert	0.26	1.7
2PB00009	Stryker STP	Williams	0.29	1.9
2PB00011	Weston WWTP	Wood	0.35	2.3
2PB00021	West Unity STP	Williams	0.20	1.3
2PB00030	Ohio City WWTP	Van Wert	0.12	0.75
2PB00039	Liberty Center WWTP	Henry	0.37	2.4
2PC00000	Spencerville WWTP	Allen	0.21	1.4
2PG00119	DFGC Black LLC	Mercer	0.0037	0.024
2PA00017	Sherwood WWTP	Defiance	0.18	1.2
2PA00019	Payne WWTP	Paulding	0.12	0.78
2PA00023	Harrod WWTP	Allen	0.053	0.35
2PA00050	Arlington WWTP	Hancock	0.12	0.8
2PA00052	Fort Jennings WWTP	Putnam	0.0042	0.028
2PA00054	Uniopolis WWTP	Auglaize	0.026	0.17
2PA00056	McClure WWTP	Henry	0.12	0.77
2PA00058	Mendon WWTP	Mercer	0.15	1.0
2PA00059	New Knoxville STP	Auglaize	0.14	0.89
2PA00091	Florida WWTP	Henry	0.030	0.20
2PA00096	Jenera WWTP	Hancock	0.026	0.17
2PA00098	Malinta WWTP	Henry	0.030	0.20
2PA00099	Wharton WWTP	Wyandot	0.0027	0.018
2PA00103	Buckland WWTP	Auglaize	0.018	0.12

Permit #	Facility Name	County	Spring season total phosphorus (metric tons)	Daily total phosphorus (kg)
2PB00006	Pioneer WWTP	Williams	0.25	1.6
2PB00018	Beaverdam WWTP	Allen	0.042	0.28
2PB00024	Tontogany WWTP	Wood	0.084	0.55
2PB00041	Holgate WWTP	Henry	0.064	0.42
2PB00043	Hamler WWTP	Henry	0.073	0.48
2PB00044	Forest WWTP	Hardin	0.085	0.56
2PB00045	Fayette WWTP	Fulton	0.042	0.28
2PB00047	Edgerton WWTP	Williams	0.71	4.6
2PB00049	Continental WWTP	Putnam	0.049	0.32
2PB00061	Dunkirk WWTP	Hardin	0.040	0.26
2PC00002	Deshler WWTP	Henry	0.31	2.0
2PD00001	Rockford STP	Mercer	0.35	2.3
2PG00014	Pettisville WWTP	Fulton	0.090	0.59
2PG00046	Nettle Lake Area STP	Williams	0.028	0.18
2PH00018	Williams Co South Central SD	Williams	0.20	1.3
2PR00067	UMC Widewater Retreat and Ministry Ctr	Henry	0.0019	0.012
2PR00108	Exit One WWTP	Williams	0.0011	0.0071
2PR00272	Lazy River Campground	Williams	0.060	0.39
1PR00034	The Way International	Shelby	0.037	0.24
2PA00013	Willshire WWTP	Van Wert	0.12	0.80
2PA00022	Middle Point WWTP	Van Wert	0.11	0.69
2PA00033	Cecil WWTP	Paulding	0.015	0.10
2PA00073	Latty WWTP	Paulding	0.023	0.15
2PA00085	Grover Hill WWTP	Paulding	0.041	0.27
2PA00100	Westminster WWTP	Allen	0.027	0.17
2PA00105	Belmore Wastewater Improvements 2016	Putnam	0.015	0.096
2PG00013	Sherwood Forest Subdiv	Auglaize	0.016	0.10
2PG00038	Mast Estates WWTP	Allen	0.016	0.11
2PG00049	Middle Gordon Creek Subdiv WWTP	Defiance	0.0092	0.060
2PG00052	Evergreen Lane Office Complex	Defiance	7.7E-04	0.0050
2PG00055	Evansport WWTP	Defiance	0.055	0.36
2PG00067	Norlick Place WWTP	Williams	0.046	0.30
2PG00073	Beverly Hills Subdiv	Auglaize	0.017	0.11
2PG00083	Country Acres Golf Club	Putnam	0.021	0.14
2PG00084	Hickory Hills WWTP	Williams	0.0077	0.050
2PG00086	Hillside Country Living WWTP	Williams	0.049	0.32
2PG00087	Lakeland Woods SD	Williams	0.032	0.21

Permit #	Facility Name	County	Spring season total phosphorus (metric tons)	Daily total phosphorus (kg)
2PG00090	Arrowhead Estates WWTP	Auglaize	0.0086	0.056
2PG00092	Pleasantview Estates Subdiv	Auglaize	0.027	0.18
2PG00093	Sharlon Subdiv	Auglaize	0.0061	0.040
2PG00097	NWS Williamsburg on the River WWTP	Wood	0.074	0.48
2PG00105	Forest Lane Subdiv	Auglaize	0.0096	0.063
2PG00109	Pleasant View Subdiv	Fulton	0.017	0.11
2PG00110	Airport Industrial Park	Fulton	0.0034	0.022
2PG00112	Putnam Co MRDD Brookhill Ctr	Putnam	0.0028	0.018
2PG00120	Country Time Subdiv WWTP	Mercer	0.0066	0.043
2PH00020	Industrial Corridor Sewer System	Fulton	0.19	1.3
2PP00001	Harrison Lake St. Park WWTP	Fulton	0.019	0.13
2PP00006	LHS Maumee Youth Center	Henry	0.0032	0.021
2PP00019	ODOT Dist 1 Park No 1-26 & 25 (outfall 001)	Hancock	0.014	0.092
2PP00019	ODOT Dist 1 Park No 1-26 & 25 (outfall 002)	Hancock	0.013	0.085
2PP00025	ODOT Rest Area 7-26	Auglaize	0.032	0.21
2PP00026	ODOT Rest Area 7-33	Auglaize	0.0084	0.055
2PP00035	ODOT Park 1-27	Van Wert	0.005	0.033
2PP00047	Kunkle Maintenance Bldg	Williams	7.0E-05	4.6E-04
2PR00098	Sycamore Springs Golf Course STU 1	Hancock	3.3E-04	0.0022
2PR00105	Altenloh Brinck & Co US Inc	Williams	9.1E-04	0.0060
2PR00126	Wapakoneta Country Club	Auglaize	2.0E-04	0.0013
2PR00129	Kunkle Schoolhouse	Williams	1.1E-04	7.3E-04
2PR00141	Manufactured Housing Enterprises Inc	Williams	0.0020	0.013
2PR00146	Camp Berry	Hancock	0.0019	0.012
2PR00157	Delphos Country Club	Putnam	2.1E-04	0.0014
2PR00163	Bavarian Club Inc	Henry	2.1E-05	1.4E-04
2PR00195	Colonial Golfers Club Inc	Allen	6.1E-05	4.0E-04
2PR00256	Wapakoneta Lima S. KOA	Auglaize	0.0050	0.032
2PR00262	Glacier Hill Lakes No 1	Auglaize	0.015	0.098
2PR00276	Motor Inn Auto Truck Stop STU 1	Mercer	6.3E-04	0.0041
2PR00286	Emerging Streams Ministries	Williams	4.1E-05	2.7E-04
2PR00288	Oak Haven Res. Care Center	Putnam	0.0055	0.036
2PR00294	E-Z Campground	Auglaize	0.0047	0.031
2PR00295	Pioneer Boy Scout Camp	Williams	0.0037	0.024
2PR00298	Heritage Springs Cmpgrd	Hancock	0.0014	0.0094

Permit #	Facility Name	County	Spring season total phosphorus (metric tons)	Daily total phosphorus (kg)
2PS00015	Timberwoods Camping	Van Wert	4.3E-06	2.8E-05
2PT00018	Northeastern Local Schools	Defiance	0.0017	0.011
2PT00019	The Ridge Project, Inc.	Henry	6.6E-04	0.004
2PT00025	Miller City High Sch WWTP	Putnam	0.013	0.084
2PT00031	Cory Rawson Mid & Sr HS	Hancock	0.0073	0.048
2PT00037	Riverdale Local Schls	Hancock	0.018	0.12
2PT00039	Wayne Trace Jr & Sr HS	Paulding	0.0062	0.040
2PT00043	Hardin-Northern Schools	Hardin	0.0029	0.019
2PT00056	Sisters of Notre Dame WQT	Lucas	0.0048	0.032
2PW00006	K/Z Sewer Dist	Auglaize	0.0080	0.052
2PW00007	Country Club Hills Property Owners Assoc WWTP	Auglaize	0.0022	0.015
2PW00018	County Line Investments LCC	Allen	0.0013	0.0086
2PW00024	Bentbrook Subdiv WWTP	Van Wert	0.0093	0.061
2PY00005	Maurers MHP	Wood	0.030	0.20
2PY00019	Forrest Park MHP	Fulton	0.0067	0.044
2PY00022	Swanton Meadows MHP	Fulton	0.051	0.331
2PY00026	River Bend MHP LLC	Henry	0.0028	0.018
2PY00038	PMN Camelot South MHP	Fulton	0.012	0.079
2PY00043	C. M. Estates LLC	Putnam	0.0055	0.036
2PY00044	Brentwood MHP	Paulding	0.0040	0.026
2PY00060	Country Court MHP	Fulton	0.0023	0.015
2PY00061	Riverview MHP	Wood	0.0021	0.014
2PY00064	Grandview LLC DBA Whispering Winds MH Community	Lucas	0.015	0.098
2PY00065	Park Place	Defiance	0.018	0.12
2PY00067	Arrowhead Lake MHP (outfall 001)	Lucas	0.028	0.18
2PY00067	Arrowhead Lake MHP (outfall 002)	Lucas	0.014	0.093
2PY00071	Country Side MHP	Wood	0.0043	0.028
2PY00076	Lakeside Estates MHP	Auglaize	0.0047	0.031
2PA00039	Rawson WWTP	Hancock	0.11	0.71
2PA00045	Mt Blanchard WWTP	Hancock	0.014	0.094
2PA00016	Vanlue STP	Hancock	0.073	0.48
2PA00090	Custar WWTP	Wood	0.044	0.29
2PS00014	Huggy Bear Campground	Van Wert	0.060	0.39
2PR00166	Camp Libbey	Defiance	1.1E-04	7.4E-04
2PH00022	Auglaize River Sewer Lagoon System	Defiance	0.060	0.39
2PA00095	Ney WWT Lagoon	Defiance	0.052	0.34
2PR00248	Woodbridge Campground	Paulding	0.0031	0.021

Permit #	Facility Name	County	Spring season total phosphorus (metric tons)	Daily total phosphorus (kg)
2PB00031	Oakwood WWTP	Paulding	0.025	0.17
2PA00037	Antwerp WWTP	Paulding	0.32	2.1
2PB00029	Pandora WWTP	Putnam	0.26	1.7
NA	Allowance for future growth	NA	0.10	0.65

Table A4.3. Wasteload allocations for combined sewer overflows.

Permit #	Facility Name	Spring season total phosphorus (metric tons)	Daily total phosphorus (kg)
2PF00000	Toledo Bay View Park WWTP	0.17	1.1
2PE00000	Lima WWTP	0.083	0.54
2PD00008	Findlay WPCF	0.016	0.11
2PD00019	Wapakoneta WWTP	0.0079	0.052
2PD00000	Napoleon WWTP	2.7E-04	0.0018
2PD00013	Defiance WWTP*	0.032	0.21
2PB00042	Hicksville WWTP	0.032	0.21
2PD00006	Van Wert WWTP	0.020	0.13
2PD00016	Wauseon WWTP	0.012	0.080
2PB00003	Delta WWTP	0.0022	0.014
2PD00029	Delphos WWTP	1.5E-04	0.0010
2PA00019	Payne WWTP	0	0
2PD00002	Perrysburg WWTP	0	0
2PD00003	Montpelier WWTP	0	0
2PB00045	Fayette WWTP	0	0
2PD00027	Paulding WWTP	0	0
2PB00030	Ohio City WWTP	0	0
2PC00004	Columbus Grove WWTP	0	0
2PB00061	Dunkirk WWTP	0	0
2PB00029	Pandora WWTP	0	0
2PB00044	Forest WWTP	0	0
2PC00002	Deshler WWTP	0	0
2PB00040	Leipsic WWTP	0	0
2PB00025	Swanton WRRF	0	0

The feasibility the proposed group permit is assessed for the spring seasons of 2017 through 2021. The spring season total phosphorus load for each facility is calculated using the same methods documented in the TMDL for calculating baseline loads for discharging wastewater treatment plants (Section 3.3.3). Table A4.5 shows the results of this analysis for each facility along with their 2008 spring season loads and their individual wasteload allocation from Table A4.1. The facilities' load is summed to determine each spring season's grouped load.

The results of this analysis ranges from 48.0 metric tons (in 2018) to 59.1 (in 2019). These spring totals are compared to the grouped WLA of 64.1 metric tons. That value is the sum of the wasteload allocations from Table A4.1 above. This analysis shows that the grouped WLA would not have been exceeded in any of these recent spring seasons. Figure A4.1 shows these results graphically.

There is 1.4 metric tons of total phosphorus proposed to be reserved as an allowance of future growth for this group of facilities. Were this load added to these recent load totals the cap would still not be exceeded.

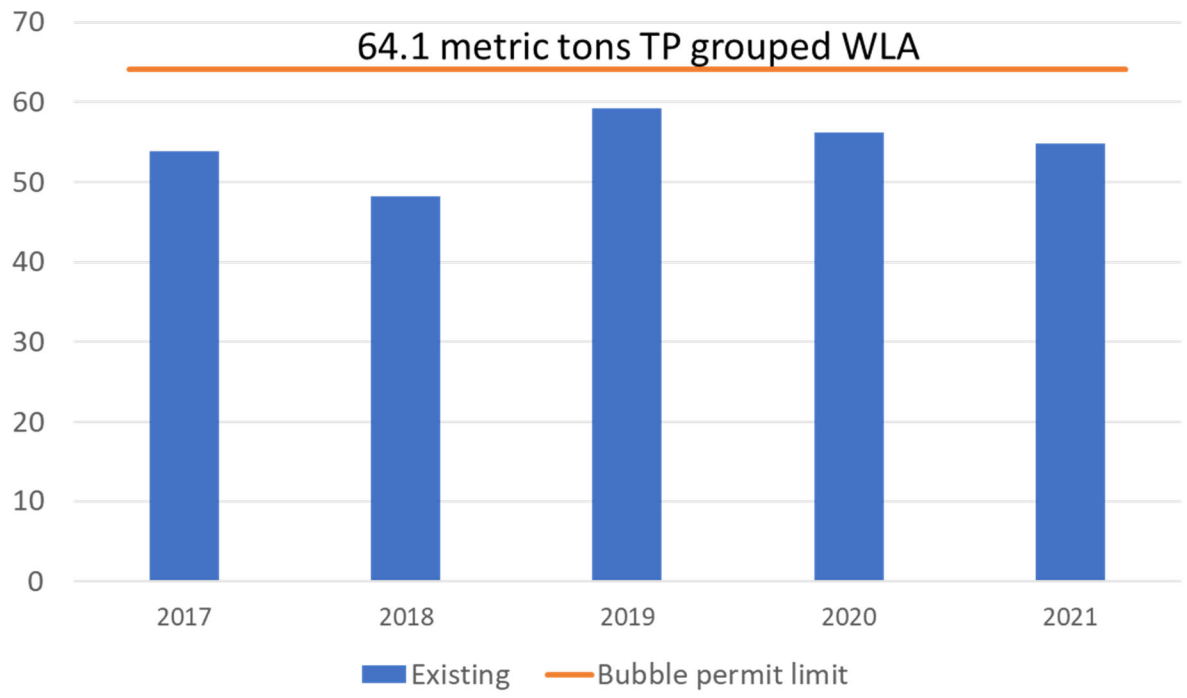

Figure 1. Analysis of the total phosphorus load for the facilities proposed to be grouped and governed by a general permit.

Table A4.4. Existing loads for NPDES permits in the grouped load category.

Permit #	Facility Name	Total phosphorus spring load (metric tons)						
		2008	WLA	2017	2018	2019	2020	2021
2PF00000	Toledo Bay View Park	28.6	27.9	18.1	15.1	23.8	21.8	19.6
2PK00000	Lucas Co WRRF	3.9	4.8	6.7	5.5	6.3	5.4	6.3
2PE00000	Lima WWTP	2.1	4.0	2.9	5.0	3.3	3.0	2.4
2PD00008	Findlay WPCF	4.4	3.2	4.8	5.5	5.3	5.5	5.4
2PD00002	Perrysburg WWTP	1.6	2.0	1.2	1.2	1.6	1.7	2.1
2PD00013	Defiance WWTP	1.6	1.5	1.4	0.66	0.86	0.91	2.3
2PD00006	Van Wert WWTP	0.82	1.0	0.91	0.74	1.7	0.69	0.81
2PD00019	Wapakoneta WWTP	1.1	1.0	0.26	0.31	0.28	1.7	1.3
2PD00029	Delphos WWTP	0.04	1.0	0.64	0.10	0.04	0.02	0.10
2PD00018	Bryan WWTP	0.41	0.79	0.40	0.23	0.34	0.49	0.26
2PD00026	St Marys City WWTP	0.39	0.77	0.23	0.28	0.47	0.44	0.22
2PD00028	Ottawa WWTP	0.23	0.77	0.28	0.15	0.15	0.07	0.16
2PD00000	Napoleon WWTP	0.55	0.64	0.70	0.56	0.54	0.29	0.31
2PD00017	Archbold WWTP	0.56	0.64	0.28	0.42	0.39	0.34	0.55
2PB00050	Ada WWTP	0.79	0.51	0.15	0.29	0.20	0.31	0.14
2PK00002	Shawnee No 2 WWTP	0.79	0.51	1.1	0.66	0.87	0.78	0.69
2PC00005	Bluffton WWTP	0.05	0.49	0.03	0.07	0.10	0.09	0.11
2PB00040	Leipsic WWTP	0.70	0.38	0.29	0.35	0.40	0.21	0.24
2PD00016	Wauseon WWTP	0.24	0.38	0.26	0.18	0.22	0.17	0.16
2PH00007	American-Bath WWTP	0.69	0.38	0.59	0.39	0.62	0.52	0.50
2PH00006	American No 2 WWTP	0.31	0.31	0.08	0.15	0.16	0.21	0.24
2PD00003	Montpelier WWTP	1.0	0.26	0.96	0.98	0.23	0.14	0.11
2PB00025	Swanton WRRF	0.80	0.64	0.23	0.10	0.28	0.46	0.18
2PB00042	Hicksville WWTP	0.96	0.40	0.50	0.34	0.76	0.62	0.24
2PB00034	New Bremen WWTP	0.85	0.38	1.5	1.3	1.6	0.73	0.58
2PC00004	Columbus Grove WWTP	1.1	0.35	0.60	0.61	0.58	0.64	0.73
2PB00048	Cridersville WWTP	0.80	0.34	0.43	0.25	0.28	0.34	0.20
2PB00003	Delta WWTP	0.76	0.31	0.70	0.67	0.55	0.99	0.51
2PB00046	Elida WWTP	0.65	0.21	0.86	0.89	0.91	0.99	0.39
2PD00027	Paulding WWTP	0.87	0.55	1.0	0.66	1.1	0.84	1.4
2IF00004	PCS Nitrogen Ohio LP	1.5	1.8	2.0	1.4	0.86	0.74	0.86
2IG00001	Lima Refinery	0.46	0.6	0.55	0.51	0.15	0.24	0.02
2IH00021	Campbell Soup Supply	3.5	2.6	1.8	0.95	2.7	3.5	3.5
2IH00110	Cooper Farms Cooked Meats	0.78	0.12	0.29	0.12	0.11	0.12	0.10
2IK00002	G.A. Wintzer and Son Co	0.17	0.11	0.57	0.94	0.98	0.52	1.4
2IW00010	McDowell/Bowling Green	0.00	0.29	0.27	0.27	0.25	0.26	0.24
2IW00070	Delta WTP	0.00	0.18	0.15	0.16	0.13	0.13	0.15
2IW00190	Napoleon WTP	0.00	0.14	0.001	0.07	0.11	0.13	0.13
NA	Allowance for future growth	-	1.4	-	-	-	-	-

Appendix 4. Individual NPDES Wasteload Allocations

This appendix presents the wasteload allocations the individually permitted facilities within this TMDL project. Table A4.1 shows the wasteload allocations for the regular effluent discharge of the NPDES permits that are in the grouped load category for consideration of a general permit. Table A4.2 shows the remainder of the discharging facilities wasteload allocations. Note that the wasteload allocations on those first two tables does not include the combined sewage overflows for communities with CSOs. Table A4.3 presents the combined sewer overflow wasteload allocations. ~~Table A4.4 shows the stormwater wasteload allocations for the individually permitted facilities with stormwater provisions in their NPDES permits.~~

At the end of this appendix is an analysis of the load discharged in recent years from the facilities in the proposed grouped load category. Table A4.4 shows the existing loads for NPDES pemrits in the grouped load category.

Table A4.1. Wasteload allocations for individual discharging NPDES permits in the grouped load category.

Permit #	Facility Name	Spring season total phosphorus (metric tons)	Daily total phosphorus (kg)
Proposed grouped load TOTAL		64.1	418.8
2PF00000	Toledo Bay View Park WWTP	27.9	182.1
2PK00000	Lucas Co WRRF	4.8	31.5
2PE00000	Lima WWTP	4.0	25.9
2PD00008	Findlay WPCF	3.2	21.0
2PD00002	Perrysburg WWTP	2.0	13.4
2PD00013	Defiance WWTP	1.5	10.0
2PD00006	Van Wert WWTP	1.0	6.7
2PD00019	Wapakoneta WWTP	1.0	6.7
2PD00029	Delphos WWTP	1.0	6.4
2PD00018	Bryan WWTP	0.79	5.2
2PD00026	St Marys City WWTP	0.77	5.0
2PD00028	Ottawa WWTP	0.77	5.0
2PD00000	Napoleon WWTP	0.64	4.2
2PD00017	Archbold WWTP	0.64	4.2
2PB00050	Ada WWTP	0.51	3.3
2PK00002	Shawnee No 2 WWTP	0.51	3.3
2PC00005	Bluffton WWTP	0.49	3.2
2PB00040	Leipsic WWTP	0.38	2.5
2PD00016	Wauseon WWTP	0.38	2.5
2PH00007	American-Bath WWTP	0.38	2.5
2PH00006	American No 2 WWTP	0.31	2.0
2PD00003	Montpelier WWTP	0.26	1.7
2PB00025	Swanton WRRF	0.64	4.2
2PB00042	Hicksville WWTP	0.40	2.6
2PB00034	New Bremen WWTP	0.38	2.5
2PC00004	Columbus Grove WWTP	0.35	2.3
2PB00048	Cridersville WWTP	0.34	2.2
2PB00003	Delta WWTP	0.31	2.0
2PB00046	Elida WWTP	0.21	1.4
2PD00027	Paulding WWTP	0.55	3.6
2ID00018	Toledo HBI Facility	0.43	2.8
2IF00004	PCS Nitrogen Ohio LP	1.8	12.0
2IG00001	Lima Refinery	0.6	3.7
2IH00021	Campbell Soup Supply	2.6	16.7
2IH00110	Cooper Farms Cooked Meats	0.12	0.81
2IK00002	G.A. Wintzer and Son Co	0.11	0.69
2IW00010	McDowell/Bowling Green	0.29	1.9
2IW00070	Delta WTP	0.18	1.2
2IW00190	Napoleon WTP	0.14	0.91
NA	Allowance for future growth	1.4	9.2

Table A4.2. Wasteload allocations for individual discharging NPDES permits not in the grouped load category.

Permit #	Facility Name	County	Spring season total phosphorus (metric tons)	Daily total phosphorus (kg)
2IN00004	General Motors LLC	Defiance	0.20	1.3
2ID00015	North Star BlueScope Steel LLC	Fulton	0.065	0.42
2ID00014	Worthington Industries Inc	Fulton	0.0082	0.054
2IF00008	Chemtrade Logistics Inc	Allen	0.034	0.22
2IC00024	Ohio Electro Polishing Co Inc	Van Wert	4.3E-04	0.0028
2IN00030	Pilkington North America Inc	Wood	0.0017	0.011
2IH00107	Spangler Candy Co	Williams	0.0066	0.043
2IH00113	Bunge North America East LLC	Van Wert	0.015	0.10
2IN00212	Koneta Rubber Co	Auglaize	0.0017	0.011
2IR00025	Federal Mogul Corp	Van Wert	0.061	0.40
2PA00002	Ottoville WWTP	Putnam	0.40	2.6
2PA00026	Haskins WWTP	Wood	0.23	1.5
2PA00029	Grand Rapids WWTP	Wood	0.053	0.35
2PA00031	Edon WWTP	Williams	0.15	1.0
2PA00047	Kalida STP	Putnam	0.42	2.7
2PA00049	LaFayette WWTP	Allen	0.083	0.54
2PB00005	Convoy WWTP	Van Wert	0.26	1.7
2PB00009	Stryker STP	Williams	0.29	1.9
2PB00011	Weston WWTP	Wood	0.35	2.3
2PB00021	West Unity STP	Williams	0.20	1.3
2PB00030	Ohio City WWTP	Van Wert	0.12	0.75
2PB00039	Liberty Center WWTP	Henry	0.37	2.4
2PC00000	Spencerville WWTP	Allen	0.21	1.4
2PG00119	DFGC Black LLC	Mercer	0.0037	0.024
2PA00017	Sherwood WWTP	Defiance	0.18	1.2
2PA00019	Payne WWTP	Paulding	0.12	0.78
2PA00023	Harrod WWTP	Allen	0.053	0.35
2PA00050	Arlington WWTP	Hancock	0.12	0.8
2PA00052	Fort Jennings WWTP	Putnam	0.0042	0.028
2PA00054	Uniopolis WWTP	Auglaize	0.026	0.17
2PA00056	McClure WWTP	Henry	0.12	0.77
2PA00058	Mendon WWTP	Mercer	0.15	1.0
2PA00059	New Knoxville STP	Auglaize	0.14	0.89
2PA00091	Florida WWTP	Henry	0.030	0.20
2PA00096	Jenera WWTP	Hancock	0.026	0.17
2PA00098	Malinta WWTP	Henry	0.030	0.20
2PA00099	Wharton WWTP	Wyandot	0.0027	0.018
2PA00103	Buckland WWTP	Auglaize	0.018	0.12

Permit #	Facility Name	County	Spring season total phosphorus (metric tons)	Daily total phosphorus (kg)
2PB00006	Pioneer WWTP	Williams	0.25	1.6
2PB00018	Beaverdam WWTP	Allen	0.042	0.28
2PB00024	Tontogany WWTP	Wood	0.084	0.55
2PB00041	Holgate WWTP	Henry	0.064	0.42
2PB00043	Hamler WWTP	Henry	0.073	0.48
2PB00044	Forest WWTP	Hardin	0.085	0.56
2PB00045	Fayette WWTP	Fulton	0.042	0.28
2PB00047	Edgerton WWTP	Williams	0.71	4.6
2PB00049	Continental WWTP	Putnam	0.049	0.32
2PB00061	Dunkirk WWTP	Hardin	0.040	0.26
2PC00002	Deshler WWTP	Henry	0.31	2.0
2PD00001	Rockford STP	Mercer	0.35	2.3
2PG00014	Pettisville WWTP	Fulton	0.090	0.59
2PG00046	Nettle Lake Area STP	Williams	0.028	0.18
2PH00018	Williams Co South Central SD	Williams	0.20	1.3
2PR00067	UMC Widewater Retreat and Ministry Ctr	Henry	0.0019	0.012
2PR00108	Exit One WWTP	Williams	0.0011	0.0071
2PR00272	Lazy River Campground	Williams	0.060	0.39
1PR00034	The Way International	Shelby	0.037	0.24
2PA00013	Willshire WWTP	Van Wert	0.12	0.80
2PA00022	Middle Point WWTP	Van Wert	0.11	0.69
2PA00033	Cecil WWTP	Paulding	0.015	0.10
2PA00073	Latty WWTP	Paulding	0.023	0.15
2PA00085	Grover Hill WWTP	Paulding	0.041	0.27
2PA00100	Westminster WWTP	Allen	0.027	0.17
2PA00105	Belmore Wastewater Improvements 2016	Putnam	0.015	0.096
2PG00013	Sherwood Forest Subdiv	Auglaize	0.016	0.10
2PG00038	Mast Estates WWTP	Allen	0.016	0.11
2PG00049	Middle Gordon Creek Subdiv WWTP	Defiance	0.0092	0.060
2PG00052	Evergreen Lane Office Complex	Defiance	7.7E-04	0.0050
2PG00055	Evansport WWTP	Defiance	0.055	0.36
2PG00067	Norlick Place WWTP	Williams	0.046	0.30
2PG00073	Beverly Hills Subdiv	Auglaize	0.017	0.11
2PG00083	Country Acres Golf Club	Putnam	0.021	0.14
2PG00084	Hickory Hills WWTP	Williams	0.0077	0.050
2PG00086	Hillside Country Living WWTP	Williams	0.049	0.32
2PG00087	Lakeland Woods SD	Williams	0.032	0.21

Permit #	Facility Name	County	Spring season total phosphorus (metric tons)	Daily total phosphorus (kg)
2PG00090	Arrowhead Estates WWTP	Auglaize	0.0086	0.056
2PG00092	Pleasantview Estates Subdiv	Auglaize	0.027	0.18
2PG00093	Sharlon Subdiv	Auglaize	0.0061	0.040
2PG00097	NWS Williamsburg on the River WWTP	Wood	0.074	0.48
2PG00105	Forest Lane Subdiv	Auglaize	0.0096	0.063
2PG00109	Pleasant View Subdiv	Fulton	0.017	0.11
2PG00110	Airport Industrial Park	Fulton	0.0034	0.022
2PG00112	Putnam Co MRDD Brookhill Ctr	Putnam	0.0028	0.018
2PG00120	Country Time Subdiv WWTP	Mercer	0.0066	0.043
2PH00020	Industrial Corridor Sewer System	Fulton	0.19	1.3
2PP00001	Harrison Lake St. Park WWTP	Fulton	0.019	0.13
2PP00006	LHS Maumee Youth Center	Henry	0.0032	0.021
2PP00019	ODOT Dist 1 Park No 1-26 & 25 (outfall 001)	Hancock	0.014	0.092
2PP00019	ODOT Dist 1 Park No 1-26 & 25 (outfall 002)	Hancock	0.013	0.085
2PP00025	ODOT Rest Area 7-26	Auglaize	0.032	0.21
2PP00026	ODOT Rest Area 7-33	Auglaize	0.0084	0.055
2PP00035	ODOT Park 1-27	Van Wert	0.005	0.033
2PP00047	Kunkle Maintenance Bldg	Williams	7.0E-05	4.6E-04
2PR00098	Sycamore Springs Golf Course STU 1	Hancock	3.3E-04	0.0022
2PR00105	Altenloh Brinck & Co US Inc	Williams	9.1E-04	0.0060
2PR00126	Wapakoneta Country Club	Auglaize	2.0E-04	0.0013
2PR00129	Kunkle Schoolhouse	Williams	1.1E-04	7.3E-04
2PR00141	Manufactured Housing Enterprises Inc	Williams	0.0020	0.013
2PR00146	Camp Berry	Hancock	0.0019	0.012
2PR00157	Delphos Country Club	Putnam	2.1E-04	0.0014
2PR00163	Bavarian Club Inc	Henry	2.1E-05	1.4E-04
2PR00195	Colonial Golfers Club Inc	Allen	6.1E-05	4.0E-04
2PR00256	Wapakoneta Lima S. KOA	Auglaize	0.0050	0.032
2PR00262	Glacier Hill Lakes No 1	Auglaize	0.015	0.098
2PR00276	Motor Inn Auto Truck Stop STU 1	Mercer	6.3E-04	0.0041
2PR00286	Emerging Streams Ministries	Williams	4.1E-05	2.7E-04
2PR00288	Oak Haven Res. Care Center	Putnam	0.0055	0.036
2PR00294	E-Z Campground	Auglaize	0.0047	0.031
2PR00295	Pioneer Boy Scout Camp	Williams	0.0037	0.024
2PR00298	Heritage Springs Cmpgrd	Hancock	0.0014	0.0094

Permit #	Facility Name	County	Spring season total phosphorus (metric tons)	Daily total phosphorus (kg)
2PS00015	Timberwoods Camping	Van Wert	4.3E-06	2.8E-05
2PT00018	Northeastern Local Schools	Defiance	0.0017	0.011
2PT00019	The Ridge Project, Inc.	Henry	6.6E-04	0.004
2PT00025	Miller City High Sch WWTP	Putnam	0.013	0.084
2PT00031	Cory Rawson Mid & Sr HS	Hancock	0.0073	0.048
2PT00037	Riverdale Local Schls	Hancock	0.018	0.12
2PT00039	Wayne Trace Jr & Sr HS	Paulding	0.0062	0.040
2PT00043	Hardin-Northern Schools	Hardin	0.0029	0.019
2PT00056	Sisters of Notre Dame WQT	Lucas	0.0048	0.032
2PW00006	K/Z Sewer Dist	Auglaize	0.0080	0.052
2PW00007	Country Club Hills Property Owners Assoc WWTP	Auglaize	0.0022	0.015
2PW00018	County Line Investments LCC	Allen	0.0013	0.0086
2PW00024	Bentbrook Subdiv WWTP	Van Wert	0.0093	0.061
2PY00005	Maurers MHP	Wood	0.030	0.20
2PY00019	Forrest Park MHP	Fulton	0.0067	0.044
2PY00022	Swanton Meadows MHP	Fulton	0.051	0.331
2PY00026	River Bend MHP LLC	Henry	0.0028	0.018
2PY00038	PMN Camelot South MHP	Fulton	0.012	0.079
2PY00043	C. M. Estates LLC	Putnam	0.0055	0.036
2PY00044	Brentwood MHP	Paulding	0.0040	0.026
2PY00060	Country Court MHP	Fulton	0.0023	0.015
2PY00061	Riverview MHP	Wood	0.0021	0.014
2PY00064	Grandview LLC DBA Whispering Winds MH Community	Lucas	0.015	0.098
2PY00065	Park Place	Defiance	0.018	0.12
2PY00067	Arrowhead Lake MHP (outfall 001)	Lucas	0.028	0.18
2PY00067	Arrowhead Lake MHP (outfall 002)	Lucas	0.014	0.093
2PY00071	Country Side MHP	Wood	0.0043	0.028
2PY00076	Lakeside Estates MHP	Auglaize	0.0047	0.031
2PA00039	Rawson WWTP	Hancock	0.11	0.71
2PA00045	Mt Blanchard WWTP	Hancock	0.014	0.094
2PA00016	Vanlue STP	Hancock	0.073	0.48
2PA00090	Custar WWTP	Wood	0.044	0.29
2PS00014	Huggy Bear Campground	Van Wert	0.060	0.39
2PR00166	Camp Libbey	Defiance	1.1E-04	7.4E-04
2PH00022	Auglaize River Sewer Lagoon System	Defiance	0.060	0.39
2PA00095	Ney WWT Lagoon	Defiance	0.052	0.34
2PR00248	Woodbridge Campground	Paulding	0.0031	0.021

Permit #	Facility Name	County	Spring season total phosphorus (metric tons)	Daily total phosphorus (kg)
2PB00031	Oakwood WWTP	Paulding	0.025	0.17
2PA00037	Antwerp WWTP	Paulding	0.32	2.1
2PB00029	Pandora WWTP	Putnam	0.26	1.7
NA	Allowance for future growth	NA	0.10	0.65

Table A4.3. Wasteload allocations for combined sewer overflows.

Permit #	Facility Name	Spring season total phosphorus (metric tons)	Daily total phosphorus (kg)
2PF00000	Toledo Bay View Park WWTP	0.17	1.1
2PE00000	Lima WWTP	0.083	0.54
2PD00008	Findlay WPCF	0.016	0.11
2PD00019	Wapakoneta WWTP	0.0079	0.052
2PD00000	Napoleon WWTP	2.7E-04	0.0018
2PD00013	Defiance WWTP*	0.032	0.21
2PB00042	Hicksville WWTP	0.032	0.21
2PD00006	Van Wert WWTP	0.020	0.13
2PD00016	Wauseon WWTP	0.012	0.080
2PB00003	Delta WWTP	0.0022	0.014
2PD00029	Delphos WWTP	1.5E-04	0.0010
2PA00019	Payne WWTP	0	0
2PD00002	Perrysburg WWTP	0	0
2PD00003	Montpelier WWTP	0	0
2PB00045	Fayette WWTP	0	0
2PD00027	Paulding WWTP	0	0
2PB00030	Ohio City WWTP	0	0
2PC00004	Columbus Grove WWTP	0	0
2PB00061	Dunkirk WWTP	0	0
2PB00029	Pandora WWTP	0	0
2PB00044	Forest WWTP	0	0
2PC00002	Deshler WWTP	0	0
2PB00040	Leipsic WWTP	0	0
2PB00025	Swanton WRRF	0	0

~~*Table A4.4. Stormwater wasteload allocations for individual NPDES permits with stormwater provisions.*~~

[Table deleted]

The feasibility the proposed group permit is assessed for the spring seasons of 2017 through 2021. The spring season total phosphorus load for each facility is calculated using the same methods documented in the TMDL for calculating baseline loads for discharging wastewater treatment plants (Section 3.3.3). Table A4.5 shows the results of this analysis for each facility along with their 2008 spring season loads and their individual wasteload allocation from Table A4.1. The facilities' load is summed to determine each spring season's grouped load.

The results of this analysis ranges from 48.0 metric tons (in 2018) to 59.1 (in 2019). These spring totals are compared to the grouped WLA of 64.1 metric tons. That value is the sum of the wasteload allocations from Table A4.1 above. This analysis shows that the grouped WLA would not have been exceeded in any of these recent spring seasons. Figure A4.1 shows these results graphically.

There is 1.4 metric tons of total phosphorus proposed to be reserved as an allowance of future growth for this group of facilities. Were this load added to these recent load totals the cap would still not be exceeded.

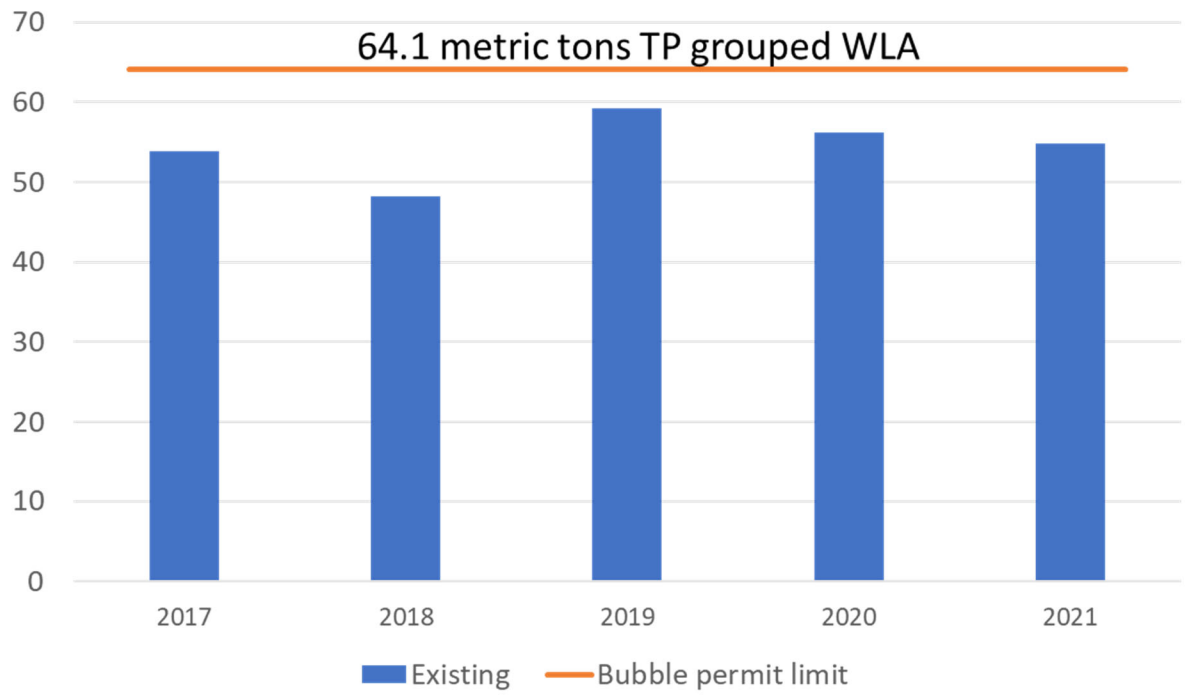

Figure 1. Analysis of the total phosphorus load for the facilities proposed to be grouped and governed by a general permit.

Table ~~A4.5~~A4.4. Existing loads for NPDES permits in the grouped load category.

Permit #	Facility Name	Total phosphorus spring load (metric tons)						
		2008	WLA	2017	2018	2019	2020	2021
2PF00000	Toledo Bay View Park	28.6	27.9	18.1	15.1	23.8	21.8	19.6
2PK00000	Lucas Co WRRF	3.9	4.8	6.7	5.5	6.3	5.4	6.3
2PE00000	Lima WWTP	2.1	4.0	2.9	5.0	3.3	3.0	2.4
2PD00008	Findlay WPCF	4.4	3.2	4.8	5.5	5.3	5.5	5.4
2PD00002	Perrysburg WWTP	1.6	2.0	1.2	1.2	1.6	1.7	2.1
2PD00013	Defiance WWTP	1.6	1.5	1.4	0.66	0.86	0.91	2.3
2PD00006	Van Wert WWTP	0.82	1.0	0.91	0.74	1.7	0.69	0.81
2PD00019	Wapakoneta WWTP	1.1	1.0	0.26	0.31	0.28	1.7	1.3
2PD00029	Delphos WWTP	0.04	1.0	0.64	0.10	0.04	0.02	0.10
2PD00018	Bryan WWTP	0.41	0.79	0.40	0.23	0.34	0.49	0.26
2PD00026	St Marys City WWTP	0.39	0.77	0.23	0.28	0.47	0.44	0.22
2PD00028	Ottawa WWTP	0.23	0.77	0.28	0.15	0.15	0.07	0.16
2PD00000	Napoleon WWTP	0.55	0.64	0.70	0.56	0.54	0.29	0.31
2PD00017	Archbold WWTP	0.56	0.64	0.28	0.42	0.39	0.34	0.55
2PB00050	Ada WWTP	0.79	0.51	0.15	0.29	0.20	0.31	0.14
2PK00002	Shawnee No 2 WWTP	0.79	0.51	1.1	0.66	0.87	0.78	0.69
2PC00005	Bluffton WWTP	0.05	0.49	0.03	0.07	0.10	0.09	0.11
2PB00040	Leipsic WWTP	0.70	0.38	0.29	0.35	0.40	0.21	0.24
2PD00016	Wauseon WWTP	0.24	0.38	0.26	0.18	0.22	0.17	0.16
2PH00007	American-Bath WWTP	0.69	0.38	0.59	0.39	0.62	0.52	0.50
2PH00006	American No 2 WWTP	0.31	0.31	0.08	0.15	0.16	0.21	0.24
2PD00003	Montpelier WWTP	1.0	0.26	0.96	0.98	0.23	0.14	0.11
2PB00025	Swanton WRRF	0.80	0.64	0.23	0.10	0.28	0.46	0.18
2PB00042	Hicksville WWTP	0.96	0.40	0.50	0.34	0.76	0.62	0.24
2PB00034	New Bremen WWTP	0.85	0.38	1.5	1.3	1.6	0.73	0.58
2PC00004	Columbus Grove WWTP	1.1	0.35	0.60	0.61	0.58	0.64	0.73
2PB00048	Cridersville WWTP	0.80	0.34	0.43	0.25	0.28	0.34	0.20
2PB00003	Delta WWTP	0.76	0.31	0.70	0.67	0.55	0.99	0.51
2PB00046	Elida WWTP	0.65	0.21	0.86	0.89	0.91	0.99	0.39
2PD00027	Paulding WWTP	0.87	0.55	1.0	0.66	1.1	0.84	1.4
2IF00004	PCS Nitrogen Ohio LP	1.5	1.8	2.0	1.4	0.86	0.74	0.86
2IG00001	Lima Refinery	0.46	0.6	0.55	0.51	0.15	0.24	0.02
2IH00021	Campbell Soup Supply	3.5	2.6	1.8	0.95	2.7	3.5	3.5
2IH00110	Cooper Farms Cooked Meats	0.78	0.12	0.29	0.12	0.11	0.12	0.10
2IK00002	G.A. Wintzer and Son Co	0.17	0.11	0.57	0.94	0.98	0.52	1.4
2IW00010	McDowell/Bowling Green	0.00	0.29	0.27	0.27	0.25	0.26	0.24
2IW00070	Delta WTP	0.00	0.18	0.15	0.16	0.13	0.13	0.15
2IW00190	Napoleon WTP	0.00	0.14	0.001	0.07	0.11	0.13	0.13
NA	Allowance for future growth	-	1.4	-	-	-	-	-