Highest Attainable Condition Review of Wisconsin's Multi-discharger Phosphorus Variance

This evaluation is required under Wis. Stat. §. 283.16(3m) and 40 CFR §131.14(b)(1)(v) and is subject to a 45-day public notice period and public hearing. To find currently scheduled hearings, visit DNR's calendar webpage.

Wisconsin Department of Natural Resources

2/04/2022

Summary

Wisconsin's phosphorus multi-discharger variance (MDV) was approved by the United States Environmental Protection Agency (EPA) on February 6, 2017. The variance package, including justification and variance provisions, was the result of efforts by numerous water quality stakeholders, state agencies, and legislators that occurred from 2013 to 2016.

The MDV is intended to apply to multiple point source dischargers across the state. Wisconsin Pollutant Discharge Elimination System (WPDES) permittees may seek coverage under the MDV to extend the timeline for compliance with low-level phosphorus effluent limits, provided MDV eligibility criteria are met. All facilities covered under the MDV are required to make a phosphorus offset via a watershed project (three project options exist), meet interim effluent limits for total phosphorus, and work to optimize treatment measures to reduce phosphorus discharges with the goal of achieving compliance with the phosphorus water quality standard.

For more information about specific aspects of the MDV, please refer to the Program Policy for Implementing Wisconsin's Multi-Discharger Variance for Phosphorus, available at the following webpage: https://dnr.wisconsin.gov/topic/Wastewater/phosphorus/StatewideVariance.html

Wisconsin's MDV is subject to federal requirements, including EPA approval, that govern all variances to water quality standards. Part of the review undertaken by EPA, as part of approval of the MDV, was to evaluate whether the MDV requirements are consistent with the requirements in 40 CFR 131.14 - "Water Quality Standards Variances". The provisions found in this section of federal code define when a variance may be approved and what the expectations are for dischargers covered under variances. The concept of the highest attainable condition (HAC) for a variance is contained in 40 CFR 131.14(b)(1)(ii) and requires that facilities implement the "greatest pollutant reduction achievable".

For the MDV, HAC requirements are fulfilled by permittees meeting interim limits that reflect achievable end-of-pipe pollution control and contributing to a watershed project designed to reduce phosphorus runoff to surface waters. The purpose of this evaluation document is to evaluate the first five-year implementation phase of the MDV to verify that the variance, as implemented, meets HAC requirements as intended. Requirements of the HAC evaluation are found in s. 283.16(3m), Wis. Stats. This document takes into account all currently available information to review interim effluent limitations currently in effect (as required under s. 283.16(3m)(a), Wis. Stats.) and watershed offsets put in place to satisfy the requirements of s. 283.16(6)(b), Wis. Stats. The evaluation also relies upon documents generated during the MDV's approval process, including EPA's approval letter, review document, and analysis of expected pollution reductions.

The results of this HAC evaluation demonstrate that pollution reductions achieved under the MDV are significantly greater than what would be achieved absent the MDV. Interim effluent limitations set equal to or lower than 1.0 milligram per liter (mg/L) have resulted in substantial effluent phosphorus reductions, particularly for those facilities that did not have phosphorus treatment technology in the place previously. Furthermore, because the offset requirements included in the MDV are based on the amount of

phosphorus discharged, there exists a strong impetus for permittees to optimize phosphorus removal systems to well below assigned interim limits. Additionally, the MDV watershed offset provisions have resulted in the reduction of over 15,000 pounds of phosphorous per year associated with nonpoint loading to date, and this number is expected to grow well into the future. When comparing the environmental outcome of the MDV to the benchmark of "installation of feasible pollution control" (as suggested in the initial MDV approval document) it is clear that the MDV offers greater pollution reductions than would have occurred absent the MDV and therefore represents HAC for a phosphorus variance in Wisconsin.

Contents

Chapter 1- Introduction to Wisconsin's Phosphorus MDV

Section 1.01: MDV Background

Efforts to reduce phosphorus in the surface waters of Wisconsin were formalized in 1992 for wastewater point source discharges. At the time, Wisconsin Pollutant Discharge Elimination System (WPDES) permit holders that discharged phosphorus at a level above a threshold mass amount established by rule were required to comply with technology-based effluent limits (TBELs) for phosphorus, typically set equal to 1.0 milligrams per liter (mg/L). These TBELs applied to municipal facilities and larger industries that met discharge thresholds specified in s. NR 217.04, Wis. Adm. Code. Alternative limits to the TBELS were also allowed. The Wisconsin Department of Natural Resources (department or DNR) also established agricultural performance standards and prohibitions in ch. NR 151, Wis. Adm. Code. Additional steps were taken in 2010 with the adoption of the phosphorus rule, which set maximum allowable phosphorus concentrations in Wisconsin's surface waters, also known as phosphorus water quality criteria. This rulemaking effort also created phosphorus implementation procedures for WPDES permits in Ch. NR 217, Wis. Adm. Code.

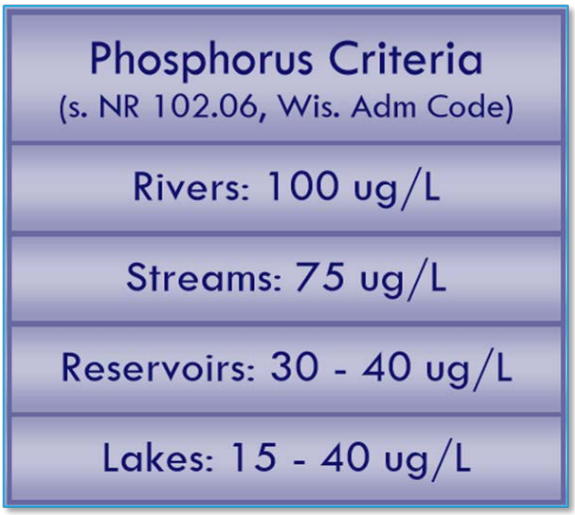

Figure 1: Phosphorus Criteria Adopted Under 2010 Rule

With generally low-level numeric phosphorus criteria adopted by the State and approved by EPA, many point source dischargers were subject to phosphorus water quality-based effluent limitations (WQBELs) in their permits. In many cases, these phosphorus WQBELs were set equal to the applicable phosphorus water quality criterion. Compliance with these restrictive WQBELs often requires substantial capital investments by permittees, yet point source treatment may only target a small fraction of the total phosphorus loading entering many Wisconsin surface waters. In many watersheds, nonpoint source phosphorus loadings frequently contribute the majority of phosphorus to Wisconsin's waters.

Recognition of this challenge spurred the development of Wisconsin's adaptive management (AM) and water quality trading (WQT) programs in addition to the MDV. The premise behind these compliance options is that point source dischargers could invest a smaller amount of money towards nonpoint source pollution control projects, and potentially have a greater water quality benefit. These compliance options have been selected by some point sources and continue to be explored by others as they work towards phosphorus compliance. Many permittees have found, however, that barriers exist that preclude participation in these programs, including the following cited reasons: insufficient local political support, unwilling partnerships, eligibility constraints, economic limitations, and compliance risks.

The phosphorus MDV is implemented pursuant to s. 283.16, Wis. Stats. An MDV is designed to address treatment technology? challenges and provide point sources, specifically municipal and industrial

wastewater treatment facilities, with another avenue for minimizing the economic hardship associated with installing treatment to comply with restrictive phosphorus limits. The MDV approach is different from WQT and AM. Water quality trading and adaptive management are compliance options that focus on achieving compliance with phosphorus water quality standards and/or permit effluent limits. The MDV allows a discharge to exceed a calculated water quality based effluent limitation for phosphorus on a temporary basis in exchange for contributing funds for nonpoint pollution control projects or implementing specific projects in the watershed to achieve phosphorus reductions. Point sources must be an existing source (authorized to discharge prior to December 1st, 2010) to be eligible for coverage under the MDV. Concentrated Animal Feeding Operations (CAFOs) and Municipal Separate Storm Sewer Systems (MS4s) are specifically not eligible for coverage under the MDV.

Establishment of the MDV required cooperation between various government and nongovernment entities. Section 283.16, Wis. Stats., became effective in 2013 (Act 378) and was modified in 2015 (Act 205). As a result of the legislation, the Department of Administration (DOA) and DNR investigated the costs associated with wastewater treatment to remove phosphorus on Wisconsin's economy and determined that these costs cause a substantial and widespread economic impact to the state. This determination was made with the assistance of Sycamore Advisors, ARCADIS, and the University of Massachusetts Donahue Institute. DOA's and DNR's final economic determination and relevant supporting information including the consultant's analyses are available at: http://dnr.wi.gov/topic/wastewater/phosphorus/statewidevariance.html.

The determination that low-level phosphorus effluent limits result in substantial and widespread adverse social and economic impacts for many communities throughout Wisconsin supports a variance justification under federal regulations at 40 CFR 131.10(g)(6). The economic determination assumes that low-level phosphorus effluent limits require chemical phosphorus removal (CPR) followed by tertiary filtration in terms of treatment. When a permittee applies for coverage under the MDV, DNR reviews site-specific conditions to ensure the assumptions of variance justification apply to the specific permittee. The permittee must certify that phosphorus effluent limits require a major facility upgrade and provide estimated costs for those upgrades. Through this process, DNR ensures that the initial determination under s. 283.16(2), Wis. Stats. applies to all facilities that are approved for coverage under the MDV.

Section 1.02: Effluent-based Phosphorus Reductions

The statutory provisions of s. 283.16(6)(a), Wis. Stats. define interim effluent limitations required for those facilities covered under the MDV. Interim limits specified in statute are expressed as monthly averages for total phosphorus, and range from 0.8 mg/L to 0.5 mg/L. Interim limits are intended to decrease over time if a facility is covered under the MDV for multiple WPDES permit terms, as demonstrated in Table 1 below.

Table 1: Default Interim Limitations by Permit Term Specified in s. 283.16, Wis. Stats.

Permit Term 1	• 0.8 mg/L*
Permit Term 2	• 0.6 mg/L*
Permit Term 3	• 0.5 mg/L*
Permit Term 4	•0.5 mg/L •TP WQBEL included in WPDES permit*

*- limit must become effective by end of permit term

There are certain flexibilities that the department may apply when assigning phosphorus interim limits in a WPDES permit. Compliance schedules may be used, when needed, to set a date of effectiveness of an interim limit while the facility implements necessary measures. In all cases, the applicable interim limit must be met by the end of the permit term. A less stringent interim limit than those contained in s. 283.16(6)(a), Wis. Stats., may be assigned if the facility is unable to comply with the limitations in the 0.8 – 0.5 mg/L range. However, if a higher interim limit is authorized under s. 283.16(6)(am), Wis. Stats., no interim limit may exceed 1.0 mg/L as a monthly average. A more stringent effluent limit than those found in s. 283.16(6)(a), Wis. Stats., may also be applied pursuant to s. 283.16(7), Wis. Stats. If facilities have optimized more quickly or to lower levels than the statutory timeframe conveys, this provision authorizes the department to set interim limits that reflect existing performance of a treatment system.

Facilities seeking coverage under the MDV are required to comply with the interim limit that reflects the best operation of phosphorus removal technology at the facility. To meet required interim limits, installation of biological or chemical phosphorus removal may be required by the department in the first permit term. When these forms of traditional phosphorus removal are determined to be economically infeasible and therefore preclude the attainment of MDV interim limits, including the maximum interim limit value of 1 mg/L), permittees may seek an individual phosphorus variance under s. 283.15, Wis. Stats.

Installation of feasible treatment technology works to support MDV's highest attainable condition (HAC) and demonstrate compliance with 40 CFR 131.14. Considering that many small publicly owned treatment works (POTWs) did not have any phosphorus removal process in place when the phosphorus criteria were

adopted, the installation of phosphorus removal technology to achieve 1.0 mg/L (or lower) represents a substantial pollution reduction. For typical POTW effluent with phosphorus concentrations ranging from 3 – 7 mg/L, compliance with 1.0 mg/L represents a minimum three-fold reduction in phosphorus discharged. Pollutant reductions achieved in order to comply with variance interim effluent limitations are considered part of the interim effluent condition achieved by the variance. Chapter 2 of this document provides more information about effluent reductions achieved.

As indicated earlier, when a permittee applies for a second permit term of coverage under the MDV, DNR reviews phosphorus data from the previous permit term to determine an appropriate interim limit. An interim limit set equal to 0.6 mg/L as a monthly average may apply pursuant to s. 283.16(6)(a)(2), Wis. Stats., or a lower effluent limit may be imposed pursuant to s. 283.16(7), Wis. Stats. Therefore, where applicable, interim limits are decreased over time to reflect the greatest pollutant reduction achievable at the facility, which is an important component of HAC. Should a permittee certify that 0.6 mg/L is not achievable during the second permit term without a major facility upgrade, DNR may reissue the permit with an achievable interim limit not to exceed 1.0 mg/L as a monthly average pursuant to s. 283.16(6)(am) Wis. Stats.

Section 1.03: Watershed-based Phosphorus Reductions

Similar to "pollution minimization programs" for other variances, the MDV watershed provision is designed to make economically feasible reductions of phosphorus loading entering surface waters of the state. There are three types of watershed projects for the MDV. The permittee has discretion to select the option that works best and is feasible for them:

1. County Payment Option - Make payments to county land conservation departments (counties) in the same HUC 8 basin of $50 per pound, times the amount equal to the difference between what they discharge and a target value. Payments are capped for any one point source at $640,000 per year.

   Note: The $50/lb multiplier is adjusted annually to account for inflation pursuant to s. 283.16(8)(a)(2), Wis. Stats.

2. Self-directed Option - Enter into an agreement with DNR to implement a plan or project designed to result in an annual reduction of phosphorus from other sources in the HUC 8 basin in an amount equal to the difference between what they discharge and a target value.

3. Third-party Option - Enter into an agreement with a third party and approved by DNR to implement a plan or project designed to result in an annual reduction of phosphorus from other sources in the HUC 8 basin in an amount equal to the difference between what they discharge and a target value.

For each of the three MDV watershed options, the target value will be either the wasteload allocation in an EPA-approved Total Maximum Daily Load (TMDL) area or 0.2 mg/L depending on the type of limitation the permittee is seeking the variance from (s. 283.16(1)(h), Wis. Stats.). TMDLs approved after April 25, 2014 do not impact target values. Therefore, permittees located in TMDL watersheds approved by EPA after April 25, 2014 (e.g., Wisconsin River Basin, Upper Fox and Wolf River Basins, Milwaukee River Basin, Northeast Lakeshore Area) retain 0.2 mg/L as the applicable target value.

Funding made available by the county payment option is distributed to participating counties based on the amount of land each county holds within the HUC 8 basin. Payments are made directly from dischargers to counties by March 1st of each year. Counties receiving this funding agree to use the funds to reduce agricultural nonpoint phosphorus loadings to surface waters by cost sharing with landowners to adopt best management practices on the landscape. Pursuant to Wis. Stat. § 283.16, MDV funds are to be used toward cost sharing for agricultural producers to achieve compliance with ch. NR 151, Wis. Adm. Code, agricultural performance standards. Once compliance is achieved, there is a requirement to maintain compliance with the performance standard. In this way, MDV funding is maximized by requiring a local contribution and by ensuring funded sites maintain established practices to ensure lower levels of nonpoint source pollution in perpetuity.

In support of initial MDV approval, EPA conducted an in-depth review of reductions likely to be achieved by

the MDV under the statutory provisions of s. 283.16, Wis. Stats. This document is titled *EPA Evaluation of Phosphorus Loading Reductions Likely to be Achieved Under Wisconsin MDV, WQSTS #WI2016-668* (available at the web link shown above). EPA's review found that offset provisions required under the MDV would, in nearly all scenarios, result in a greater overall reduction in phosphorus than if facilities complied with final phosphorus effluent limits.

Phosphorus reductions achieved through MDV-required nonpoint source projects are considered to be part of the interim condition of the waterbody affected by the variance. Watershed reductions work in tandem with feasible point source controls to reduce phosphorus concentrations of the affected waterbodies to the greatest extent possible. Referenced as a "two-pronged" approach in EPA's MDV approval document, the combination of effluent reductions and watershed reductions results in HAC for water bodies affected by the variance. The nonpoint prong is specifically referenced on page 22 of EPA's review document as needing to be evaluated as part of this mid-variance term HAC evaluation:

> "EPA expects WDNR's HAC re-evaluation to evaluate whether the MDV's requirements are in fact achieving significant nonpoint source phosphorus loading reductions greater than would be expected to be achieved by dischargers installing additional point source treatment equipment."

Chapter 3 of this document contains the nonpoint source reductions planned and achieved under the MDV program to date. Chapter 4 of this document evaluates these reductions in light of federal HAC requirements and assumptions made at the time of variance approval.

Section 1.04: Variance Reviews Required Under State Statute and Federal Code

Individual variances issued under s. 283.15, Wis. Stats. undergo a permit-specific review of variance conditions applied during the 5-year WPDES permit term. EPA reviews individual variance submittals prior to DNR issuing the final WPDES permit containing the variance. This review includes an evaluation of compliance with federal code governing variances, including 40 CRF 131.14. In the case of an MDV, EPA review of variance provisions occurs immediately following the initial submittal of the MDV package, independent from any single permit action or set permit term. The initial MDV approval authorizes multiple permits to contain MDV provisions over the agreed upon variance duration (10 years in the case of Wisconsin's MDV). Significant administrative streamlining is accomplished given EPA is not required to review each specific permit that contains MDV provisions. There exists, however, a requirement to review the MDV's ongoing compliance with HAC requirements every 5 years, regardless of approval duration. The variance must also have a process for obtaining public input on the review.

§ 40 CFR 131.14(b)(1)(v):

[variances must include:] "For a WQS variance with a term greater than five years, a specified frequency to reevaluate the highest attainable condition using all existing and readily available information and a provision specifying how the State intends to obtain public input on the reevaluation. Such reevaluations must occur no less frequently than every five years after EPA approval of the WQS variance and the results of such reevaluation must be submitted to EPA within 30 days of completion of the reevaluation."

State statute for the MDV reflects the above federal code at s. 283.16(3m), Wis. Stats. – "Highest Attainable Condition Review". Statute specifically requires DNR to: "review the interim effluent limitations under sub. (6) (a), or any other effluent limitations that are in effect as a result of a previous review under this subsection or sub. (3), and determine whether they are consistent with the highest attainable condition for the point sources and categories of point sources that are eligible for the variance under this section". The analyses in this document fulfill HAC review requirements by evaluating both point and nonpoint source phosphorus reductions achieved by those facilities covered under the MDV during the first evaluation period. This document is intended to summarize the phosphorus reduction progress associated with implementation of the MDV and convey those outcomes to the public. This document will be shared with the public through a notice process and a public hearing will be held to receive verbal comments as well. A minimum 45-day public notice will be provided in advance of the hearing. DNR will submit this document to EPA after holding the public hearing, within 30 days of finalizing the document. Before finalizing the document, DNR will review all comments received during the hearing and public participation process.

Pages 19 and 20 of EPA's review document for the MDV convey the following regarding HAC:

> "…a discharger-specific variance with an interim effluent condition reflecting the pollutant loading reductions that would be achieved following installation of any such feasible treatment equipment would be an adequate and appropriate reflection of "the HAC of the water body" in accordance with 40 CFR 131.14(b)(1)(ii)(A)(2)."

The above language references the effluent condition achieved under a variance in which a discharger/permittee is required to install feasible treatment technology to reduce loading of the variance pollutant to a receiving water. This type of variance is often referred to as a "Type 2" variance, which refers to the second of three options for variance HAC under 40 CFR 131.14(b)(1)(ii)(A). DNR has experience with Type 2 individual phosphorus variances under which a discharger installs traditional biological or chemical phosphorus removal. This process is discussed more in section 2.04 below.

From page 20 of the EPA's review document:

> "in most instances, the MDV's innovative two-pronged effluent condition is expected to result in greater pollutant loading reductions in the ambient waterbody, and therefore result in attainment of an even higher condition, than would result if the MDV simply included a requirement that dischargers comply with effluent limitations reflecting installation and operation of feasible phosphorus treatment equipment to control point source discharges."

In the MDV review document, EPA identified a number of variables relevant to understanding the environmental outcomes of the MDV based on nonpoint source reduction when compared to point source control alone. As mentioned previously, Wisconsin's landscape is highly agricultural so for the majority of watersheds in the state, phosphorus is delivered to surface waters from agricultural nonpoint sources. This suggests that opportunities for phosphorus load reductions may be more prevalent from agricultural sources when compared to regulated point sources in the majority of watersheds. Variance provisions that capitalize on this opportunity for pollutant loading reductions from agricultural sources are therefore likely to have a greater long-term net environmental benefit than focusing on feasible treatment technology at point source discharges alone. By combining nonpoint source reductions with point source reductions under a single variance framework, the expected environmental benefits are greater than focusing on a single type of pollution reduction.

The subsequent chapters of this document provide information that addresses traditional point source phosphorus treatment and removal alone vs the MDV approach that optimizes point source treatment and sees practices placed on the landscape to address nonpoint source phosphorus loading as well. EPA views the following variables as important to evaluating relevant environmental outcomes associated with the presence or absence of the MDV (text from page 20 of the EPA's review document):

> "A number of variables must be considered in comparing the amount of phosphorus loading reductions that would likely be achieved under the MDV compared to the amount that would have been discharged had dischargers installed point source discharge treatment equipment:
>
> (1) whether the target value -- used for calculating the amount of money that a discharger must pay to a county or for calculating the amount of nonpoint source phosphorus loading reduction that the discharger must achieve as an offset by implementation of specific loading reduction measures -- is the 0.2 mg/L value specified in the MDV statute or whether the target value is based on a wasteload allocation in a TMDL approved on or before April 25, 2014;
>
> (2) the phosphorus amounts that a discharger actually discharges from its point source;

(3) the phosphorus amounts that would have been discharged if the discharger had installed treatment equipment to reduce phosphorus rather than implemented the measures required by the MDV;

(4) the amount of time it would take for the discharger to achieve its phosphorus limits by installing treatment equipment to reduce phosphorus;

(5) the costs and effectiveness of the nonpoint source load reduction measures that are implemented when a county uses funds generated under the MDV on cost share;

(6) in county-payment situations, whether a discharger's payment amounts might reach the MDV's statutory cap of $640,000 per year; and

(7) the amount of funding farmers provide to implement BMPs to reduce phosphorus loading to surface waters."

This demonstration of HAC will quantify point source and nonpoint source phosphorus reductions achieved under the MDV. This pollutant reduction is considered to be interim effluent condition for the waterbodies affected by the MDV. The achieved interim effluent condition is then compared to a scenario in which the MDV is not available, and dischargers were required to install feasible treatment technology under a Type 2 individual phosphorus variance (see section 4.01). Through this process, HAC is demonstrated in a manner consistent with the following statement of HAC found on page 22 of the MDV review document:

"Wisconsin's MDV satisfies 40 CFR 131.14(b)(1)(ii)(A)(2) as long as the loading reductions that will be achieved from the interim effluent condition are equal to or greater than the reductions that would be achieved as a result of installation and operation of feasible point source control treatment equipment."

Chapter 2- Effluent Phosphorus Reductions Achieved

Section 2.01: Interim Limits in Permits

From the time period spanning EPA variance approval (February 6, 2017) to the date at which DNR began this review (August 1, 2021), 122 WPDES permits were reissued that conveyed coverage under the MDV. Three MDV-covered facilities have since been able to meet phosphorus WQBELs leaving 119 permits implementing the MDV statewide. Of these facilities, the majority are POTWs. Three food processors, two paper manufacturers, ten dairy industries, and one aquaculture facility are covered under the MDV.

MDV interim limits corresponding to HAC are required under s. 283.16(6)(a), Wis. Stats., and when possible are made effective immediately upon permit reissuance. In some instances, actions must be taken at the facility to comply with MDV interim limits. These actions may include optimization or installation of traditional phosphorus removal technology. In cases where the HAC interim limit does not become effective immediately, an interim limit reflecting a level of pollution control currently achievable (LCA) is made effective upon permit reissuance, and a schedule is included for a lower HAC interim limit to be effective as soon as possible.

The following table lists each facility covered under the MDV, their corresponding interim limits, and associated HAC limit effective date.

Table 2: Interim limitations in Currently Effective MDV Permits

Facility Name	Permit Number	LCA Interim Limit (mg/L)	HAC Interim Limit (mg/L)	HAC Limit Effective Date
Abbotsford Wastewater Treatment Facility	0023141	N/A	0.6	Immediate
Abrams Sanitary District 1	0049859	7.3	1.0	10/1/2022
Agropur Inc Luxemburg	0050237	0.5	0.4	7/1/2023
Almena Village of	0023183	8.1	1.0	10/1/2023
AMPI Blair Cheese Plant	0003760	N/A	0.6	Immediate
Appleton Property Ventures LLC	0000990	N/A	0.7	Immediate
Auburndale Wastewater Treatment Facility	0022411	3.5	1.0	1/1/2022
Bagley Wastewater Treatment Facility	0060771	6.1	1.0	4/1/2022
Barneveld Wastewater Treatment Facility	0029131	6.7	0.8	4/1/2020
Belgium Wastewater Treatment Facility	0023353	0.5	0.3	10/1/2020
Benton Wastewater Treatment Facility	0020672	6.3	1.0	3/1/2023
Black River Falls WWTF	0021954	1.0	0.8	4/1/2020
Blanchardville Wastewater Treatment Facility	0021105	4.4	1.0	4/1/2024
Blue River Wastewater Treatment Facility	0023418	9	1.0	7/1/2022
Bristol Utility District 1	0022021	N/A	0.47	Immediate

Facility Name (Continued)	Permit Number	LCA Interim Limit (mg/L)	HAC Interim Limit (mg/L)	HAC Limit Effective Date
Cadott Wastewater Treatment Facility	0023515	N/A	0.4	Immediate
Casco Wastewater Treatment Facility	0023566	4.3	1.0	10/1/2023
Cazenovia Wastewater Treatment Facility	0031801	4.7	1.0	1/1/2024
City of Fond du Lac WTRRF	0023990	N/A	0.8	Immediate
Clark County Health Care Center WWTF	0029700	3.3	1.0	12/1/2022
Clinton Wastewater Treatment Facility	0022039	N/A	0.8	Immediate
Crystal Lake Sanitary District	0035114	4.2	1.0	10/1/2023
Curtiss Wastewater Treatment Facility	0031445	13.3	1.0	10/1/2022
De Soto Wastewater Treatment Facility	0029793	5.4	1.0	4/1/2024
Dodgeville Wastewater Treatment Facility	0026913	N/A	0.54	Immediate
Dorchester Wastewater Treatment Facility	0021571	8	1.0	4/1/2024
Downsville Sanitary District #1 WWTF	0031682	1.7	1.0	7/1/2023
Eagle Lake Sewer Utility	0031526	4.3	1.0	4/1/2020
Edgar Wastewater Treatment Facility	0021784	1.0	0.8	1/1/2024
Ellsworth Coop Creamery	0022942	1.0	0.8	9/1/2022
Ettrick Wastewater Treatment Facility	0020621	7.38	1.0	7/1/2022
Fennimore Wastewater Treatment Facility	0023981	1.0	0.8	1/1/2023
Fenwood Wastewater Treatment Facility	0031411	1.2	1.0	4/1/2023
Fonks Home Center, Inc. – Hickory Haven	0030660	N/A	0.73	Immediate
Fonks Home Center Inc., Harvest View Estates	0026689	4.3	0.4	1/1/2023
Foremost Farms USA Chilton	0027618	N/A	1.0	Immediate
Foremost Farms USA Lancaster	0062308	1.6	0.8	3/1/2021
Foremost Farms USA Plover	0003859	0.93	0.8	9/1/2023
Fountain City WWTF	0024040	1.0	0.8	10/1/2020
Galesville Wastewater Treatment Plant	0021725	3.5	1.0	7/1/2022
Genoa City Village	0021083	N/A	0.7	Immediate
Genoa Wastewater Treatment Facility	0022284	5.6	1.0	7/1/2022
Grande Cheese Co Brownsville	0050016	2	1.0	7/1/2022
Grande Cheese Company - Juda	0063207	1.0	0.8	7/1/2020
Granton Wastewater Treatment Facility	0020885	2	0.8	4/1/2021
Green Lake Wastewater Treatment Facility	0021776	1.0	0.8	5/1/2024
Hatfield Sanitary District	0036641	4.4	1.0	10/1/2022
Hazel Green Wastewater Treatment Facility	0024210	5.1	1.0	7/1/2023
Hillsboro Wastewater Treatment Facility	0020583	1.0	0.8	1/1/2022
Hillshire Brands Co.	0023094	N/A	0.7	Immediate
Horicon Wastewater Treatment Facility	0020231	1.0	0.8	1/1/2022
Hub Rock Sanitary District #1 WWTF	0049689	2.9	1.0	7/1/2024

Facility Name (Continued)	Permit Number	LCA Interim Limit (mg/L)	HAC Interim Limit (mg/L)	HAC Limit Effective Date
Hustler Wastewater Treatment Facility	0032085	N/A	0.8	Immediate
Independence Wastewater Treatment Plant	0024287	4	1.0	9/1/2024
Junction City Wastewater Treatment Facility	0028070	1.0	0.8	10/1/2022
Kendall Wastewater Treatment Facility	0020516	N/A	0.8	Immediate
Krakow Sanitary District WWTF	0028169	3.7	1.0	10/1/2022
La Farge Wastewater Treatment Plant	0024465	2	1.0	0/1/2022
Lakeland Sanitary District # 1	0061387	2.6	1.0	10/1/2022
Lakeside Foods Inc - Reedsburg	0057738	1.54	1.0	1/1/2025
Lebanon Sanitary District #1 WWTF	0031364	3.9	1.0	7/1/2023
Lena Wastewater Treatment Facility	0061361	1.9	1.0	6/1/2026
Linden Wastewater Treatment Facility	0021580	4.1	1.0	3/1/2023
Livingston Wastewater Treatment Facility	0022187	4.2	1.0	10/1/2022
Lomira Wastewater Treatment Facility	0020532	1.0	0.8	7/1/2021
Lynn Dairy / Lynn Protein Inc.	0051152	1.0	0.8	1/1/2023
Lyons Sanitary District No 2	0031941	5.4	0.8	1/1/2022
Maine Wastewater Treatment Facility	0022136	6.3	1.0	4/1/2026
Marathon Water & Sewer Department	0020273	1.0	0.8	10/1/2023
Melrose Wastewater Treatment Facility	0024678	6.5	1.0	051/2023
Milan S D Wastewater Treatment Facility	0031500	2.5	1.0	7/1/2022
Milk Specialties Global - Adell	0001236	1.7	1.0	7/1/2023
Mondovi Wastewater Treatment Facility	0020591	1.0	0.8	10/1/2020
Mount Hope Wastewater Treatment Facility	0020907	6.1	1.0	4/1/2025
Neillsville Wastewater Treatment Facility	0021202	1.0	0.8	7/1/2020
Nekoosa Wastewater Treatment Facility	0020613	1.0	0.8	8/1/2022
Norwalk Wastewater Treatment Facility	0024961	3.9	1.0	4/1/2022
Onion River Wastewater Commission	0036811	5.2	1.0	10/1/2022
Osseo Wastewater Treatment Facility	0025046	1.0	0.8	7/1/2022
Owen Wastewater Treatment Facility	0020940	1.0	0.8	7/1/2020
Paddock Lake Wastewater TRTMNT FAC	0025062	N/A	0.7	Immediate
Palmyra Wastewater Treatment Facility	0031020	4.6	1.0	10/1/2024
Patch Grove Wastewater Treatment Facility	0022705	6	1.0	4/1/2022
Phillips City of	0021539	N/A	0.63	Immediate
Pittsville Water and Sewer Dept WWTF	0020494	N/A	1.0	Immediate
Platteville Wastewater Treatment Facility	0020435	0.93	0.8	4/1/2022
Poygan Poy Sippi SD 1 WWTF	0035513	7	1.0	7/1/2021
Prescott Wastewater Treatment Facility	0022403	1.3	0.8	7/1/2023
Randolph Wastewater Treatment Facility	0031160	5.3	1.0	4/1/2021

Facility Name (Continued)	Permit Number	LCA Interim Limit (mg/L)	HAC Interim Limit (mg/L)	HAC Limit Effective Date
Rewey Wastewater Treatment Facility	0031569	10.6	1.0	10/1/2021
Richland Center Wastewater Treatment Fac	0020109	N/A	0.8	Immediate
Ridgeway Wastewater Treatment Facility	0031348	3	1.0	1/1/2023
Rozellville Sanitary District No 1	0029076	4	1.0	10/1/2024
Rushing Waters Fisheries, Inc.	0002488	N/A	0.65	Immediate
Seneca Foods Corporation Gillett	0000345	N/A	0.68	Immediate
Sharon Wastewater Treatment Facility	0022608	5	1.0	4/1/2022
Spring Green Golf Club Sanitary Dist #2 WWTF	0028363	5	1.0	4/1/2025
Spring Valley Wastewater Treatment Facility	0022373	N/A	0.5	Immediate
Stitzer Sanitary District WWTF	0036285	7.7	1.0	10/1/2024
Stoddard Wastewater Treatment Facility	0028304	6.8	1.0	7/1/2022
Taylor Wastewater Treatment Facility	0021881	1.0	0.6	10/1/023
The Procter & Gamble Paper Products Co	001031	N/A	0.1	Immediate
Thorp Wastewater Treatment Facility	0025615	0.8	0.51	10/1/2020
Trempealeau Wastewater Treatment Facility	0020966	4.8	1.0	10/1/2023
Twin Lakes Wastewater Treatment Fac	0021695	N/A	0.7	Immediate
Union Center Wastewater Treatment Facility	0025640	1.0	0.8	5/1/2020
Unity Wastewater Treatment Facility	0060526	3.5	1.0	7/1/2024
Valley Ridge Clean Water Commission WWTF	0036854	7.6	1.0	7/1/2024
Vesper Wastewater Treatment Facility	0030309	1.8	1.0	10/1/2022
Village of Union Grove	0028291	N/A	0.66	Immediate
Viola Wastewater Treatment Facility	0021148	4.3	1.0	10/1/2022
Viroqua Wastewater Treatment Facility	0021920	1.0	0.8	4/1/2019
Watertown Wastewater Treatment Facility	0028541	N/A	0.8	Immediate
Waumandee Sanitary District #1	0061646	1.3	1.0	10/1/2023
Wazee Area Wastewater Commission	0036889	0.8	0.6	10/1/2023
Westfield Wastewater Treatment Facility	0022250	2.9	1.0	10/1/2022
Whitehall Wastewater Treatment Facility	0030970	1.0	0.8	1/1/2024
Whitelaw Wastewater Treatment Facility	0022047	2.9	1.0	7/1/2024
Yorkville Sewer Utility District No 1	0029831	1.0	0.8	7/1/2022

The information presented in Table 3 indicates that all HAC interim limits are at 1.0 mg/L or lower, and therefore are consistent with the provisions of s. 283.16, Wis. Stats. Many permittees covered under the MDV entered the program with a much higher LCA, indicating that feasible pollution control technology was (or will be) installed to reduce effluent phosphorus concentrations to meet HAC interim limits before the end of the MDV permit term. When new phosphorus removal technology is installed at facilities, there can be uncertainty surrounding the exact level of effectiveness that the new treatment process will achieve. This is particularly the case for lagoon systems that have not experimented with chemical

phosphorus removal previously. When setting interim limits for facilities where this type of uncertainty exists, the provisions of s. 283.16(6)(am) Wis. Stats. facilitate setting interim limits at 1.0 mg/L rather than the default 0.8 mg/L cited in s. 283.16(6)(a)(1) Wis. Stats. As discussed on page 8, the applicable interim limit would be decreased in future permit terms if treatment efficacy was demonstrated.

Section 2.02: Effluent Data for Covered Facilities

As previously discussed, facilities with MDV coverage are subject to monthly average limits for total phosphorus. Monitoring frequencies range from once a week to multiple times a week, with data submitted on each facility's monthly discharge monitoring report (DMR). This data is used by DNR to assess compliance with interim limits, track point source phosphorus loading to waterbodies, and determine watershed offset requirements under s. 283.16(6)(b), Wis. Stats. Effluent phosphorus data can also be used to make inferences about pollution reductions achieved under the MDV, particularly for installation or optimization of feasible treatment technology at MDV-covered facilities.

To summarize effluent data, annual average phosphorus effluent concentrations for all MDV facilities have been tabulated and are included in Appendix A: Phosphorus Effluent Data for MDV Facilities. This summary includes effluent data for each year in which a facility was covered under the MDV through June 30, 2021. A comparison of effluent data found in Appendix A to interim limits found in Table 2 indicates that nearly all permittees are generally complying with applicable interim limits (i.e. those that have taken effect) as required by the MDV.

Figure 2 below provides a summary of all facilities' phosphorus effluent data for each month of coverage under the MDV. Values are adjusted chronologically so that each x-axis timestep represents one month of MDV coverage for all facilities. Facilities are grouped according to the year in which MDV coverage began. For example, the 2018 group includes all MDV-covered facilities with a permit effective date of 1/1/2018 to 12/31/2018. Monthly effluent phosphorus concentrations are averaged across all facilities belonging to a group and are graphed in Figure 2. The downward trends in effluent phosphorus concentrations indicate that substantial point source pollutant reductions are occurring under the MDV. For all groups, effluent phosphorus typically averages around 1.5 mg/L in the first year of MDV coverage. Within 12 months of being covered under the MDV, average effluent phosphorus values sharply drop to below 1.0 mg/L. This reduction is most notably driven by facilities installing chemical or biological phosphorus removal where these processes were not previously in place. Optimization of existing phosphorus treatment also plays a role in first year reductions. Ongoing optimization is typically the driving force of reductions achieved in years 3 – 5 of MDV coverage, which has reached statewide average phosphorus levels of 0.6 to 0.7 mg/L.

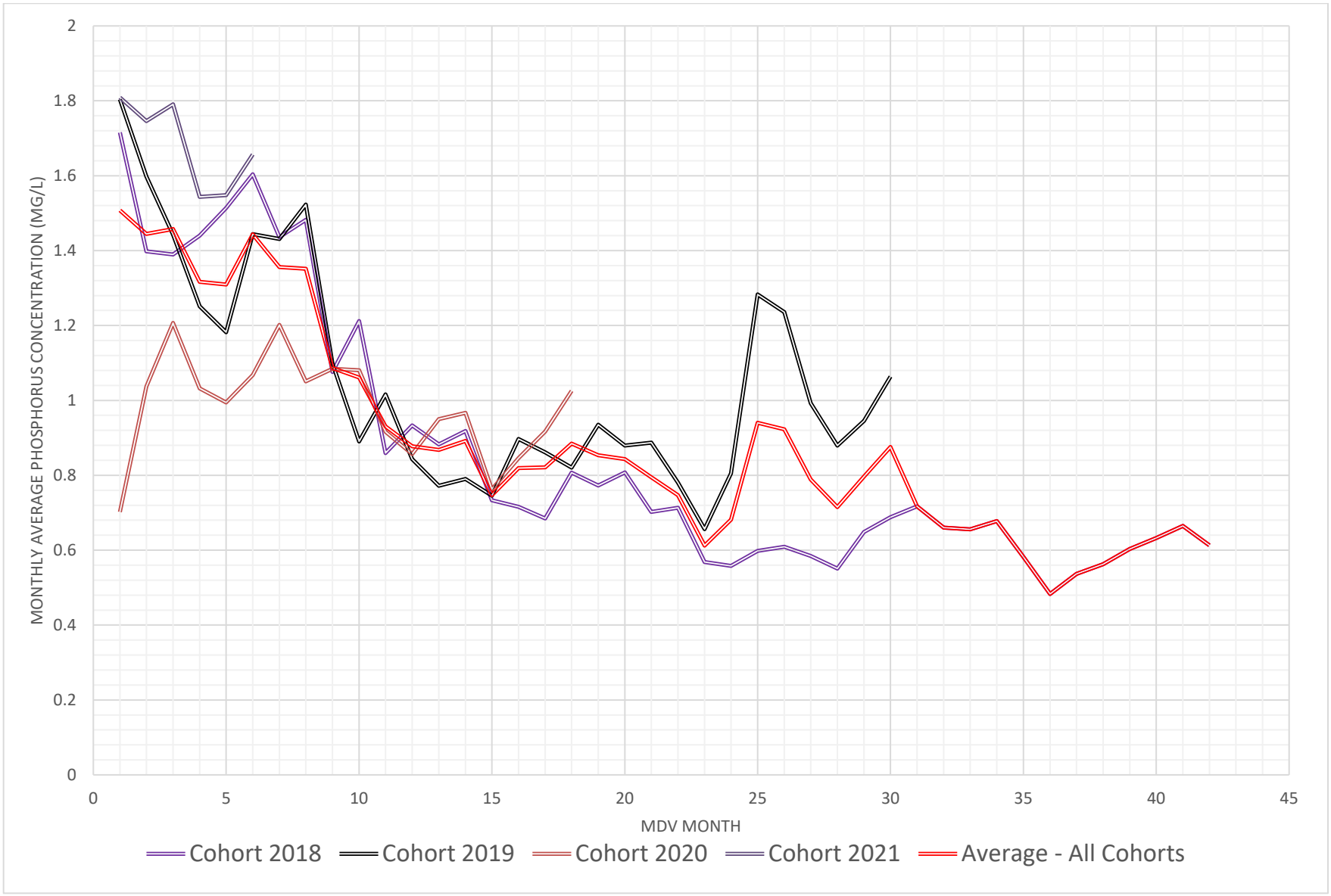

Figure: Monthly Effluent Total Phosphorus Data for all Dischargers Covered Under the MDV

Section 2.03: Summary of Effluent Data Based on Facility Type

As previously mentioned, there are several categories of facility type that can be covered under the MDV. Types of facilities that have been granted coverage include municipal POTWs, food processors, paper manufacturers, dairy industries, and an aquaculture facility. There are no noncontact cooling water dischargers currently covered under the MDV.

Within each category, treatment processes currently employed vary from facility to facility. Influent chemical properties, however, are more likely to be similar for facilities in the same category. Opportunities for optimization or installation of feasible pollution control technology are best evaluated based on facility type. See Table 3 for phosphorus interim limits and concentrations observed over the variance period, summarized by facility type. Partial years of data are excluded unless otherwise noted.

Table 3: Phosphorus Effluent Concentrations Summarized by Facility Type

Facility Type	Average LCA Interim Limit (mg/L)	Average HAC Interim Limit (mg/L)	MDV Year-1 Average Concentration (mg/L)	MDV Most Recent Concentration (mg/L)
Municipal POTWs	3.73	0.87	1.37	0.83
Food Processors[1]	1.54	0.79	0.42	0.40
Paper Manufacturers[1]	N/A	0.40	0.27	0.26
Dairy Industry[1]	1.21	0.80	0.78	0.53
Aquaculture[1]	N/A	0.65	0.34	0.08

1- effluent data includes January – June 2021 (partial year) due to small sample size

Based on the values shown in Table 3, the category exhibiting the greatest improvements in effluent quality is POTWs. Many small POTWs have added traditional phosphorus removal to achieve interim limits required under the MDV. Industrial facilities, in comparison, typically had phosphorus removal in place prior to being covered under the MDV. This is at least in part due to a lower threshold for applicability of state technology-based phosphorus effluent limitations (TBELs) for industrial facilities (60 lbs/mo) compared to municipal facilities (150 lbs/mo) pursuant to NR 217.04(1)(a)(2), Wis. Adm. Code. Regardless, reductions in effluent phosphorus are apparent for all categories.

Permittees are required to submit annual optimization reports under s. 283.16(6)(a), Wis. Stats., which could be used by DNR or interested members of the public to gain more information about the optimization efforts at a specific facility, if there are questions about effluent phosphorus reductions planned or already implemented.

Section 2.04: Discussion of Traditional Treatment Technology

As mentioned earlier in this chapter, installation of traditional phosphorus removal has resulted in substantial phosphorus effluent reductions for facilities covered under the MDV. From facility to facility, reductions implemented as part of the variance vary depending on the level of phosphorus control in place pre-MDV. Those facilities that already discharge at phosphorus effluent concentrations compliant with variance interim limits may not implement as substantial of effluent reductions as those who initially were not able to achieve required interim limits.

The term traditional phosphorus removal refers to biological or chemical phosphorus removal processes that have customarily been employed to meet TBELs required under s. NR 217.04, Wis. Adm. Code.

Chemical Phosphorus Removal: Injection of chemicals, typically metal salts, into wastewater during the treatment process. Chemicals act as precipitants or coagulants which cause dissolved and particulate phosphorus to more readily settle and be removed as waste sludge.

Biological Phosphorus Removal: Biological phosphorus removal is a process that uses alternating anaerobic and aerobic zones to provide an environment that encourages the growth of phosphorus accumulating organisms. These organisms store excess polyphosphate in their cell mass, settle as sludge, and phosphorus is removed with the waste sludge.

Implementing upgrades to install these types of phosphorus removal equipment are typically both economically and technically feasible for municipal and industrial wastewater treatment facilities. For this reason, the terms “feasible treatment” and “traditional treatment” are used interchangeably in this document.

Tertiary filtration and advanced biological phosphorus removal are treatment technologies that go beyond traditional phosphorus removal. Capital and operational costs are typically much greater for these types of treatment technologies and are more commonly found to be economically infeasible. This concept is critical to the “widespread and substantial” determination made by DOA and DNR as part of the initial MDV package and as discussed earlier in this document.

The lower limits of traditional phosphorus removal will vary from facility to facility but typically range from 0.3 to 0.5 mg/L for mechanical plants (lagoon facilities generally are not able to achieve this level of optimization). In some instances, facilities are able to optimize phosphorus removal to lower levels using traditional treatment technology. There is currently no evidence that indicates traditional phosphorus removal can reliably meet phosphorus WQBELs commonly set at 0.075 or 0.1 mg/L. However, in some instances, traditional phosphorus removal has been demonstrated to meet the 0.2 mg/L target value. This topic is discussed further in Section 3.01 below.

Chapter 3- Nonpoint Source Phosphorus Reductions Achieved

Section 3.01: Review of County Payments Submitted

Permittees that seek coverage under the MDV may choose the county payment option to fulfill watershed phosphorus offset requirements under s. 283.16(6)(b), Wis. Stats. There have been 115 permittees statewide that have been granted MDV coverage using the county payment option. The number of dischargers making county payments has increased substantially since the MDV was first available in 2017. Cumulatively, just under $2.5 million has been paid from point source dischargers to counties during the term of the MDV to date. Table 4 below contains MDV payment values for years 2017 – 2020.

Table 4: MDV County Payments Summary for Years 2017 - 2021

Year	Number of facilities covered	Total County Payment	Counties Participating
2017	2	$2,606.02	1
2018	34	$619,363.60	25
2019	73	$938,116.95	34
2020	98	$937,241.50	35
2021	115	Value Not Yet Available	Value Not Yet Available

Pursuant to s. 283.16(8)(a)2., Wis. Stats., the county payment price per pound is updated annually based on the change in U.S. consumer price index that occurred over the past year. DNR obtains this financial information from the federal Department of Labor at the beginning of each calendar year, and the updated amount is then included in WPDES permits that contain MDV authorization upon reissuance with an effective dating starting April 1st of that year. Once a permit is reissued, the prescribed price per pound remains in effect for each year of the permit term. Table 5 below shows the applicable price-per-pound for each year since MDV approval.

Table 5: County Payment Price-per-Pound, by Year, Since MDV Approval

Year	Price-per-pound
2017	$51.10
2018	$52.02
2019	$53.01
2020	$54.23
2021	$54.99

In February of each year, DNR compiles billing statements for each permittee covered under the MDV county payment option. DNR sends statements to permittees indicating which counties should be paid, the exact amount of payments, and a mailing address for counties receiving payments. Payment amounts to

counties are based upon the previous 12 months discharge reports and the number of pounds their discharge exceeds the target value. Permittees then send payment directly to counties and send DNR form 3400-151 to certify payments have been made as required. To date, each facility has made required payments.

A summary of payments has been tabulated and is included in Appendix C.

Instances in which no payments are made

Several facilities have been able to optimize to achieve phosphorus concentrations near or below the applicable target value. Based on the statutory definition of the target value in s. 283.16(1)(h), Wis. Stats., this means optimization occurred to achieve annual average phosphorus effluent concentrations below 0.2 mg/L, or TMDL-based limit when applicable. The ability to optimize traditional phosphorus removal to these low levels was not anticipated at the time the applicable statute was written to define target value. The ability to achieve 0.2 mg/L or lower, without filtration, is specific to facilities that have certain characteristics, particularly those facilities that respond very well to chemical phosphorus removal. Other factors contributing to these reductions include a low portion of nonreactive phosphorus in influent, and high hydraulic retention times in the settling phase after the chemical has been added. Other approaches, such as combining enhanced biological nutrient removal with chemical addition, can also drive effluent phosphorus concentrations to near- or below- 0.2 mg/L. Accordingly, annual payment amounts from some permittees have been reduced significantly or stopped altogether.

Permittees with effluent quality that would negate the need to submit a county payment may not choose the county payment as a means to satisfy MDV offset requirements under s. 283.16(6)(b), Wis. Stats. Therefore, for those permittees who are initially covered under the MDV with the assumption that a county payment would be made, then subsequently optimize to a level that no longer requires a county payment, those permittees would not be authorized to continue under the county payment option for a second MDV term. For more information on this topic, see page 18 (section 1.03) of Program Policy for Implementing Wisconsin's Phosphorus MDV. Table 6 lists each facility that has been granted MDV coverage using the county payment option and subsequently discharged below target value and was not required to make a payment. While DNR is taking steps to minimize the number of non-payment facilities, should this trend increase in the coming years, the program may need to seek additional changes to the variance to address the issue.

Table 6: Data for Facilities With $0 Payments

Facility Name	2018 Payment Phosphorus Concentration (mg/L)	2019 Payment Phosphorus Concentration (mg/L)	2020 Payment Phosphorus Concentration (mg/L)	No Payment Occurrence Count	Target Value Type
Abbotsford Wastewater Treatment Facility	$0 0.22[1]	$0 0.16	$0 0.16	3	0.2 mg/L
Appleton Property Ventures LLC	$0 0.50	$0 0.71	$0 0.43	3	TMDL
Belgium Wastewater Treatment Facility	#N/A 0.09	$0 0.11	$0 0.11	2	0.2 mg/L
Union Center Wastewater Treatment Facility	$0 2.58[1]	$0 0.07	$228.78 0.25	2	0.2 mg/L
Linden Wastewater Treatment Facility	$2,436.87 #N/A	$0 0.18	$2,096.94 0.53	1	0.2 mg/L
Ridgeway Wastewater Treatment Facility	#N/A 0.40[1]	$9,002.07 1.38	$0 0.17	1	0.2 mg/L
Rushing Waters Fisheries, Inc.	#N/A #N/A	#N/A #N/A	$0 0.34	1	TMDL
Viroqua Wastewater Treatment Facility	$6,635.20 0.40	$419.29 0.21	$0 0.19	1	0.2 mg/L
Watertown Wastewater Treatment Facility	#N/A #N/A	#N/A #N/A	$0 0.4[1]	1	TMDL

1 – Annual effluent value applies to a partial year of MDV coverage

#N/A – MDV not yet effective in the discharger's permit

Note that a minimum payment value is not specified in statute, but the statute does require that either county payments are made by a permitted facility or that phosphorus reductions are implemented through a project. In other words, some additional actions are required. The statute does, however, specify a maximum county payment amount that any one permittee would be required to make in a given year. Additionally, pursuant to s. 283.16(8)(a)(1), Wis. Stats., a permittee would not be required to pay more than $640,000 in a given year. To date, no discharger has reached this annual cap.

Funding Levels by HUC 8 Basin

Pursuant to s. 283.16(8)(a)(1), Wis. Stats., MDV funding is distributed based on the amount of territory each county has in the basin in which a discharger is located. Therefore, each county receives funds from all permittees that are located in the HUC 8 basin in which the county chooses to participate. In the first four years of the MDV, funding has been made available in 29 different HUC 8 basins. Funding levels can vary from basin to basin and from year to year. Table 7 shows funding made available in each HUC 8 basin on an annual basis.

Table 7: All MDV Funding by HUC 8 Basin

HUC 8 Basin	Annual County Payment Value			
	2017	2018	2019	2020
Apple-Plum		$ 22,389.94	$ 39,816.18	$ 31,264.00
Baraboo		$ 116,841.22	$ 186,721.11	$ 49,126.16
Black		$ 42,163.80	$ 171,589.89	$ 71,844.04
Buffalo-Whitewater		$ 13,561.92	$ 33,984.97	$ 17,932.36
Castle Rock		$ 4,607.98	$ 9,016.67	$ 62,871.80
Coon-Yellow			$ 3,607.58	$ 8,269.82
Door-Kewaunee			$ 4,505.32	$ 12,388.44
Duck-Pensaukee			$ 9,604.35	$ 35,464.21
Eau Claire		$ 4,341.15	$ 12,805.24	$ 9,249.15
Fox Illionis		$ 5,331.52	$ 26,320.77	$ 31,955.53
Grant-Little Maquoketa		$ 14,387.97	$ 28,859.58	$ 31,180.72
Kickapoo		$ 9,908.28	$ 11,501.62	$ 9,337.58
La Crosse-Pine			$ 1,959.25	$ 4,652.69
Lake Dubay		$ 48,990.98	$ 57,858.52	$ 77,041.62
Lake Winnebago		$ 216,522.89	$ 53,939.02	$ 35,543.19
Lower Chippewa		$ 5,651.46	$ 10,419.09	$ 5,870.45
Lower Fox			$ 9,516.02	$ 4,089.84
Lower Wisconsin		$ 6,157.22	$ 11,635.83	$ 15,331.11
Manitowoc-Sheboygan		$ 15,301.91	$ 26,348.65	$ 14,249.85
Middle Rock				$ 3,923.54
Milwaukee			$ 16,425.15	$ 43,751.80
Pecatonica		$ 69,966.34	$ 76,531.52	$ 53,128.68
Red Cedar			$ 2,988.38	$ 20,184.73
Rush-Vermillion	$ 2,606.02	$ 19,712.17	$ 40,059.78	$ 70,550.29
Trempealeau			$ 12,889.39	$ 103,280.98
Upper Chippewa			$ 3,112.88	$ 2,237.36
Upper Fox				$ 4,450.66
Upper Rock			$ 53,553.65	$ 89,439.24
Wolf		$ 3,526.75	$ 22,013.09	$ 18,631.66
TOTALS	**$ 2,606.02**	**$ 619,363.50**	**$ 938,116.95**	**$ 937,241.50**

Section 3.02: Review of Self-directed and Third-party Watershed Projects

To date, four permittees in the state have been approved for coverage under the MDV to use a self-directed or third-party project to satisfy watershed offset requirements under s. 283.16(6)(b), Wis. Stats. These permittees have entered into a binding, written agreement with another party (in the case of permittees implementing projects on their own land, they have entered an agreement with DNR) to reduce phosphorus pollution from sources other than the permitted discharge. These efforts focus on nonpoint source phosphorus reductions, primarily from agricultural fields or eroding streambanks within each permittee's HUC 8 basin. Permittees implementing self-directed or third-party offsets are shown in Table 8, below.

Table 8: Summary of Self-directed and Third-party Watershed Offset Projects

Facility Name	Year Established	Phosphorus Load Reduction (lbs/yr)	Nonpoint Source Practices Implemented
Richland Center Wastewater Treatment Facility	2018	850	Streambank Stabilization
Galesville Wastewater Treatment Facility	2019	515	Perennial Vegetation, Streambank Stabilization
Norwalk Wastewater Treatment Facility	2019	88	Streambank Stabilization
Marathon Water & Sewer Department	2020	475	Cover Crops, Perennial Vegetation

Each self-directed / third-party watershed project is documented by an MDV Watershed Plan that undergoes DNR review and approval prior to receiving coverage under the MDV. The watershed plans contain all elements necessary to determine the magnitude of offset achieved from the nonpoint source including quantification methods, applicable technical design standards, and a timeline for practice installation. Nonpoint source practices must be installed in a timely fashion to ensure the full offset required under statute is achieved in the first year of MDV coverage. Practices must be maintained so that the offset is achieved in each year of MDV coverage.

The watershed plan with a specific project is incorporated by reference into each permittee's reissued WPDES permit. Permit requirements include:

- Implementing the MDV watershed project as approved
- Conducting inspections (annually or more frequently) to ensure nonpoint practices are functioning as intended
- Evaluating the amount of phosphorus discharged at the point source to demonstrate sufficient offset has been achieved
- Reporting inspection results and annual discharge accounting annually to DNR

Pursuant to s. 283.16(8m)(a), Wis. Stats., MDV watershed plans must result in meeting Wisconsin's ch. NR

151, Wis. Adm. Code, agricultural performance standards when plans involve activities for which performance standards have been established. Wisconsin's NR 151 agricultural performance standards apply to cropland, feedlots and streambanks adjacent to agricultural land. A review of all watershed projects indicates that this requirement has been upheld, as practices employed are the typical remedy for achieving the relevant NR 151 performance standards when NR 151 violations exist. For each practice type, the following agricultural performance standards are outlined below:

Cover Crops and Perennial Vegetation

- For cropland, pastures and winter grazing areas, an average Phosphorus Index (PI) will not exceed 6 and will not exceed 12 in any individual year. (s. NR 151.04, Wis. Adm. Code)

- Conservation Plan for crop fields and pastures to meet tolerable soil loss ("T"). (s NR 151.02, Wis. Adm. Code)

Streambank Stabilization

- There is self-sustaining sod or vegetative cover adequate to preserve streambank or lakeshore integrity in areas where livestock have access. This requirement does not apply to properly designed, installed and maintained livestock or farm equipment crossings. (s. NR 151.08(5), Wis. Adm. Code)

- Tillage Setback - No crop producer may conduct a tillage operation that negatively impacts stream bank integrity or deposits soil directly in surface waters; no tillage operations may be conducted within 5 feet of the top of the channel of surface waters. Tillage setbacks greater than 5 feet but no more than 20 feet may be required to meet this standard. Crop producers shall maintain the area within the tillage setback in adequate sod or self-sustaining vegetative cover that provides a minimum of 70% coverage. (s. NR 151.03, Wis. Adm. Code)

Interestingly, MDV watershed plans share many elements in common with Water Quality Trading ("WQT") plans. In fact, offsets implemented by dischargers under an MDV watershed plan may be used for water quality trading at a future date, provided the binding, written agreement remains valid and other requirements for water quality trading are met. Observance of WQT-specific concepts such as TMDL credit thresholds and trade ratios often means that a larger offset is required for a discharger to comply via WQT. The MDV watershed offset offers a "stepping stone" or transition to full compliance with a water quality based effluent limitation through WQT. The majority of dischargers discussed in this section are currently working to establish additional nonpoint source reductions to achieve full compliance via WQT.

Section 3.03: County MDV Watershed Plan/Project Requirements

When counties choose to receive funding generated by the county payment option, they agree to comply with the requirements governing the use of the funding contained in s. 283.16(8)(b) Wis. Stats. These requirements support MDV's HAC through requiring:

- a county to prioritize and target the highest-phosphorus loading sites/areas in the county (this prioritization is often completed within the applicable HUC 8 watershed area);
- At least 65% of MDV funds received by a county must be used for making offers of cost sharing to adopt phosphorus reduction agricultural practices that meet one or more of Wisconsin's NR 151 agricultural performance standards;
- maintaining compliance with the standards, over time.

By prioritizing high phosphorus loading areas/sites, pooling funds from multiple dischargers and requiring that a landowner contribute cost share when implementing practices, counties are able to maximize the impact of funding spent. Also, with respect to maintaining compliance, ss. NR 151.09 and NR 151.095 Wis. Adm. Code provides a regulatory platform so that once a cropland or livestock facility has received MDV funds to install practices to achieve compliance with the performance standards and prohibitions, when the county documents compliance with the performance standard or prohibition at a site, compliance with standards must be maintained:

- If any cropland/livestock operation is meeting a cropland performance standard on or after the effective date of the standard, the cropland performance standard shall continue to be met by the existing landowner or operator, heirs or subsequent owners or operators of the cropland.

- If landowner or operator who alters or changes the management of the cropland/livestock operation in a manner that results in noncompliance with a performance standard, the landowner or operator shall bring the cropland/livestock operation back into compliance, regardless of whether cost-sharing is made available.

For counties, a watershed plan must be submitted to DNR no later than one year after receiving the MDV payment. An annual report must also be submitted to DNR no later than May 1st of the following year that the plan has been submitted.

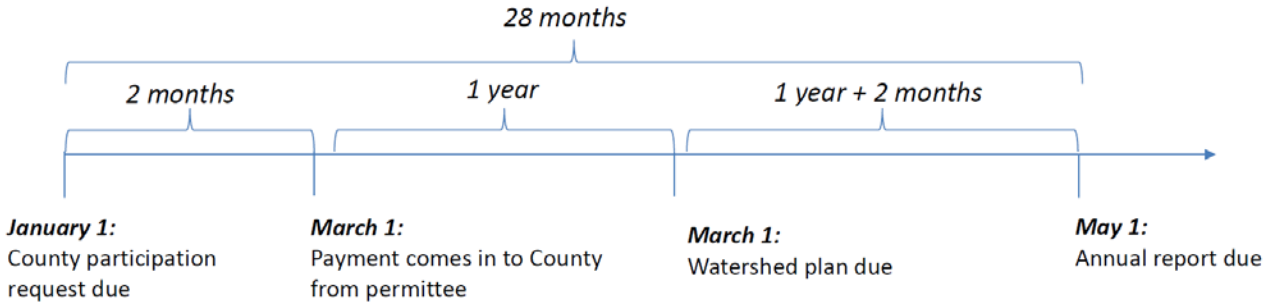

Figure 2: Timeline of County MDV Submittals

DNR developed the BMP Implementation Tracking System (BITS) to assist in tracking MDV plans, annual reports, and pollution reductions achieved by counties who use MDV funds. The system efficiently facilitates data submission (including the spatial component) and analysis so DNR can provide better transparency to the public as to how funds are being used. It is also useful to track MDV projects and plans to avoid overlap of credit or funding for phosphorus reductions between various programs. All county planning and reporting for the MDV is carried out in BITS. These reports contain detailed field-level reporting that documents compliance with NR 151 performance standards. More information on BITS is available at the following website:

https://dnr.wisconsin.gov/topic/nonpoint/bmptracker

Counties submit MDV plans to the DNR that define the types of practices that will be installed, prioritize sites or watersheds that have high phosphorus loading, and contain a budget to convey how funds are expected to be spent. Plans also define performance standards, verification processes, and inspection protocols for implemented practices.

County MDV Plans are subject to the following expectations:

- MDV funds received should be spent within 24 months of receipt, with a possible extension for 12 months if warranted (e.g., weather, soil conditions, contractor availability or other unforeseen factors).

- At least 65% of MDV funds received must be used for cost sharing practices to reduce phosphorus from entering waters of the state from agricultural nonpoint sources. Practices selected must meet ch. NR 151, Wis. Adm. Code, state agricultural performance standards and prohibitions, s. 281.16(3), Wis. Stats., and should reflect the technical standards and cost share conditions described in ch. ATCP 50, Wis. Adm. Code. Within approved TMDL areas, MDV funds may be used toward practices that exceed NR 151 agricultural performance standards in order to comply with TMDL goals. County plans within TMDL areas/watersheds should clearly describe how MDV funds will used to achieve these goals. Funds can also be used for engineering services such as design and construction inspection (s. 283.16(8)(b)(2), Wis. Stats.).

- Up to 35% of MDV funds received can be used for staffing, monitoring or other actions that support or help lead to prioritizing high phosphorus loading areas/sites, implementing and inspecting agricultural practices, estimating phosphorus reductions and completing compliance determinations for applicable NR 151 agricultural performance standards.

- The plan area where funds are used must have the greatest potential to reduce the amount of phosphorus per acre entering waters of the state compared to other HUC 12(s) or fields in the County (s. 283.16(8)(b)2m.a., Wis. Stats.).

- The funds should be generated and used in the same HUC 8

- Analyses of land use and land management practices used to determine how the plan area has the greatest potential to reduce the amount of phosphorus per acre entering waters of the state are required and must be included with the plan.

- Counties must apply separately for any DNR permits (e. g., Chapter 30 or 31) that may be required to implement practices. DNR approvals issued for the county MDV plan do not automatically meet the approval requirements of other DNR programs, such as chs. 30 or 31, Wis. Stats. Permit(s).

- MDV funding cannot be used to fund activities and practices required to comply with a CAFO or stormwater WPDES permits (s. 283.16(8)(b)1, Wis. Stats.).

- MDV funding cannot be used to fund practices previously funded via a local, state or federal cost-share agreements, such as the Targeted Runoff Management or Notice of Discharge grant program, to achieve compliance with the ch. NR 151, Wis. Adm. Code, cropland or livestock performance standards and prohibitions.

- MDV funding cannot be used to fund point source compliance projects such as those used for water quality trading or adaptive management.

MDV statutory requirements require counties that receive MDV funds to identify how their proposed project area has the greatest potential to reduce the amount of phosphorus per acre entering waters of the state based on an assessment of the land and land use practices in the county pursuant to s. 283.16(8)(b)2m.a., Wis. Stats. DNR recommends counties use HUC 12 or smaller sized watersheds for completing this analysis, as larger areas may be more difficult to accurately assess land and land use practices.

To help counties quickly or efficiently prioritize plan areas for using MDV funds and provide supporting documentation for selection of plan area(s), DNR has recommended using the following sources of information or tools:

EPA approved TMDLs or DNR approved 9 Key Element plans for phosphorus and sediment pollutants. Watershed modeling results from a TMDL project can help identify subareas within a watershed that have the highest phosphorus yield per acre. Analyses completed as part of a 9 key element plan that identify critical pollutant source areas within a watershed.

EVAAL tool - http://dnr.wi.gov/topic/Nonpoint/EVAAL.html
Results from the EVAAL tool, along with some level of field verification of land management (as it relates to phosphorus management) would help demonstrate areas with the greatest potential for reducing loads to waters of the state.

EPA's Spreadsheet Tool for Estimating Pollutant Loads (STEPL)
This tool employs simple algorithms to estimate a watershed's nutrient and sediment loads from different land uses and the load reductions from the implementation of various best management practices (BMPs) - http://dnr.wi.gov/topic/nonpoint/stepl.html.
A STEPL analysis of a watershed could be used at current conditions and proposed implementation of best management practices to determine which subareas have the greatest potential to reduce phosphorus entering waters of the state.

Recent water quality sampling, aquatic habitat and/or TMDL modeling analysis used for DNR TMDL development or updating DNR's 303(d) list of impaired waters. Monitoring data at several locations within a watershed can be used to identify areas of greater phosphorus export.

SNAP-plus software – watershed based analysis - SNAP-plus can be used to estimate edge of field phosphorus and sediment loads from agricultural cropland and pasture lands using representative soils, soil P concentrations, crop rotation(s), tillage and nutrient management practices for a watershed - http://snapplus.wisc.edu/. These generalized SNAP-plus results could be applied to a watershed to identify the subareas contributing the greatest amount of phosphorus. DNR has used SNAP-plus within some TMDL areas to determine average edge of field phosphorus loads by HUC 12 watershed or sub-watersheds. DNR will share this information to counties, upon request, to help determine high phosphorus loading areas. This information may also assist counties to help quantify phosphorus reductions associated with some cropland-based practices implemented with MDV payments.

Section 3.04: County Reporting Requirements

Counties receiving MDV funds are required to submit annual reports summarizing the results of implementing approved MDV plans. Annual reports include quantifying, in pounds, the associated phosphorus reductions achieved via cost sharing of practices using accepted modeling technology and must identify staff funded with MDV payments received (s. 283.16(8)(b)(3), Wis. Stats.).

BMP Location(s) and Spatial Data
The location of implemented practices must be included in annual reports. A central capability of BITS is creation and storage of spatial data.

Pollution Load Reduction
Each BMP submitted in BITS is required to have a pollution load reduction specified. For practices installed with MDV funding, phosphorus is the pollutant of concern. Accepted modeling technologies should be used to calculate, as accurately as possible, the annual total phosphorus load reduction associated with each practice. When calculating phosphorus reductions from MDV funded practices, counties employ the models and methods described in Section 3.03 of this document.

NR 151 Performance Standards Achieved
For each BMP that is submitted in BITS, users should identify which ch. NR 151, Wis. Adm. Code, agricultural performance standard(s) the BMP is meeting. The report may also confirm that a BMP will exceed, or go beyond, the NR 151 performance standards – to meet a TMDL based phosphorus reduction goal.

Attachments and Supporting Documentation
Each BMP may contain one or more types of attachments uploaded to BITS. These are used to convey additional information which may support implementation. Recommended supporting documentation includes:

- Photos: Photographs of the installed practice.
- Aerial Map: Aerial map or site diagram of the project area.
- Modeling: Model files used for determining pollution load reductions.
- Monitoring Results: Results from monitoring studies associated with the BMP.
- NR 151 Notice: NR 151 Compliance Letter issued to the landowner.
- Other: Any other relevant documents, including cost share agreements or initial inspection results.
- If a BMP has limited or vague supporting documentation in BITS, DNR may request counties to provide and/or submit more complete information on that BMP.

DNR reviews annual reports to check for consistency with approved plans and verify that pollution reduction values have been estimated accurately. Annual summary reports for each county's activities are made available to permittees that make MDV payments and to the Wisconsin Department of Agriculture, Trade, and Consumer Protection (DATCP). Report results are used to track overall progress towards meeting water quality goals and for purposes such as demonstrating reductions achieved as part of the variance to support HAC (see section 3.05 below).

The 28-month reporting timeframe for receipt, planning, and use of MDV funding must be considered when assessing the magnitude of offset achieved by the county payment option. This limitation is clear when conducting an evaluation within the first five years of the program. As of mid-2021, DNR has final reporting information for a relatively small portion of MDV funding, compared to all that has been paid out. The following table correlates MDV funding years to the dates below:

Table 9: MDV County Plan Timeline

Discharge Calendar Year	MDV Plan due from County	MDV Report Due from County
2017	**March 1, 2019**	**May 1, 2020**
2018	**March 1, 2020**	**May 1, 2021**
2019	**March 1, 2021**	**May 1, 2022**
2020	**March 1, 2022**	**May 1, 2023**
2021	**March 1, 2023**	**May 1, 2024**

Based on this timeframe, available county reporting information is currently limited to the first two years of MDV funding – 2017 and 2018. These timing limitations are further exaggerated due to reporting extensions granted to some counties. As indicated in the *Program Policy for Implementing Wisconsin's Multiple Discharger Phosphorus Variance*, a one-year reporting extension may be granted in extenuating circumstances. A number of counties experienced challenges related to the COVID-19 pandemic, which slowed implementation of practices, particularly for the 2020 field season. DNR remains committed to continuing to work with counties to ensure thorough and timely reporting is completed.

Section 3.05: Assessment of Reductions Achieved by Watershed

Nonpoint source phosphorus reductions have been planned and quantified for funding generated in 2017 and 2018. Funding generated in 2017 was sent to one county only. Funding generated in 2018 was sent to 23 different counties. To date, 11 counties have submitted final reports in BITS for the 2018 funding year. The remainder of counties have submitted a watershed plan that contains expected reductions from practices to be installed. Reported and fully installed practices result in an annual phosphorus reduction of 13,852.1 lbs/yr. Practices planned or in the process of being installed are expected to result in an additional annual phosphorus reduction of 3,185.8 lbs/yr. The total reduction for planned and implemented practices is 17,037.9 lbs/yr. It is important to note that these load reduction values are derived from nonpoint source modeling and is an estimated value based on typical rainfall data and site-specific variables such as soil phosphorus concentration, slopes, and historic cropping practices. For more information on nonpoint source modeling, see section 3.06: Nonpoint Source Modeling. Table 10 lists nonpoint source reductions achieved by counties in HUC 8 basins throughout the state.

Table 10: Planned and Reported Nonpoint Source Reductions with Funding from 2017 and 2018

HUC 8 Basin	Nonpoint Source Phosphorus Reductions			
	Reported Value (lbs/yr)	Counties Reporting	Planning Value (lbs/yr)	Counties Planning
Apple-Plum	45.3	Lafayette		
Baraboo	378.0	Sauk		
Black	9374.0	Taylor, Trempealeau	460.0	Wood
Buffalo-Whitewater			290.0	Eau Claire
Castle Rock			228.0	Juneau, Wood
Eau Claire			150.0	Eau Claire
Fox Illinois	66.0	Racine	156.0	Walworth
Grant-Little Maquoketa			200.0	Grant
Lake Dubay	2227.4	Lincoln, Marathon, Taylor	13.2	Wood
Lake Winnebago	828.5	Fond du Lac	813.1	Calumet
Lower Chippewa	64.0	Taylor	175.0	Chippewa, Eau Claire
Lower Wisconsin	215.0	Sauk		
Manitowoc-Sheboygan			99.0	Manitowoc, Ozaukee
Pecatonica	560.0	Lafayette	118.5	Iowa
Rush-Vermillion			375.0	Pierce
Trempealeau	73.0	Trempealeau		
Wolf	20.9	Waupaca, Waushara	108.0	Outagamie, Shawano
TOTALS	**13,852.1**		**3,185.8**	

A detailed list of all practices installed by counties for the 2017 and 2018 funding years is available in Appendix D: MDV Program BMP Summary.

In most cases, counties are conducting field-scale nonpoint source modeling to prioritize sites as required under s. 283.16(8)(b)2m.a., Wis. Stats. This approach means that modeling done in the planning phase is similar to that done in the reporting phase for many projects. Therefore, the planning values shown above have a relatively high degree of certainty, provided projects are implemented as planned. If practices are not able to be implemented as planned, counties must submit a revised MDV plan to DNR for review and reapproval.

Section 3.06: Nonpoint Source Modeling

The ability to quantify nonpoint source reductions supports their use as part of a variance pollutant minimization program in that they may contribute to the quantifiable expression of HAC. Nonpoint source modeling results are typically expressed in lbs/yr unit of reduction. This reduction value is derived by comparing a baseline pollutant loading model result with a future pollution modeling result that takes into account the new management practices established under the program.

Nonpoint source modeling does have limitations, however, and model results should be considered an estimate rather than an absolute number. The precipitation conditions assumed by some models are based on long-term trends for a given location. Some models estimate the amount of pollutant delivered to surface waters while others only estimated pollutants loads at the edge of the field or feedlot area. Whether a given practice actually results in less pollution in a waterbody depends on multiple factors, including whether it has been raining on a given day, week, or month to cause surface runoff, site topography, proximity of the practice(s) to surface waters and maintenance of practices over time. Despite this uncertainty, many elements of the Clean Water Act rely upon nonpoint source modeling to set water quality goals and track progress towards meeting those goals.

DNR provides a list (Table 11, below) of recommended models for counties to use when quantifying pollutant reductions achieved by practices installed under the MDV program. In addition to what model should be used, the list also includes notes and applicable NRCS technical standards to help standardize how practices are installed on the landscape. Standardization helps ensure that site-specific parameters of each practice align with assumptions built into the nonpoint source models.

Table 11: Management Practices and Associated Modeling Methods

Management Practice	Applicable Technical Standard	Method for Calculating Pollutant Load Reductions	Notes
Whole Field Management: Approved nutrient management plan, filter strips/buffer strips, grassed waterways, conservation or no till, and cover crops. Additional practices as deemed necessary by NRCS or County Conservationist may be required to protect against mobilization and delivery of pollutants.	NRCS 590, 393, 332, 412, 345 329, 340 and 330	SNAP-Plus or equivalent model results compared to baseline	NRCS 590 nutrient management plan (NMP) meets both the soil test-P and PI requirements. NMP has drawn down strategy for fields with soil P concentrations that are >100 ppm P. No manure or other P sources applied to fields > 100 ppm soil P concentration

Nutrient Management and supporting practices: Tillage Options Mulch Till No Till Riparian Filter Strip (edge of field) Cover Crop Contour Farming Strip Cropping	NRCS 590 NRCS 345 NRCS 393 NRCS 340 NRCS 330 NRCS 585	SNAP-Plus or equivalent model results* compared to baseline	Consider requiring all fields used by a crop or livestock producer for nutrient application be under an approved 590 NMP to avoid shifting of pollutant loads. Application of manure, biosolids or industrial wastes prohibited on snow-covered or frozen ground or on fields with tile drainage.
Grassed Waterway	NRCS 412	STEPL or NRCS recession equation results	When quantifying gully erosion, evaluate sediment delivery to surface water
Companion Crops	NRCS 340	SNAP-Plus or equivalent model results* compared to baseline	Companion crops must be established to provide continuous protection to soil surface and placed in support of Nutrient Management and supporting practices outlined below.
Prescribed Grazing + related Pasture Management practices	NRCS 528 NRCS 382 NRCS 578 NRCS 614	SNAP-Plus or equivalent model results* compared to baseline	UWEX publications A3629, A3699 provide additional grazing practice criteria
Production Area Practices Diversion Roof Runoff Structure Roofs and Covers Vegetated Treatment System Constructed Wetland	NRCS 362 NRCS 558 NRCS 367 NRCS 635 NRCS 656	University of Wisconsin Barnyard Tool APLE or equivalent method	
Sediment Control Basin	NRCS 350	RUSLE2	For agricultural runoff control.
Streambank Stabilization and Shoreline Protection (only when required to comply with tillage set-back or limit livestock access to surface water)	NRCS 580 NRCS 382	Appropriate methods include using NRCS recession calculation or equivalent method	For livestock producers, streambank stabilization must be accompanied by riparian fencing or other controls to prevent destruction of streambanks.
Wetland Restoration	NRCS 657 NRCS 658	SNAP-Plus or equivalent model results* compared to baseline	Load Reductions are generated for land placed out of production such as the conversion of agricultural land back to wetland.
Other Practices	TBD	See notes	Please consult with DNR to determine appropriate NRCS technical standard and model

Counties have used a variety of nonpoint source models to quantify pollution reductions in the first two years of MDV implementation. These are generally consistent with methods recommended in guidance. Table 12 shows the types of best management practices employed by each county and what modeling was used to quantify phosphorus reductions achieved from those practices.

Table 12: Practices and Corresponding Modeling Methods Employed by Counties

County Name	BMP Type(s) Installed / Planned	Model(s) Employed
Calumet	Grassed Waterway, Nutrient Management	STEPL
Chippewa	Sediment Basins, Buffers, Nutrient management	STEPL
Eau Claire	Grassed Waterway, Manure Storage, Cattle Crossing	Snap Plus
Fond du Lac	Grassed Waterway, Nutrient Management, Streambank, Sediment Basin	STEPL
Grant	Cover Crops, Streambank, No-till	NRCS Recession Calculation
Iowa	Barnyard Practices	STEPL
Juneau	Streambank	NRCS Recession Calculation
Lafayette	Streambank, Cattle Crossings	RUSLE 2; NRCS Recession Calculation
Lincoln	Manure Storage	STEPL
Manitowoc	Nutrient Management Plans	Snap Plus; Region 5 Model
Marathon	Cover Crops	Snap Plus
Monroe	Cattle Crossing, Streambank	NRCS Recession Calculation
Outagamie	Grassed waterway, Grade Stabilization	STEPL
Ozaukee	Harvestable buffers	Snap Plus
Pierce	Streambank	NRCS Recession Calculation
Racine	Grassed waterway, buffer strip	Snap Plus
Sauk	Streambank, Perennial Vegetation	BPJ
Shawano	Manure Storage	Snap Plus
Taylor	Barnyard Practices	Snap Plus
Trempealeau	Cattle Crossing, Streambank	NRCS Recession Calculation
Walworth	Cover Crops, No-till	Snap Plus
Waupaca	Sediment Basins, Cattle Crossing	STEPL
Waushara	Riparian Buffer	Snap Plus
Winnebago	Grassed Waterway, Wetlands, Riparian Buffers	Snap Plus
Wood	Nutrient Management Plans	Snap Plus

The pollution reduction values generated by nonpoint source modeling have varying degrees of certainty. Certainty is determined by multiple aspects including a) how consistently a type of practice performs under varying climactic conditions and b) how well the mechanics of the model itself capture site-specific variables. To help facilitate WQT, DNR has developed guidance for practice types that reflect the aforementioned aspects of certainty. These are used in WQT to inform a trade ratio, which converts pollution reductions to credits. A list of certainty levels is provided below, consistent with Appendix D of Guidance for Implementing Water Quality Trading in WPDES Permits to help gauge the relative level of certainty associated with nonpoint source modeling done for the MDV.

Table 13: Nonpoint Source Practices and Relative Certainty Levels

Practice Type	Certainty Level
Whole Field Management (Combination of nutrient management plan, filter strips, grassed waterways, conservation or no till, and cover crops)	Very High
Establishment of perennial vegetation, native prairie, taking land out of production	Very High
Conservation Easement	Very High
Tillage Options	Moderate to High
Mulch Till	Moderate to High
No Till	Moderate to High
Riparian Filter Strip (edge of field)	Moderate to High
Grassed Waterway	Moderate
Cover Crop	Moderate to High
Production Area Practices	High
Diversion	High
Roof Runoff Structure	High
Vegetated Treatment System	Low
Constructed Wetland	Low
Sediment Control Basin	High
Streambank Stabilization and Shoreline Protection	Moderate
Wetland Restoration (load reduction calculated based on taking land out of production)	Very High

Counties have typically employed practices with uncertainty factors in the moderate to high range. This is expected, as most practices that allow fields to remain in production carry this mid-range certainty value. Taking land out of production is associated with higher degree of pollutant reduction certainty but is not typically a focus of NR 151 implementation or MDV efforts. Some combinations of practices installed under MDV may approach the degree of certainty of whole field management, depending on preexisting conditions for specific fields.

Section 3.07: Longevity of Agricultural Practices

The duration over which an agricultural practice is maintained will greatly influence the overall cumulative amount of phosphorus reduction achieved by that practice. Pollution reductions are framed as a reduction from the baseline condition of a site or field, and that reduction is only valid over time if the practice is maintained. If the site is allowed to revert to preexisting levels of pollution loading, the pollution reduction is no longer valid. The need for ongoing maintenance of practices has been recognized by nonpoint source programs in multiple states and nationwide by EPA. This need is also reflected in NR 151 agricultural performance standards by requiring owners or operators of agricultural land found to be in compliance with performance standards to maintain that compliance in perpetuity (ss. NR 151.09 and NR 151.095, Wis. Adm. Code).

Nonpoint source grant programs and the MDV aim to provide the initial funding needed to bring agricultural land into compliance with applicable NR 151 agricultural performance standards. Once initial compliance is achieved, under NR 151, the impetus is shifted to the landowner or operator of cropland or livestock operation to continue to maintain the land/site in a way that does not violate the NR 151 standards. There is flexibility in the specific types of practices that can be employed to maintain compliance with the NR 151 standards, however, the standard must continue to be met. Due to this flexibility, practices may be discontinued at an agricultural site while continuing to meet NR 151 standards.

The question of longevity is central to an assessment of environmental return on investment for funding spent on nonpoint source controls. If controls are funded in year 1 and remain in place for one year only, the initial investment generally only results in a pollution reduction for that first year. If controls are funded in year one and left in place for five years, the initial investment will see returns in each of those five years. Under a five-year scenario, the funding is conceivably five times more effective than the one-year scenario. If a dollar-per-pound metric is applied, the number of years the practice remains should be factored into the metric. This is especially true for an annual offset program such as the MDV, where offset funding is generated for each pound discharged in each year. Consider the following scenarios:

A $25,000 one-time expense funds practices that result in a 100 lb/yr pollution reduction. Practices are only maintained for that year.

$$\frac{\$25{,}000}{100\frac{lbs}{yr} * 1\ year} = \frac{\$250}{lb}$$

The metric suggests that each pound reduced cost $250

A $25,000 one-time expense funds practices that result in a 100 lb/yr pollution reduction. Practices are maintained for five years.

$$\frac{\$25{,}000}{100\frac{lbs}{yr} * 5\ years} = \frac{\$50}{lb}$$

The metric suggests that each pound reduced cost $50

When counties use MDV funds to implement phosphorus-reducing practices that bring agricultural

landowners or operators into compliance with NR 151 performance standards, ongoing pollution reductions should be attained from the initial funding. This will maximize the efficacy of MDV funding in achieving overall nonpoint source environmental gains. Depending on the cost-share agreement, payment may be provided as a lump sum at initial practice adoption, or ongoing payments made on an annual basis.

To incorporate practice longevity into the $/lb metric, practice duration must be estimated for each practice installed under the MDV. For the purposes of this analysis, cropping/tillage practices and nutrient management are assigned a 1-year duration. Structural practices are assumed to have a 10-year duration. These durations may or may not be representative of requirements contained in specific cost share agreements or NRCS technical standards and should be considered a conservatively low estimate. Because this analysis focuses on a $/lb metric, and annual payments are commonly made for cropping practices, a maximum 1-year duration is assigned to cropping practices. In practice, cropping practices should be ongoing once several annual payments are made. Table 14, below, provides durations and cumulative reductions for practices established by each county.

Table 14: Estimated Duration of Established or Planned MDV Practices

HUC 8 Watershed	Nonpoint Source Phosphorus Reductions				
	Reported Value (lbs/yr)	County Reporting	Average Practice Duration (years)	Cumulative Total Reduction	Practices Employed
Apple-Plum	45.3	Lafayette	10	453.0	Streambank, Cattle Crossings
Baraboo	378.0	Sauk	10	3780.0	Streambank, Perennial Vegetation
Black	9320.0	Taylor	1	9320.0	Cropping Practices
Black	460.0	Wood	1	460.0	Nutrient Management Plan
Black	54.0	Trempealeau	10	540.0	Streambank, Cattle Crossings
Buffalo-Whitewater	290.0	Eau Claire	10	2900.0	Grassed Waterway
Trempealeau	73.0	Trempealeau	10	730.0	Streambank
Castle Rock	228.0	Juneau	10	2280.0	Streambank
Eau Claire	150.0	Eau Claire	10	1500.0	Manure Storage, Cattle Crossing
Fox Illinois	66.0	Racine	1	66.0	Grassed Waterway, Buffer Strip
Fox Illinois	156.0	Walworth	1	156.0	Cropping Practices
Grant-Little Maquoketa	200.0	Grant	1	200.0	Cropping Practices
Lake Dubay	250.3	Lincoln	10	2503.0	Manure Storage
Lake Dubay	1705.1	Marathon	1	1705.1	Cropping Practices
Lake Dubay	272.0	Taylor	10	2720.0	Barnyard Practices
Lake Dubay	13.2	Wood	10	132.0	Nutrient Management Plan

HUC 8 Watershed (Continued)	Reported Value (lbs/yr) (Continued)	County Reporting (Continued)	Average Practice Duration (years) (Continued)	Cumulative Total Reduction (Continued)	Practices Employed (Continued)
Lake Winnebago	828.5	Fond du Lac	1	8285.0	Grassed Waterway, Streambank, Sediment Basin
Lake Winnebago	813.1	Calumet	1	813.1	Nutrient Management Plan
Lower Chippewa	175.0	Chippewa	10	1750.0	Sediment Basin, Buffers, Nutrient Management
Lower Chippewa	64.0	Taylor	10	640.0	Critical Area Stabilization
Lower Wisconsin	215.0	Sauk	10	2150.0	Perennial Vegetation
Manitowoc-Sheboygan	74.0	Manitowoc	1	74.0	Nutrient Management Plan
Manitowoc-Sheboygan	25.0	Ozaukee	1	25.0	Harvestable Buffers
Pecatonica	118.5	Iowa	10	1185.0	Barnyard Practices
Pecatonica	560.0	Lafayette	10	5600.0	Streambank; Cattle Crossing
Rush-Vermillion	375.0	Pierce	10	3750.0	Streambank
Wolf	19.9	Waupaca	10	199.0	Cattle Crossing
Wolf	1	Waushara	1	1.0	Riparian Buffer
Wolf	8	Outagamie	10	80.0	Grade Stabilization
Wolf	100	Shawano	10	1000	Manure Storage
TOTAL	**17,037.9**		**Average = 7.0**		

Based on a program-wide average practice duration of 7 years, the dollar-per-pound metric can be calculated as follows:

$$\frac{\$621{,}969.62}{17037.9\frac{lbs}{yr} * 7\ years} = \frac{\$5.22}{lb}$$

The calculated dollar-per-pound metric for the MDV program suggests that the offset cost for phosphorus, defined as $50/pound in the initial variance analysis, is more than sufficient. It should be acknowledged, however, that sources of error exist for this metric and a safety factor is important. For example, not all areas of the state will achieve the same implementation efficiencies. Likewise, if the metric were to somewhat exceed the $50/pound value defined for the variance, it does not necessarily mean that $50 is insufficient. Over time, nonpoint source reduction implementation is expected to grow more efficient as more counties are able to access larger amounts of funding and more efficiently plan and report BMPs

adopted and corresponding phosphorus reductions using BITS.

Another longevity-related question contemplated in the MDV approval document is the degree of ongoing access to high-loading agricultural sites that can result in substantial pollution reductions when addressed by nonpoint source controls. There was some speculation whether MDV implementation would address all impactful agricultural sites within the first 10 years of the program's existence. Based on implementation thus far, this appears to not be the case. Counties have tended towards working with landowners seeking voluntary compliance in the early implementation of the program. This trend may shift, in the future, to cost sharing for enforcement of NR 151 agricultural performance standards.

Water quality data can also be used to make inferences about the level of remaining nonpoint source control needed. Many phosphorus TMDL analyses conducted across the state indicate that water quality standards cannot be obtained without widespread adoption of nonpoint source control. Therefore, it would be difficult to make the claim that nonpoint source reductions are no longer a meaningful variance provision unless most waters in the State are meeting phosphorus criteria. A compilation of water quality data could be referenced or prepared as part of future analyses but is outside the scope of this document.

Chapter 4- Assessment of Reductions and Highest Attainable Condition

Section 4.01: Highest Attainable Condition Determination

For this phosphorus MDV, highest attainable condition, or HAC, is defined as the greatest feasible point source reduction coupled with the greatest possible nonpoint source controls attainable as the result of variance provisions. The benchmark against which to evaluate whether the MDV is meeting HAC (or falling short of it) is to compare reductions achieved under the program with reductions that would have been achieved by point sources installing feasible pollution control alone (see the EPA quoted language at the end of section 1 of this document to support this conclusion).

Point Source Reductions Achieved

As discussed in Chapter 2, point sources have typically installed feasible pollution control technology to achieve interim limits as required under the MDV. A requirement to optimize treatment is found in each WPDES permit authorizing MDV coverage. Over time, more information will be obtained regarding the lower limits of phosphorus control achievable at each point source. This target "optimized" level will vary between categories of point sources and will also vary with different treatment types within the same category.

It is assumed that each facility enters the MDV with phosphorus treatment in a state that is not fully optimized. As previously mentioned, many smaller POTWs had no phosphorus removal in place when entering the MDV. For other types of permittees, particularly major municipal POTWs and larger industries, phosphorus removal was in place as required to meet a technology-based limit, typically set at 1.0 mg/L.

Absent the MDV, individual variances would require installation of phosphorus treatment if determined to be economically and technically feasible. The interim effluent limits issued to these dischargers would reflect typically accepted achievable values for effluent phosphorus concentrations for the treatment process and optimization efforts feasible at each facility. For lagoon facilities, or for facilities whose phosphorus removal capabilities are unknown, these limits may commonly be set at 1.0 mg/L as a monthly average. For facilities that have established phosphorus removal technology (particularly at mechanical plants), interim limits may be set lower. Permittees would meet these limits within the permit term, potentially on a similar schedule as they do under the MDV. It is worth noting that this scenario is very simar to the MDV, which also requires installation of feasible treatment. The MDV framework creates an additional incentive to optimize traditional phosphorus treatment because lower levels of phosphorus discharged in turn reduces the amount of county payment (or other watershed offset) required.

This document uses program implementation information to evaluate two scenarios for phosphorus variances in Wisconsin. Scenario A is a situation absent MDV, in which all dischargers currently covered under the MDV are instead covered under an individual phosphorus variance. Under the individual phosphorus variance, permittees install feasible point source phosphorus control via traditional phosphorus removal but do not contribute to a watershed offset program. It is also assumed for both the individual variance and the MDV that compliance with the phosphorus WQBEL would require installation of expensive tertiary treatment that would cause widespread detrimental economic and social impacts. Scenario B is

based on implementation of the MDV, including reductions achieved at point sources and offsets achieved via MDV watershed provisions.

Scenario A with individual variance implemented (feasible point source reductions only absent MDV):
All MDV facilities reducing effluent phosphorus concentrations from 1.5 mg/L to 0.65 mg/L
= 127,602 lbs/yr reduction

Scenario B with MDV (feasible point source reductions under MDV):
All MDV facilities reducing effluent phosphorus concentrations from 1.5 mg/L to 0.65 mg/L
= 127,602 lbs/yr reduction

Note: These loading reduction values are based on an assumed total flow value for all MDV facilities. All 119 MDV-covered facilities are estimated to discharge a total of 18 billion gallons of wastewater in 2021.

Nonpoint Source Reductions Achieved

Counties have implemented pollution reductions to the order of 13,852 lbs/yr with an additional 3,185 lbs/yr planned for implementation. These reductions are a result of the reported-to-date sum of $621,969.62 made available to counties in the years 2018 and 2019. Dischargers have implemented self-directed or third-party offsets totaling 1,928 lbs/yr.

As discussed in Section 3.07, longevity of practices established will also play a large role in annual return on investment in nonpoint source controls. The average value of 7 years for practice duration will inform the expected overall nonpoint source reductions achieved under the MDV. Because this analysis only uses reductions achieved in the first two years of MDV implementation, it should be considered a conservative approach. Once more practices are installed on the landscape, larger ongoing phosphorus reductions will be realized.

Scenario A (nonpoint source reductions achieved absent MDV):
All nonpoint source reductions are forgone, absent MDV
= 0 lbs/yr reduction

Scenario B (nonpoint source reductions achieved under MDV):
Agricultural practices implemented by counties and permittees consistent with s. 283.16, Wis. Stats.
= 18,965 lbs/yr reduction

Comparison of Total Phosphorus Reductions (both interim limits and nonpoint reductions) Achieved With and Without the MDV

Scenario A Total = **127,602 lbs/yr (absent the MDV)**

Scenario B Total = **146,567 lbs/yr (using the MDV)**

Difference: **18,965 lbs/yr**

Based on the above analysis, the MDV provides a pollution reduction 15% greater than would be achieved absent the MDV. This advantage is primarily found within the nonpoint source pollution reductions

required under the MDV.

Both of the aforementioned types of reductions are considered part of the interim effluent condition under 40 CFR 131.14. The MDV, as implemented, satisfies 40 CFR 131.14(b)(1)(ii)(A)(2) because the loading reductions achieved from the interim effluent condition are greater than the reductions that would be achieved as a result of installation and operation of feasible point source control treatment equipment. Overall, the findings presented herein demonstrate that the MDV continues to satisfy HAC requirements.

Section 4.02: Looking Ahead Towards Reapproval

The next few years of MDV implementation are expected to have increased funds for nonpoint source reductions. At the time this review was conducted, only two years of nonpoint source reductions could be evaluated. However, the ongoing viability of the MDV is dependent upon EPA reapproval of the variance much sooner than the February 2027 MDV expiration date. To address this timing issue, the Department may need to shorten permit terms for MDV-covered facilities or temporarily modify permits to require a schedule for compliance with final WQBELs, which isn't a desirable use of the agency's resources. In either scenario, the MDV planning horizon for permittees and counties begins to decrease in 2022. Potential fallout could also include decreased certainty in the MDV as a long-term program. To address the timing issue and fully implement the MDV as planned, an early reapproval of the variance is recommended and highly desirable.

A paramount consideration for MDV reapproval is the suitability of current variance requirements to continue to result in substantial phosphorus reductions in the 2nd approval period. Current requirements are found in statute (see Appendix A).

This document addresses the suitability of current requirements relative to long-term viability of the MDV:

- Price-per-pound offset
    - Based on the efficacy analysis found in chapter 3, $50/pound (plus inflation) is adequate to ensure meaningful pollution reductions are achieved.
    - Nonpoint source reductions are expected to grow more efficient in the coming years, rather than less efficient.
- Target values:
    - Currently there are a small number of permittees not making payments based on discharging below the applicable target value. However, the Department has made it clear that ongoing $0 payments will require specific dischargers to choose a different offset option that would achieve meaningful nonpoint source reductions.
- Continued need for nonpoint source offset
    - Water quality data and TMDL analyses continue to demonstrate that phosphorus water quality criteria will not be achieved unless substantial nonpoint source reductions are put in place.
    - Water quality data indicate that the majority of waterways that exceeded the phosphorus criterion in the 2010 – 2015 timeframe continue to exceed the water quality criterion.

Reapproval Recommendation

As demonstrated by the findings included in this document, DNR and water quality stakeholders continue to see the MDV as an appropriate and viable tool to reduce point and nonpoint source phosphorus pollution in waters of the state. The environmental outcomes associated with the MDV are positive, and numerous landscape-level benefits are realized by investing in sustainable agricultural practices (e.g., enhanced soil health, reduced flooding, increased carbon sequestration). Further, the reduced administrative burden afforded by the MDV saves staffing resources at both DNR and EPA. For these reasons, DNR recommends beginning the process to pursue a timely federal reapproval to authorize use of the MDV for years 2027 – 2037. (Please Note: this recommendation is made independent of the substantial

and widespread determination required under s. 283.16(3), Wis. Stats., which would need to be reevaluated prior to renewal of the variance.)

Appendix A. Statutory Language for the MDV

283.16 Statewide variance for phosphorus.

(1) Definitions. In this section:
(a) “Basin" means the drainage area identified by an 8-digit hydrologic unit code, as determined by the U.S. Geological Survey.
(b) “Category" means a class or category of point sources specified by the department under s. 283.13 (1) or publicly owned treatment works.
(d) “Existing source" means a point source that was covered by a permit on December 1, 2010.
(e) “Major facility upgrade" means the addition of new treatment equipment and a new treatment process.
(g) “Nonpoint source" has the meaning given in s. 281.16 (1) (e).
(h) “Target value" means the following:
1. For a point source in a watershed for which a federally approved total maximum daily load under 33 USC 1313 (d) (1) (C) is in effect on April 25, 2014, the number of pounds of phosphorus that would be discharged from the point source during a year if the point source complied with its effluent limitation based on the total maximum daily load in effect on April 25, 2014.
2. For a point source in a watershed for which no federally approved total maximum daily load under 33 USC 1313 (d) (1) (C) is in effect on April 25, 2014, the number of pounds of phosphorus that would be discharged from the point source during a year if the average concentration of phosphorus in the effluent discharged by the point source during the year was 0.2 milligrams per liter.
(i) “Water quality based effluent limitation" means an effluent limitation under s. 283.13 (5), including an effluent limitation based on a total maximum daily load under 33 USC 1313 (d) (1) (C) approved by the federal environmental protection agency.

(2) Initial determination concerning the water quality standard for phosphorus.
(a) The department of administration, in consultation with the department of natural resources, shall determine whether attaining the water quality standard for phosphorus, adopted under s. 281.15, through compliance with water quality based effluent limitations by point sources that cannot achieve compliance without major facility upgrades is not feasible because it would cause substantial and widespread adverse social and economic impacts on a statewide basis. The department of administration may make separate determinations under this paragraph for statewide categories of point sources.
(b) The department of administration shall include all of the following in its determination under par. (a), based on water quality based effluent limitations for phosphorus determined by the department of natural resources:
1. A calculation of the statewide cost of compliance with water quality based effluent limitations for phosphorus by point sources that cannot achieve compliance without major facility upgrades.
2. A calculation of the statewide per household cost for water pollution control by publicly owned treatment works that cannot achieve compliance with water quality based effluent limitations for phosphorus without major facility upgrades, including the projected costs of compliance with those water quality based effluent limitations, and a calculation of the percentage of median household income the per household cost represents.
4. A determination of whether the cost of compliance with water quality based effluent limitations for phosphorus by point sources that cannot achieve compliance without major facility upgrades would cause substantial adverse social and economic impacts on a statewide basis.
5. A determination of whether the cost of compliance with water quality based effluent limitations for phosphorus by point sources that cannot achieve compliance without major facility upgrades would cause widespread adverse social and economic impacts on a statewide basis.

(c) The department of administration shall make a preliminary determination under par. (a) no later than the 240th day after April 25, 2014. The department of administration shall provide public notice, through an electronic notification system that it establishes or selects, of its preliminary determination and shall provide the opportunity for public comment on the preliminary determination for at least 30 days following the public notice.
(d) The department of administration shall consider any public comments in making its final determination under par. (a) and shall make the final determination no later than the 30th day after the end of the public comment period.
(e) The department of administration shall send a notice that describes its final determination under par. (a) to the legislative reference bureau for publication in the administrative register.
(em) If the department of administration determines under par. (a) that attaining the water quality standard for phosphorus through compliance with water quality based effluent limitations by point sources that cannot achieve compliance without major facility upgrades is not feasible, the department of natural resources shall seek approval under 40 CFR Part 131 from the federal environmental protection agency for the variance under this section.
(f) If the department of administration determines under par. (a) that attaining the water quality standard for phosphorus through compliance with water quality based effluent limitations by point sources that cannot achieve compliance without major facility upgrades is not feasible, the determination remains in effect until the department of administration finds under sub. (3) (c) that the determination is no longer accurate.
(2m) Water quality standards review. As part of the review of water quality standards under s. 281.15 (6), as required by 33 USC 1313 (c) (1), if the variance under this section is in effect, the department shall determine whether formal review under sub. (3) should be undertaken, considering any comments it receives on the variance.

(3) Review of findings and requirements of variance.
(a) Within 10 years after the federal environmental protection agency approves, under sub. (2) (em), the variance under this section, if a determination under sub. (2) (a) that attaining the water quality standard for phosphorus through compliance with water quality based effluent limitations by point sources that cannot achieve compliance without major facility upgrades is not feasible is in effect, or upon a determination under sub. (2m) that review under this subsection should be undertaken, the department of administration, in consultation with the department of natural resources, shall prepare a report, no later than September 1, to evaluate whether the determination under sub. (2) (a) remains accurate. The department of administration shall consult with permittees that would be subject to water quality based effluent limitations for phosphorus and other interested parties in preparing the report.
(b) The department of natural resources shall provide all of the following to the department of administration for the report under par. (a):
1. A determination of whether technology is reasonably available for point sources to comply with effluent limitations for phosphorus that are more stringent than those in sub. (6) (a).
2. A determination of whether technology is reasonably available for any category of point sources to comply with effluent limitations for phosphorus that are more stringent than those in sub. (6) (a).
3. A determination of whether any technology that is reasonably available for compliance with effluent limitations for phosphorus that are more stringent than those in sub. (6) (a) is cost effective.
4. The results of the most recent review under sub. (3m) (a).
(c) Based on its report under par. (a), the department of administration, in consultation with the department of natural resources, shall decide whether the determination that attaining the water quality standard for phosphorus through compliance with water quality based effluent limitations by point sources that cannot achieve compliance without major facility upgrades is not feasible remains accurate.
(cm) If the department of administration decides under par. (c) that the determination remains accurate,

the department of natural resources shall decide whether it is appropriate to apply more stringent effluent limitations than those in sub. (6) (a) to all point sources or to any category of point sources, based on the availability and cost effectiveness of technology for compliance and, if so, specify those more stringent effluent limitations based on the report under par. (a).
(d) The department of administration shall provide public notice of its preliminary decisions under par. (c) no later than the 60th day after preparing the report under par. (a) and shall provide the opportunity for public comment on the decisions for at least 30 days following the public notice.
(e) The department of administration shall consider any public comments in making its final decisions under par. (c) and shall make the final decisions no later than the 30th day after the end of the public comment period.
(f) The department of administration shall send a notice that describes its final decisions under par. (c) to the legislative reference bureau for publication in the administrative register.
(g) If the department of administration decides under par. (c) that the determination described in that paragraph remains accurate, the department of natural resources shall seek approval from the federal environmental protection agency under 40 CFR 131.21 for renewal of the variance under this section.

(3m) Highest attainable condition review.
(a) Every 5 years after the variance under this section is approved by the federal environmental protection agency, the department shall, as part of the review required by 40 CFR 131.14 (b) (1) (v), review the interim effluent limitations under sub. (6) (a), or any other effluent limitations that are in effect as a result of a previous review under this subsection or sub. (3), and determine whether they are consistent with the highest attainable condition for the point sources and categories of point sources that are eligible for the variance under this section. In conducting this review, the department shall use all existing and readily available information. The department shall hold a public hearing in order to receive additional information and public comment. The department shall publish notice of the hearing on the department's Internet site at least 45 days before the hearing date.
(b) The department shall submit the results of a review under this subsection to the federal environmental protection agency within 30 days after determining that the review under par. (a) has been completed.
(c) If the department does not conduct a review within the time specified under par. (a), the variance under this section will cease to be available until the department completes the review and submits the results of the review to the federal environmental protection agency.
(d) If the department does not submit the results of a review to the federal environmental protection agency within the time specified under par. (b), the variance under this section will cease to be available until the department submits the results of the review to the federal environmental protection agency.
(e) In addition to the review under par. (a), at the time the variance under this section is initially approved for a point source, and at the time the source's permit is reissued, modified, or revoked and reissued, the department may review the interim effluent limitations under sub. (6) (a), or any other effluent limitations that are in effect as a result of a previous review under this subsection or sub. (3), and determine whether they are consistent with the highest attainable condition for the point source.

(4) Availability of variance.
(a) When a determination under sub. (2) (a) that attaining the water quality standard for phosphorus through compliance with water quality based effluent limitations by point sources that cannot achieve compliance without major facility upgrades is not feasible and approval of the variance under this section by the federal environmental protection agency are in effect, a permittee is eligible for a variance to the water quality standard for phosphorus for an existing source if all of the following apply:
1. The determination applies to the existing source.
2. Subject to par. (am) 1., the permittee certifies that the existing source cannot achieve compliance with the water quality based effluent limitation for phosphorus without a major facility upgrade.

3. The permittee agrees to comply with the requirements under sub. (6).
(am)
1. The department shall approve an application for a variance if the requirements in pars. (a) and (b) are complied with, unless the department determines that the certification under par. (a) 2. is substantially inaccurate.
2. The department shall act on an application for a variance under this section no later than the 30th day after the day on which the department receives the application for the variance.
3. If the department does not act on the application for a variance by the deadline under subd. 2., the application is approved.
(b) A permittee may apply for the variance under this section in any of the following ways:
1. By requesting the variance in the application for reissuance of the permit.
2. By requesting the variance within 60 days after the department reissues or modifies the permit to include a water quality based effluent limitation for phosphorus.
3. If the department issued a permit to the permittee before April 25, 2014, that includes a water quality based effluent limitation for phosphorus, by requesting a modification of the permit.
4. If the department issued a permit to the permittee before April 25, 2014, that includes a water quality based effluent limitation for phosphorus and that requires the permittee to submit to the department options for complying with the water quality based effluent limitation, by submitting a request for the variance as a compliance option.
(c) After an application for a variance is submitted to the department under par. (b) 2., 3., or 4., and until the last day for seeking review of the department's final decision on the application or a later date fixed by order of the reviewing court, the water quality based effluent limitation for phosphorus and any corresponding compliance schedule are not effective. All other provisions of the permit continue in effect except those for which a petition for review has been submitted under s. 283.63.
(d) Notwithstanding sub. (3m) (c) and (d), the variance under this section remains in effect for an approved point source until the point source's permit is reissued, modified, or revoked and reissued.
(e) Notwithstanding s. 227.42, there is no right to a hearing under this subsection.
(f) If the department approves a variance under this section and the department issues a modified water quality based effluent limitation under s. 283.63 for phosphorus, the permittee shall comply with the least stringent of the 2 effluent limitations.

(6) Variance provisions.
(a) Except as provided in par. (ae) or (am) or sub. (7), in the permit for a point source for which the department approves the variance under this section the department may include a requirement that the permittee optimize the performance of the point source in controlling phosphorus discharges and shall include the following interim limits:
1. In the first permit for which the department approves the variance, a requirement to achieve, by the end of the term of that permit, compliance with an effluent limitation for phosphorus equal to 0.8 milligrams per liter as a monthly average.
2. In the 2nd permit for which the department approves the variance, a requirement to achieve, by the end of the term of that permit, compliance with an effluent limitation for phosphorus equal to 0.6 milligrams per liter as a monthly average.
3. In the 3rd permit for which the department includes the variance, a requirement to achieve, by the end of the term of that permit, compliance with an effluent limitation for phosphorus equal to 0.5 milligrams per liter as a monthly average.
4. In the 4th permit for which the department includes the variance, a requirement to achieve, by the end of the term of that permit, compliance with the water quality based effluent limitation for phosphorus.
(ae) If a permittee who chose an option for complying with a water quality based effluent limitation for phosphorus other than the variance under this section applies for the variance under this section, the

department shall count a permit that included the other compliance option as though the permit had included the variance, for the purposes of par. (a), including determining the applicable interim limit.
(am) If a permittee certifies that the point source cannot achieve compliance with an interim limit in par. (a) 1., 2., or 3. without a major facility upgrade, the department shall include in the permit a requirement to achieve compliance with the most stringent achievable interim limit, except that the department may not include an interim limit that is higher than the limit established under s. 283.11 (3) (am).
(b) In the permit for a point source for which the department approves the variance under this section, in addition to the requirements under par. (a) or (am) or sub. (7), the department shall require the permittee to implement the permittee's choice of the following measures to reduce the amount of phosphorus entering the waters of the state:
1. Making payments to counties as provided in sub. (8).
2. Entering into a binding, written agreement with the department under which the permittee constructs a project or implements a plan that is designed to result in an annual reduction of phosphorus pollution from other sources in the basin in which the point source is located, in an amount equal to the difference between the annual amount of phosphorus discharged by the point source and the target value.
3. Entering into a binding written agreement, that is approved by the department, with another person under which the person constructs a project or implements a plan that is designed to result in an annual reduction of phosphorus pollution from other sources in the basin in which the point source is located, in an amount equal to the difference between the annual amount of phosphorus discharged by the point source and the target value.

(7) More stringent effluent limitations. If the department determines under sub. (3) (cm) or (3m) (a) or (e) that the interim effluent limitations under sub. (6) (a), or any other effluent limitations that are in effect as a result of a previous review under sub. (3) or (3m), are not consistent with the highest attainable condition for a point source or category of point sources eligible for the variance under this section, the department shall include the more stringent effluent limitations that were specified under sub. (3) (cm) or (3m) (a) or (e) as being consistent with the highest attainable condition in permits that are reissued, modified, or revoked and reissued after that determination for the point source or category of point sources to which the more stringent effluent limitations apply.

(8) Payments to counties.
(a)
1. A permittee that chooses to make payments for phosphorus reduction under sub. (6) (b) 1. shall make the payments to each county that is participating in the program under this subsection and that has territory within the basin in which the point source is located in proportion to the amount of territory each county has within the basin. The permittee shall make a total payment by March 1 of each calendar year in the amount equal to the per pound amount under subd. 2. times the number of pounds by which the amount of phosphorus discharged by the point source during the previous year exceeded the point source's target value or $640,000, whichever is less. If no county that has territory within the basin is participating in the program under this subsection, the department shall direct the permittee to make payments to participating counties selected by the department.
2. The per pound payment for this subsection is $50 beginning on April 25, 2014. Beginning in 2015, the department shall adjust the per pound payment each year by a percentage equal to the average annual percentage change in the U.S. consumer price index for all urban consumers, U.S. city average, as determined by the federal department of labor, for the 12 months ending on the preceding December 31. The adjusted amount takes effect for permits reissued on April 1. The per pound payment in effect when a permit is reissued applies for the term of the permit.
(b)
1. A county shall use payments received under this subsection to provide cost sharing under s. 281.16 (3)

(e) or (4) for projects to reduce the amount of phosphorus entering the waters of the state, for staff to implement projects to reduce the amount of phosphorus entering the waters of the state from nonpoint sources, or for modeling or monitoring to evaluate the amount of phosphorus in the waters of the state for planning purposes.
2. A county shall use at least 65 percent of the amounts received under this subsection to provide cost sharing under s. 281.16 (3) (e) or (4).
2m. No later than March 1 of each year, a county shall develop a plan for using the payments received under this subsection in the previous year that is consistent with the county's land and water resource management plan under s. 92.10. A county shall do all of the following in the plan under this subdivision:
a. Identify projects that have, or watersheds in which there exists, the greatest potential to reduce the amount of phosphorus per acre entering the waters of the state, based on an assessment of the land and land use practices in the county.
b. Describe the measures it will take to ensure that each project that it funds is completed and evaluated.
3. No later than May 1 of the 2nd year following a year in which a county receives payments under this subsection, the county shall submit an annual report to the department of natural resources, the department of agriculture, trade and consumer protection, and each permittee from which it received those payments. In the annual report, the county shall describe the projects for which it provided cost sharing, quantify, in pounds, the associated phosphorus reductions achieved using accepted modeling technology, and identify any staff funded with the payments.
4. The department shall evaluate reports submitted under subd. 3. If the department determines that a county is not using the payments to effectively reduce the amount of phosphorus entering the waters of the state from nonpoint sources, the department may require permittees who made the payments to eliminate or reduce future payments to the county.
5. A county shall notify the department by January 1 of each year if it chooses not to participate in the program under this subsection.

(8m) Projects or plans.
(a) A person who constructs a project or implements a plan under an agreement under sub. (6) (b) 2. or 3. that involves activities for which performance standards and prohibitions have been prescribed under s. 281.16 (2) or (3) shall comply with those performance standards and prohibitions and any associated technical standards.
(b) A person who constructs a project or implements a plan under an agreement under sub. (6) (b) 2. or 3. shall annually submit a report to the department that quantifies, in pounds, the phosphorus reductions achieved through the project or plan, using accepted modeling technology. The department shall review reports submitted under this paragraph. If the department determines, based on the results of the modeling, that a project or plan is not effectively reducing the amount of phosphorus entering the waters of the state, the department shall terminate or modify the agreement.
283.16(9)

(9) Federal requirements.
Notwithstanding any of the provisions of this section, the department shall comply with the provisions of 40 CFR 131.14 when approving and implementing a variance under this section.

History: 2013 a. 378; 2015 a. 205

Appendix B. Compiled effluent data for WPDES facilities covered under MDV

Facility Formal Name	Permit Number	Annual Average Phosphorus Concentration (mg/L)[1]				
		2017	2018	2019	2020	2021[3]
Barneveld Wastewater Treatment Facility	0029131	#N/A	2.58	0.63	0.41	0.46
Hillshire Brands Co.	0023094	#N/A	0.42	0.39	0.4	0.42
Appleton Property Ventures LLC	0000990	#N/A	0.50	0.71	0.43	0.49
Foremost Farms USA Chilton	0027618	#N/A	0.88	0.68	0.58	ND[2]
Black River Falls WWTF	0021954	#N/A	0.49	0.7	0.63	0.46
Ellsworth Coop Creamery	0022942	0.62	0.72	0.65	1.63	0.34
Twin Lakes Wastewater Treatment Fac	0021695	#N/A	0.42	0.32	0.29	0.24
Rewey Wastewater Treatment Facility	0031569	0.91	1.10	2.17	2.1	2.05
Patch Grove Wastewater Treatment Facility	0022705	#N/A	2.39	1.31	0.63	0.89
Viroqua Wastewater Treatment Facility	0021920	#N/A	0.40	0.21	0.19	0.16
Phillips City of	0021539	#N/A	0.35	0.3	0.3	0.29
City of Fond du Lac WTRRF	0023990	#N/A	0.39	0.24	0.23	0.19
Bagley Wastewater Treatment Facility	0060771	#N/A	0.92	1.18	0.9	0.69
Milan S D Wastewater Treatment Facility	0031500	#N/A	1.44	1.32	1.52	0.52
Benton Wastewater Treatment Facility	0020672	#N/A	3.04	1.28	0.72	0.78
Linden Wastewater Treatment Facility	0021580	#N/A	0.49	0.18	0.53	0.15
Cadott Wastewater Treatment Facility	0023515	#N/A	0.19	0.28	0.22	0.17
Livingston Wastewater Treatment Facility	0022187	#N/A	1.97	0.47	0.42	0.54
Abbotsford Wastewater Treatment Facility	0023141	#N/A	0.22	0.16	0.16	0.18
Blue River Wastewater Treatment Facility	0023418	#N/A	6.03	4.87	5.89	5.58
Auburndale Wastewater Treatment Facility	0022411	#N/A	2.12	1.34	0.73	0.61
Richland Center Wastewater Treatment Fac	0020109	#N/A	0.44	0.36	1.96	0.38
Hustler Wastewater Treatment Facility	0032085	#N/A	2.58	0.34	2.19	0.19
Yorkville Sewer Utility District No 1	0029831	#N/A	#N/A	0.78	0.58	1.5
Stoddard Wastewater Treatment Facility	0028304	#N/A	0.77	0.73	0.37	0.39
Union Center Wastewater Treatment Facility	0025640	#N/A	0.09	0.07	0.25	0.2
Lakeland Sanitary District # 1	0061387	#N/A	1.03	1.12	0.84	1.17
Village of Union Grove	0028291	#N/A	#N/A	#N/A	1.97	0.23
Fountain City WWTF	0024040	#N/A	1.15	0.9	0.51	0.55
Vesper Wastewater Treatment Facility	0030309	#N/A	0.99	#N/A	0.98	0.77
Owen Wastewater Treatment Facility	0020940	#N/A	0.50	0.74	0.37	0.43
Mondovi Wastewater Treatment Facility	0020591	#N/A	0.61	0.49	0.44	0.61
Galesville Wastewater Treatment Plant	0021725	#N/A	3.67	2.76	2.19	0.79
Viola Wastewater Treatment Facility	0021148	#N/A	3.54	1.18	0.76	1.37
Fennimore Wastewater Treatment Facility	0023981	#N/A	#N/A	0.9	0.3	0.55
Grande Cheese Company - Juda	0063207	#N/A	0.91	0.71	0.6	0.75
Neillsville Wastewater Treatment Facility	0021202	#N/A	0.76	0.84	0.28	0.25
La Farge Wastewater Treatment Plant	0024465	#N/A	1.07	0.28	0.34	0.36
Curtiss Wastewater Treatment Facility	0031445	#N/A	6.51	0.31	0.23	0.44

Facility Formal Name (Continued)	Permit Number	Annual Average Phosphorus Concentration (mg/L)[1]				
		2017	2018	2019	2020	2021
Thorp Wastewater Treatment Facility	0025615					
Belgium Wastewater Treatment Facility	0023353	#N/A	0.16	0.11	0.11	0.12
The Procter & Gamble Paper Products Co	0001031	#N/A	#N/A	0.05	0.03	0.03
Spring Valley Wastewater Treatment Facility	0022373	#N/A	0.70	0.62	0.45	0.27
Grande Cheese Co Brownsville	0050016	#N/A	#N/A	#N/A	2.25	0.69
Onion River Wastewater Commission	0036811	#N/A	3.71	0.58	0.33	0.26
Hatfield Sanitary District	0036641	#N/A	4.73	1.13	1.34	ND[2]
Horicon Wastewater Treatment Facility	0020231	#N/A	#N/A	0.66	0.4	0.37
Kendall Wastewater Treatment Facility	0020516	#N/A	#N/A	0.48	0.4	0.31
Hazel Green Wastewater Treatment Facility	0024210	#N/A	#N/A	3.41	2.73	1.12
Clark County Health Care Center WWTF	0029700	#N/A	#N/A	2.39	0.76	0.86
Lomira Wastewater Treatment Facility	0020532	#N/A	#N/A	0.51	0.36	0.54
Casco Wastewater Treatment Facility	0023566	#N/A	#N/A	1.55	0.88	0.09
Ridgeway Wastewater Treatment Facility	0031348	#N/A	#N/A	1.38	0.17	0.23
Norwalk Wastewater Treatment Facility	0024961	#N/A	#N/A	2.53	3.44	3.14
Krakow Sanitary District WWTF	0028169	#N/A	#N/A	1.93	2.34	4.03
Fonks Home Center, Inc. Hickory Haven	0030660	#N/A	#N/A	0.22	0.38	0.2
Paddock Lake Wastewater TRTMNT FAC	0025062	#N/A	#N/A	0.29	0.36	0.25
Randolph Wastewater Treatment Facility	0031160	#N/A	#N/A	2.22	0.33	0.54
Fenwood Wastewater Treatment Facility	0031411	#N/A	#N/A	0.94	0.61	0.98
Trempealeau Wastewater Treatment Facility	0020966	#N/A	#N/A	1.81	0.45	0.12
Downsville Sanitary District #1 WWTF	0031682	#N/A	#N/A	0.48	0.56	0.68
Abrams Sanitary District 1	0049859	#N/A	#N/A	3.22	3.97	4.19
Eagle Lake Sewer Utility	0031526	#N/A	#N/A	0.35	0.24	0.19
Independence Wastewater Treatment Plant	0024287	#N/A	#N/A	3.48	0.77	0.56
Taylor Wastewater Treatment Facility	0021881	#N/A	#N/A	0.55	0.75	0.76
Foremost Farms USA Plover	0003859	#N/A	#N/A	0.69	0.88	0.57
Granton Wastewater Treatment Facility	0020885	#N/A	#N/A	0.75	0.67	0.35
Melrose Wastewater Treatment Facility	0024678	#N/A	#N/A	2.29	0.57	0.39
Crystal Lake Sanitary District	0035114	#N/A	#N/A	1.95	1.63	1.01
Genoa City Village	0021083	#N/A	#N/A	#N/A	0.22	0.32
Milk Specialties Global - Adell	0001236	#N/A	#N/A	0.21	0.4	0.49
Lebanon Sanitary District #1 WWTF	0031364	#N/A	#N/A	#N/A	0.55	1.12
Prescott Wastewater Treatment Facility	0022403	#N/A	#N/A	1.38	0.54	1.1
Bristol Utility District 1	0022021	#N/A	#N/A	0.25	0.23	0.18
Poygan Poy Sippi SD 1 WWTF	0035513	#N/A	#N/A	1.91	0.32	0.55
Pittsville Water And Sewer Dept WWTF	0020494	#N/A	#N/A	#N/A	0.78	1.27
Clinton Wastewater Treatment Facility	0022039	#N/A	#N/A	#N/A	0.31	0.61
Hillsboro Wastewater Treatment Facility	0020583	#N/A	#N/A	#N/A	1.14	0.72
AMPI Blair Cheese Plant	0003760	#N/A	#N/A	#N/A	#N/A	0.22
Platteville Wastewater Treatment Facility	0020435	#N/A	#N/A	#N/A	0.34	0.23
Whitehall Wastewater Treatment Facility	0030970	#N/A	#N/A	2.18	1.05	2.55

Facility Formal Name (Continued)	Permit Number	Annual Average Phosphorus Concentration (mg/L)[1]				
		2017	2018	2019	2020	2021
Seneca Foods Corporation Gillett	0000345	#N/A	#N/A	0.42	0.41	0.38
Watertown Wastewater Treatment Facility	0028541	#N/A	#N/A	#N/A	#N/A	0.4
Waumandee Sanitary District #1	0061646	#N/A	#N/A	1.53	0.43	ND[2]
Almena Village of	0023183	#N/A	#N/A	0.7	1.95	7.21
Foremost Farms USA Lancaster	0062308	#N/A	#N/A	#N/A	#N/A	0.55
Dodgeville Wastewater Treatment Facility	0026913	#N/A	#N/A	#N/A	#N/A	0.21
Dorchester Wastewater Treatment Facility	0021571	#N/A	#N/A	#N/A	0.7	1.07
Edgar Wastewater Treatment Facility	0021784	#N/A	#N/A	#N/A	0.82	0.86
Cazenovia Wastewater Treatment Facility	0031801	#N/A	#N/A	#N/A	2.62	3.22
Marathon Water & Sewer Dpt WW Treatmnt Plant	0020273	#N/A	#N/A	#N/A	0.53	0.60
De Soto Wastewater Treatment Facility	0029793	#N/A	#N/A	#N/A	0.56	0.24
Stitzer Sanitary District WWTF	0036285	#N/A	#N/A	#N/A	1.34	0.33
Green Lake Wastewater Treatment Facility	0021776	#N/A	#N/A	#N/A	0.39	0.78
Hub Rock Sanitary District #1 WWTF	0049689	#N/A	#N/A	#N/A	1.21	1.95
Nekoosa Wastewater Treatment Facility	0020613	#N/A	#N/A	#N/A	1.05	0.4
Osseo Wastewater Treatment Facility	0025046	#N/A	#N/A	#N/A	0.52	0.41
Unity Wastewater Treatment Facility	0060526	#N/A	#N/A	#N/A	1.7	2.98
Valley Ridge Clean Water Commission WWTF	0036854	#N/A	#N/A	#N/A	0.62	0.72
Westfield Wastewater Treatment Facility	0022250	#N/A	#N/A	#N/A	#N/A	0.41
Genoa Wastewater Treatment Facility	0022284	#N/A	#N/A	#N/A	1.42	2.83
Junction City Wastewater Treatment Facility	0028070	#N/A	#N/A	#N/A	#N/A	1.22
Ettrick Wastewater Treatment Facility	0020621	#N/A	#N/A	#N/A	0.48	0.17
Wazee Area Wastewater Commission	0036889	#N/A	#N/A	#N/A	0.64	0.4
Agropur Inc Luxemburg	0050237	#N/A	#N/A	#N/A	#N/A	0.35
Sharon Wastewater Treatment Facility	0022608	#N/A	#N/A	#N/A	#N/A	1.77
Lyons Sanitary District No 2	0031941	#N/A	#N/A	#N/A	#N/A	0.7
Palmyra Wastewater Treatment Facility	0031020	#N/A	#N/A	#N/A	#N/A	4.68
Lena Wastewater Treatment Facility	0061361	#N/A	#N/A	#N/A	#N/A	1.17
Fonks Home Center Harvest View Estates	0026689	#N/A	#N/A	#N/A	#N/A	0.2
Rozellville Sanitary District No 1	0029076	#N/A	#N/A	#N/A	#N/A	ND[2]
Rushing Waters Fisheries, Inc.	0002488	#N/A	#N/A	#N/A	0.34	0.08
Lynn Dairy / Lynn Protein, Inc.	0051152	#N/A	#N/A	#N/A	#N/A	0.46
Lakeside Foods Inc - Reedsburg	0057738	#N/A	#N/A	#N/A	#N/A	ND[2]
Spring Green Golf Club Sanitary Dist #2 WWTF	0028363	#N/A	#N/A	#N/A	#N/A	2.36
Mount Hope Wastewater Treatment Facility	0020907	#N/A	#N/A	#N/A	#N/A	1.63
Maine Wastewater Treatment Facility (formerly Brokaw WWTF)	0022136	#N/A	#N/A	#N/A	#N/A	1.74
Whitelaw Wastewater Treatment Facility	0022047	#N/A	#N/A	#N/A	#N/A	0.93
Blanchardville Wastewater Treatment Facility	0021105	#N/A	#N/A	#N/A	#N/A	3.78

1 – #N/A Indicates a year in which the facility did not have MDV coverage.

2 – ND Indicates unavailability of data for intermittent dischargers in 2021.

3 – 2021 values are calculated using effluent data from January – June 2021.

Appendix C. MDV Payments to Counties

Facility Name	Permit Number	Annual MDV Payment Made[1]			
		2017	2018	2019	2020
Barneveld Wastewater Treatment Facility	0029131	#N/A	$30,511.83	$7,299.46	$2,723.77
Hillshire Brands Co.	0023094	#N/A	$3,526.75	$18,069.16	$17,619.70
Appleton Property Ventures LLC	0000990	#N/A	$-	$-	$-
Foremost Farms USA Chilton	0027618	#N/A	$12,331.14	$17,296.14	$11,487.06
Black River Falls WWTF	0021954	#N/A	$22,102.44	$49,068.38	$34,182.88
Ellsworth Coop Creamery	0022942	$2,250.34	$19,712.17	$16,448.08	$55,045.94
Twin Lakes Wastewater Treatment Fac	0021695	#N/A	$5,331.52	$18,008.82	$16,237.01
Rewey Wastewater Treatment Facility	0031569	$355.68	$920.09	$1,953.03	$1,872.32
Patch Grove Wastewater Treatment Facility	0022705	#N/A	$9,198.11	$6,939.47	$3,538.91
Reedsburg Wastewater Treatment Facility	0020371	#N/A	$116,841.22	$184,171.08	#N/A
Viroqua Wastewater Treatment Facility	0021920	#N/A	$6,635.20	$419.29	$-
Phillips City of	0021539	#N/A	$3,455.37	$3,112.89	$2,237.36
City of Fond du Lac WTRRF	0023990	#N/A	$216,522.89	$53,939.02	$35,543.19
Bagley Wastewater Treatment Facility	0060771	#N/A	$2,503.25	$5,100.04	$2,465.23
Milan SD Wastewater Treatment Facility	0031500	#N/A	$18,781.98	$27,395.81	$30,757.86
Benton Wastewater Treatment Facility	0020672	#N/A	$22,389.94	$12,765.71	$5,083.41
Linden Wastewater Treatment Facility	0021580	#N/A	$2,436.87	$-	$2,096.94
Cadott Wastewater Treatment Facility	0023515	#N/A	#N/A	$2,704.00	$759.48
Livingston Wastewater Treatment Facility	0022187	#N/A	$2,686.62	$6,128.48	$1,867.01
Abbotsford Wastewater Treatment Facility	0023141	#N/A	$-	$-	$-
Blue River Wastewater Treatment Facility	0023418	#N/A	$6,157.22	$11,635.74	$14,213.42
Auburndale Wastewater Treatment Facility	0022411	#N/A	$30,209.00	$29,192.07	$15,793.79
Richland Center Wastewater Treatment Fac	0020109	#N/A	#N/A	#N/A	#N/A
Hustler Wastewater Treatment Facility	0032085	#N/A	$1,156.28	$17.69	$-
Yorkville Sewer Utility District No 1	0029831	#N/A	#N/A	$905.41	$4,577.95
Stoddard Wastewater Treatment Facility	0028304	#N/A	$1,388.76	$3,259.55	$1,103.34
Union Center Wastewater Treatment Facility	0025640	#N/A	$-	$-	$228.78
Lakeland Sanitary District # 1	0061387	#N/A	$57.27	$992.02	$412.00
Village of Union Grove	0028291	#N/A	#N/A	$-	$2,308.06
Fountain City WWTF	0024040	#N/A	$8,588.47	$21,220.53	$8,427.77
Vesper Wastewater Treatment Facility	0030309	#N/A	$3,451.70	$16,800.38	$14,107.82
Owen Wastewater Treatment Facility	0020940	#N/A	$7,191.53	$31,314.99	$9,408.85
Mondovi Wastewater Treatment Facility	0020591	#N/A	$4,973.45	$10,548.10	$7,378.00
Galesville Wastewater Treatment Plant	0021725	#N/A	#N/A	#N/A	#N/A
Viola Wastewater Treatment Facility	0021148	#N/A	#N/A	$9,494.37	$6,851.55
Fennimore Wastewater Treatment Facility	0023981	#N/A	#N/A	$10,691.60	$3,304.12
Grande Cheese Company - Juda	0063207	#N/A	$36,097.55	$58,276.98	$46,435.65

Neillsville Wastewater Treatment Facility	0021202	#N/A	$5,238.32	$58,519.40	$4,628.75
La Farge Wastewater Treatment Plant	0024465	#N/A	$1,884.32	$2,007.43	$2,486.03
Curtiss Wastewater Treatment Facility	0031445	#N/A	$587.23	$2,172.32	$392.25
Thorp Wastewater Treatment Facility	0025615	#N/A	$4,341.15	$12,805.24	$9,249.15
Belgium Wastewater Treatment Facility	0023353	#N/A	#N/A	$-	$-
The Procter & Gamble Paper Products Co	0001031	#N/A	#N/A	$9,516.02	$4,089.84
Spring Valley Wastewater Treatment Facility	0022373	#N/A	$2,138.82	$7,715.09	$5,110.97
Grande Cheese Co Brownsville	0050016	#N/A	#N/A	#N/A	$57,626.97
Onion River Wastewater Commission	0036811	#N/A	$2,970.77	$9,052.53	$2,762.79
Hatfield Sanitary District	0036641	#N/A	$7,044.28	$4,997.80	$588.36
Horicon Wastewater Treatment Facility	0020231	#N/A	#N/A	$39,370.83	$14,838.70
Kendall Wastewater Treatment Facility	0020516	#N/A	#N/A	$2,550.03	$1,037.27
Hazel Green Wastewater Treatment Facility	0024210	#N/A	#N/A	$27,050.48	$26,180.59
Clark County Health Care Center WWTF	0029700	#N/A	#N/A	$19,902.34	$7,140.27
Lomira Wastewater Treatment Facility	0020532	#N/A	#N/A	$2,159.09	$8,046.40
Casco Wastewater Treatment Facility	0023566	#N/A	#N/A	$4,505.32	$12,388.44
Ridgeway Wastewater Treatment Facility	0031348	#N/A	#N/A	$9,002.07	$-
Norwalk Wastewater Treatment Facility	0024961	#N/A	#N/A	#N/A	#N/A
Krakow Sanitary District WWTF	0028169	#N/A	#N/A	$5,046.99	$14,298.91
FONKS HOME CENTER, INC. - HICKORY HAVEN	0030660	#N/A	#N/A	$106.45	$661.02
Paddock Lake Wastewater TRTMNT FAC	0025062	#N/A	#N/A	$3,076.16	$11,047.80
Randolph Wastewater Treatment Facility	0031160	#N/A	#N/A	$12,023.82	$7,430.95
Fenwood Wastewater Treatment Facility	0031411	#N/A	#N/A	$1,270.65	$448.46
Trempealeau Wastewater Treatment Facility	0020966	#N/A	#N/A	$1,959.25	$4,652.69
Downsville Sanitary District #1 WWTF	0031682	#N/A	#N/A	$360.47	$885.26
Abrams Sanitary District 1	0049859	#N/A	#N/A	$4,259.88	$18,780.91
Eagle Lake Sewer Utility	0031526	#N/A	#N/A	$1,964.02	$1,820.89
Independence Wastewater Treatment Plant	0024287	#N/A	#N/A	$5,011.04	$7,842.29
Taylor Wastewater Treatment Facility	0021881	#N/A	#N/A	$1,299.80	$3,541.60
Foremost Farms USA Plover	0003859	#N/A	#N/A	$8,998.98	$35,555.40
Granton Wastewater Treatment Facility	0020885	#N/A	#N/A	$4,679.72	$1,279.66
Melrose Wastewater Treatment Facility	0024678	#N/A	#N/A	$1,300.34	$1,432.87
Crystal Lake Sanitary District	0035114	#N/A	#N/A	$1,254.75	$2,551.38
Genoa City Village	0021083	#N/A	#N/A	#N/A	$420.91
Milk Specialties Global - Adell	0001236	#N/A	#N/A	$15,519.74	$36,204.77
Lebanon Sanitary District #1 WWTF	0031364	#N/A	#N/A	#N/A	$1,496.22
Prescott Wastewater Treatment Facility	0022403	#N/A	#N/A	$23,611.95	$15,504.35
Bristol Utility District 1	0022021	#N/A	#N/A	$3,165.22	$2,428.92
Poygan Poy Sippi SD 1 WWTF	0035513	#N/A	#N/A	$3,943.94	$1,011.96
Pittsville Water And Sewer Dept WWTF	0020494	#N/A	#N/A	#N/A	$9,646.75
Clinton Wastewater Treatment Facility	0022039	#N/A	#N/A	#N/A	$3,923.54

Hillsboro Wastewater Treatment Facility	0020583	#N/A	#N/A	#N/A	$29,711.59
Platteville Wastewater Treatment Facility	0020435	#N/A	#N/A	#N/A	$18,741.89
Whitehall Wastewater Treatment Facility	0030970	#N/A	#N/A	$6,578.54	$91,897.09
Seneca Foods Corporation Gillett	0000345	#N/A	#N/A	$297.63	$2,384.39
Watertown Wastewater Treatment Facility	0028541	#N/A	#N/A	#N/A	$-
Waumandee Sanitary District #1	0061646	#N/A	#N/A	$2,216.35	$218.78
Almena Village of	0023183	#N/A	#N/A	$381.13	$16,336.09
Foremost Farms USA Lancaster	0062308	#N/A	#N/A	#N/A	#N/A
Dodgeville Wastewater Treatment Facility	0026913	#N/A	#N/A	#N/A	#N/A
Dorchester Wastewater Treatment Facility	0021571	#N/A	#N/A	#N/A	$10,701.21
Edgar Wastewater Treatment Facility	0021784	#N/A	#N/A	#N/A	$20,724.79
Cazenovia Wastewater Treatment Facility	0031801	#N/A	#N/A	#N/A	#N/A
Marathon Water & Sewer Dpt WW Treatmnt Plant	0020273	#N/A	#N/A	#N/A	#N/A
De Soto Wastewater Treatment Facility	0029793	#N/A	#N/A	#N/A	$395.87
Stitzer Sanitary District WWTF	0036285	#N/A	#N/A	#N/A	$1,263.56
Green Lake Wastewater Treatment Facility	0021776	#N/A	#N/A	#N/A	$2,369.31
Hub Rock Sanitary District #1 WWTF	0049689	#N/A	#N/A	#N/A	$1,117.69
Nekoosa Wastewater Treatment Facility	0020613	#N/A	#N/A	#N/A	#N/A
Osseo Wastewater Treatment Facility	0025046	#N/A	#N/A	#N/A	$1,907.81
Unity Wastewater Treatment Facility	0060526	#N/A	#N/A	#N/A	$9,316.72
Valley Ridge Clean Water Commission WWTF	0036854	#N/A	#N/A	#N/A	$1,964.75
Westfield Wastewater Treatment Facility	0022250	#N/A	#N/A	#N/A	$2,081.35
Genoa Wastewater Treatment Facility	0022284	#N/A	#N/A	#N/A	$4,805.86
Junction City Wastewater Treatment Facility	0028070	#N/A	#N/A	#N/A	#N/A
Ettrick Wastewater Treatment Facility	0020621	#N/A	#N/A	#N/A	$511.39
Wazee Area Wastewater Commission	0036889	#N/A	#N/A	#N/A	$1,577.55
Agropur Inc Luxemburg	0050237	#N/A	#N/A	#N/A	#N/A
Sharon Wastewater Treatment Facility	0022608	#N/A	#N/A	#N/A	#N/A
Lyons Sanitary District No 2	0031941	#N/A	#N/A	#N/A	#N/A
Palmyra Wastewater Treatment Facility	0031020	#N/A	#N/A	#N/A	#N/A
Lena Wastewater Treatment Facility	0061361	#N/A	#N/A	#N/A	#N/A
Fonks Home Center Inc., Harvest View Estates	0026689	#N/A	#N/A	#N/A	#N/A
Rozellville Sanitary District No 1	0029076	#N/A	#N/A	#N/A	#N/A
Rushing Waters Fisheries, Inc.	0002488	#N/A	#N/A	#N/A	$
Lynn Dairy / Lynn Protein, Inc.	0051152	#N/A	#N/A	#N/A	#N/A
Lakeside Foods Inc - Reedsburg	0057738	#N/A	#N/A	#N/A	#N/A
Spring Green Golf Club Sanitary Dist #2 WWTF	0028363	#N/A	#N/A	#N/A	#N/A
Mount Hope Wastewater Treatment Facility	0020907	#N/A	#N/A	#N/A	#N/A

Maine Wastewater Treatment Facility	0022136	#N/A	#N/A	#N/A	#N/A
Whitelaw Wastewater Treatment Facility	0022047	#N/A	#N/A	#N/A	#N/A
Blanchardville Wastewater Treatment Facility	0021105	#N/A	#N/A	#N/A	#N/A

1 – #N/A Indicates a year in which the facility did not have MDV coverage.
No value shown indicates a payment was not required under s. 283.16(6)(b), Wis. Stats.

Appendix D: MDV Program BMP Summary

The BMP Summary: Multiple Discharger Variances report displays every best management practice (BMP) that is part of a submitted multiple discharger variance (MDV) annual report in BITS. Summary data is available at the top of the report, with a detail table containing each practice below.

Filters applied:
DNR regions: All
Counties: All
HUC 8 watersheds: All
HUC 12 subwatersheds: All
BMP types: All
BMPs installed between: Any start date and any end date

MDV Implemented Practice Totals

Total MDV Projects	MDV Plans	Types of Practices	Participating Counties	Subwatersheds	Total Phosphorus Reduction (lbs/yr)	Total Nitrogen Reduction (lbs/yr)	Total Sediment Reduction (tons/yr)	Total Cost of BMPs	Total MDV Funds Used
16	16	19	11	22	13,852	5,491	3983	$791,454.80	$398,757.75

MDV Implemented Practice Details by County

County											
Fond du Lac	Project Name	HUC 8	BMP Type	Latitude	Longitude	Date Installed	Quantity	Units	Phosphorus Reduction (lbs/yr)	BMP Total Cost	MDV Funds Used
	Fond du Lac Pipe Creek Watershed MDV	Lake Winnebago [04030203]	Manure Storage System Closure	43.88686	-88.32547	7/31/2020	1	NO.		$13,557.50	$9,490.25
			Manure Storage System Closure	43.92527	-88.31043	6/1/2020	1	NO.		$13,500.00	$9,450.00
			Waterway Systems	43.92527	-88.31043	5/17/2020	1.8	ACRES	134	$14,550.00	$10,185.00
			Streambank/Shoreline Protection - Shaping & Seeding	43.88686	-88.32547	12/21/2020	3254	FEET	197.3	$8,190.00	$5,733.00
			Wetland Development or Restoration	43.89552	-88.30383	12/21/2020	1	ACRES		$36,615.95	$21,256.20
			Water & Sediment Control Basins	43.89552	-88.30383	12/21/2020	1	NO.	34.98	$38,788.50	$27,151.95
			Waterway Systems	43.89552	-88.30383	10/30/2020	1.3	ACRES	47	$9,000.00	$6,300.00
			Streambank/Shoreline Protection - Shaping & Seeding	43.89552	-88.30383	12/21/2020	1862	FEET	346.25	$35,500.00	$24,849.83
			Streambank/Shoreline Protection - Shaping & Seeding	43.92527	-88.31043	8/21/2020	520	FEET	69	$18,946.26	$9,088.38
	Fond du Lac County Totals	**HUC 8 Watersheds**	**Types of Practices**						**Phosphorus Reduction (lbs/yr)**	**BMP Total Cost**	**MDV Funds Used**

	Projects: 1	**1**	**5**						**829**	**$188,648.21**	**$123,504.61**
Lafayette	**Project Name**	**HUC 8**	**BMP Type**	**Latitude**	**Longitude**	**Date Installed**	**Quantity**	**Units**	**Phosphorus Reduction (lbs/yr)**	**BMP Total Cost**	**MDV Funds Used**
	2018 Funding	Apple-Plum [07060005]	Manure Storage System Closure	42.53682	-90.0542	12/27/2019	1	NO.	560	$40,241.60	$29,430.55
			Livestock Fencing	42.52527	-90.36971	7/20/2019	2497	FEET	5.27	$5,966.25	$2,503.31
			Prescribed Grazing	42.52527	-90.36971	7/20/2019	7.9	ACRES	5.27	$5,966.25	$2,503.31
			Streambank/Shoreline Protection - Rip-rapping	42.54821	-90.3787	9/1/2020	410	FEET	34.2	$12,050.15	$0.00
			Stream Crossing	42.54821	-90.3787	9/1/2020	129	FEET	0.6	$12,050.15	$12,050.15
	Lafayette County Totals	**HUC 8 Watersheds**	**Types of Practices**						**Phosphorus Reduction (lbs/yr)**	**BMP Total Cost**	**MDV Funds Used**
	Projects: 1	**2**	**5**						**605**	**$76,274.40**	**$46,487.32**
Lincoln	**Project Name**	**HUC 8**	**BMP Type**	**Latitude**	**Longitude**	**Date Installed**	**Quantity**	**Units**	**Phosphorus Reduction (lbs/yr)**	**BMP Total Cost**	**MDV Funds Used**
	Praire River Watershed, UW30 Zajackowski	Lake Dubay [07070002]	Combo 28: Manure Storage Systems, Barnyard Runoff Control Systems, Roof Runoff Systems, Nutrient Management	45.2449	-89.75672	2/28/2021	5	COMBO	250.3	$61,928.20	$14,284.35
	Lincoln County Totals	**HUC 8 Watersheds**	**Types of Practices**						**Phosphorus Reduction (lbs/yr)**	**BMP Total Cost**	**MDV Funds Used**
	Projects: 1	**1**	**1**						**250**	**$61,928.20**	**$14,284.35**
Marathon	**Project Name**	**HUC 8**	**BMP Type**	**Latitude**	**Longitude**	**Date Installed**	**Quantity**	**Units**	**Phosphorus Reduction (lbs/yr)**	**BMP Total Cost**	**MDV Funds Used**
	Project2020	Lake Dubay [07070002]	Residue Management	44.87709	-90.04027	6/23/2020	19	ACRES	11.4	$380.00	$20.00
			Residue Management	44.87144	-90.04164	6/23/2020	39	ACRES	23	$780.00	$20.00
			Residue Management	44.87738	-90.04926	6/23/2020	20	ACRES	12	$400.00	$20.00
			Residue Management	44.87387	-90.04866	6/23/2020	9	ACRES	5	$180.00	$20.00
			Residue Management	44.87743	-90.04798	6/23/2020	14	ACRES	8	$280.00	$20.00
			Residue Management	44.87963	-90.04635	6/23/2020	7	ACRES	4	$140.00	$20.00
			Residue Management	44.87709	-90.04631	6/23/2020	9	ACRES	5	$180.00	$20.00
			Residue Management	44.87469	-90.04624	6/23/2020	0	ACRES	10	$330.00	$20.00
			Residue Management	44.8737	-90.04232	6/23/2020	10	ACRES	6	$200.00	$20.00
			Residue Management	44.87533	-90.04331	6/23/2020	11	ACRES	6.6	$220.00	$20.00
			Residue Management	44.87798	-90.04377	6/23/2020	13	ACRES	7.8	$260.00	$20.00
			Residue Management	44.87071	-90.03831	6/23/2020	18	ACRES	11	$360.00	$20.00
			Residue Management	44.87232	-90.0365	6/23/2020	9	ACRES	5	$180.00	$20.00

			Residue Management	44.86712	-90.04153	6/23/2020	15	ACRES	9	$300.00	$20.00
			BMP Type	**Latitude**	**Longitude**	**Date Installed**	**Quantity**	**Units**	**Phosphorus Reduction (lbs/yr)**	**BMP Total Cost**	**MDV Funds Used**
			Residue Management	44.86789	-90.0429	6/23/2020	14	ACRES	8	$280.00	$20.00
			Residue Management	44.86816	-90.03576	6/23/2020	19	ACRES	11.4	$380.00	$20.00
			Residue Management	44.88943	-90.03168	6/23/2020	23	ACRES	14	$460.00	$20.00
			Residue Management	44.88933	-90.02812	6/23/2020	30	ACRES	18	$600.00	$20.00
			Residue Management	44.89171	-90.04339	6/23/2020	19	ACRES	11.4	$380.00	$20.00
			Residue Management	44.89253	-90.04107	6/23/2020	10	ACRES	6	$200.00	$20.00
			Residue Management	44.89407	-90.04204	6/23/2020	14	ACRES	8.4	$280.00	$20.00
			Residue Management	44.89561	-90.04259	6/23/2020	20	ACRES	12	$400.00	$20.00
			Residue Management	44.8899	-90.04817	6/23/2020	8	ACRES	5	$160.00	$20.00
			Residue Management	44.88859	-90.04772	6/23/2020	19	ACRES	11	$380.00	$20.00
			Residue Management	44.88809	-90.04395	6/23/2020	0	ACRES	2.1	$70.00	$20.00
			Residue Management	44.88892	-90.05051	8/6/2020	11	ACRES	24	$330.00	$30.00
			Residue Management	44.88877	-90.05345	8/6/2020	16	ACRES	35	$480.00	$30.00
			Residue Management	44.89008	-90.05299	8/6/2020	4	ACRES	9	$120.00	$30.00
			Residue Management	44.8865	-90.05184	8/6/2020	21	ACRES	46	$630.00	$30.00
			Residue Management	44.88477	-90.05142	8/6/2020	27	ACRES	59	$810.00	$30.00
			Residue Management	44.88642	-90.049	8/6/2020	2	ACRES	4	$60.00	$30.00
			Residue Management	44.88624	-90.04738	8/6/2020	4	ACRES	9	$120.00	$30.00
			Residue Management	44.88646	-90.04719	8/6/2020	2	ACRES	4	$60.00	$30.00
			Residue Management	44.8866	-90.04701	8/6/2020	2	ACRES	4	$60.00	$30.00
			Residue Management	44.88705	-90.04695	8/6/2020	6	ACRES	13	$180.00	$30.00
			Residue Management	44.88361	-90.04643	8/6/2020	13	ACRES	29	$390.00	$30.00
			Residue Management	44.88332	-90.04891	8/6/2020	6	ACRES	13	$180.00	$30.00
			Residue Management	44.88121	-90.04942	8/6/2020	5	ACRES	11	$150.00	$30.00
			Residue Management	44.88272	-90.04414	8/6/2020	8	ACRES	18	$240.00	$30.00
			Residue Management	44.88273	-90.04242	8/6/2020	9	ACRES	20	$270.00	$30.00
			Residue Management	44.88278	-90.04076	8/6/2020	7	ACRES	15	$210.00	$30.00
			Residue Management	44.88329	-90.03751	8/6/2020	11	ACRES	24	$330.00	$30.00
			Residue Management	44.88224	-90.03429	8/6/2020	22	ACRES	48	$6,660.00	$30.00

			Residue Management	44.88422	-90.03685	8/6/2020	7	ACRES	15	$210.00	$30.00
			Residue Management	44.88593	-90.03557	8/6/2020	35	ACRES	77	$1,050.00	$30.00
			Residue Management	44.8862	-90.04042	8/6/2020	13	ACRES	29	$390.00	$30.00
			Residue Management	44.88702	-90.04084	8/6/2020	3	ACRES	7	$90.00	$30.00
			Residue Management	44.88699	-90.0434	8/6/2020	6	ACRES	13	$180.00	$30.00
			Residue Management	44.88544	-90.04141	8/6/2020	11	ACRES	24	$330.00	$30.00
			Residue Management	44.8848	-90.04192	8/6/2020	7	ACRES	15	$210.00	$30.00
			Residue Management	44.88422	-90.04222	8/6/2020	6	ACRES	13	$180.00	$30.00
			Residue Management	44.89861	-90.05357	7/16/2020	6	ACRES	14	$240.00	$40.00
			Residue Management	44.90036	-90.05404	7/16/2020	10	ACRES	23	$400.00	$40.00
			Residue Management	44.89967	-90.05238	7/16/2020	3	ACRES	7	$120.00	$40.00
			Residue Management	44.9009	-90.04951	7/16/2020	9	ACRES	21	$360.00	$40.00
			Residue Management	44.90024	-90.049	7/16/2020	12	ACRES	28	$480.00	$40.00
			Residue Management	44.89976	-90.04878	7/16/2020	8	ACRES	18	$320.00	$40.00
			Residue Management	44.89903	-90.04861	7/16/2020	13	ACRES	30	$520.00	$40.00
			Residue Management	44.89693	-90.05018	7/16/2020	39	ACRES	90	$1,560.00	$40.00
			Residue Management	44.89549	-90.05012	7/16/2020	25	ACRES	58	$1,000.00	$40.00
			Cover Crop	44.89902	-90.01948	7/16/2020	14	ACRES	32	$560.00	$40.00
			Cover Crop	44.89893	-90.01797	7/16/2020	19	ACRES	44	$760.00	$40.00
			Cover Crop	44.89904	-90.01617	7/16/2020	22	ACRES	51	$880.00	$40.00
			Cover Crop	44.86928	-90.04734	8/6/2020	68	ACRES	116	$1,360.00	$20.00
			Residue Management	44.87936	-90.05251	8/6/2020	84	ACRES	143	$1,680.00	$20.00
			Residue Management	44.87499	-90.03174	8/6/2020	13	ACRES	22	$260.00	$20.00
			Residue Management	44.86036	-90.00699	8/6/2020	36	ACRES	61	$720.00	$20.00
			Residue Management	44.87511	-89.93865	8/6/2020	21	ACRES	17	$420.00	$20.00
			Residue Management	44.87487	-89.94285	8/6/2020	18	ACRES	14	$360.00	$20.00
			Residue Management	44.87364	-89.94281	8/6/2020	8	ACRES	6	$160.00	$20.00
			Residue Management	44.87626	-89.94251	8/6/2020	5	ACRES	4	$100.00	$20.00
			Residue Management	44.87624	-89.94595	8/6/2020	2	ACRES	2	$40.00	$20.00
			Residue Management	44.87436	-89.94591	8/6/2020	13	ACRES	10	$260.00	$20.00
			Residue Management	44.87245	-89.94576	8/6/2020	4	ACRES	3	$80.00	$20.00
			Residue Management	44.87151	-89.94552	8/6/2020	6	ACRES	5	$120.00	$20.00

			Residue Management	44.87012	-89.94548	8/6/2020	10	ACRES	8	$200.00	$20.00
			Residue Management	44.86984	-89.94207	8/6/2020	5	ACRES	4	$100.00	$20.00
			Residue Management	44.87103	-89.94195	8/6/2020	8	ACRES	6	$160.00	$20.00
			Residue Management	44.87239	-89.94205	8/6/2020	4	ACRES	3	$80.00	$20.00
			Residue Management	44.87251	-89.93916	8/6/2020	3	ACRES	2	$60.00	$20.00
			Residue Management	44.87167	-89.93943	8/6/2020	2	ACRES	2	$40.00	$20.00
			Residue Management	44.87025	-89.93813	8/6/2020	9	ACRES	7	$180.00	$20.00
			Residue Management	44.87239	-89.94797	8/6/2020	3	ACRES	2	$60.00	$20.00
			Residue Management	44.87114	-89.94795	8/6/2020	4	ACRES	3	$80.00	$20.00
			Residue Management	44.87196	-89.95034	8/6/2020	7	ACRES	6	$140.00	$20.00
			Residue Management	44.87036	-89.95095	8/6/2020	10	ACRES	8	$200.00	$20.00
			Residue Management	44.86788	-89.95094	8/6/2020	4	ACRES	3	$80.00	$20.00
			Residue Management	44.86882	-89.94799	8/6/2020	4	ACRES	3	$80.00	$20.00
			Residue Management	44.86044	-89.96501	8/6/2020	9	ACRES	7	$180.00	$20.00
			Residue Management	44.86784	-90.03826	6/23/2020	21	ACRES	13	$420.00	$20.00
	Marathon County Totals	**HUC 8 Watersheds**	**Types of Practices**						**Phosphorus Reduction (lbs/yr)**	**BMP Total Cost**	**MDV Funds Used**
	Projects: 1	**1**	**2**						**1,705**	**$36,520.00**	**$2,300.00**
Outagamie	**Project Name**	**HUC 8**	**BMP Type**	**Latitude**	**Longitude**	**Date Installed**	**Quantity**	**Units**	**Phosphorus Reduction (lbs/yr)**	**BMP Total Cost**	**MDV Funds Used**
	Outagamie County 2019 MDV Plan	Wolf [04030202]	Waterway Systems	44.37041	-88.41568	12/13/2019	1	ACRES		$4,602.07	$402.07
	Outagamie County Totals	**HUC 8 Watersheds**	**Types of Practices**						**Phosphorus Reduction (lbs/yr)**	**BMP Total Cost**	**MDV Funds Used**
	Projects: 1	**1**	**1**							**$4,602.07**	**$402.07**
Racine	**Project Name**	**HUC 8**	**BMP Type**	**Latitude**	**Longitude**	**Date Installed**	**Quantity**	**Units**	**Phosphorus Reduction (lbs/yr)**	**BMP Total Cost**	**MDV Funds Used**
	Kojis Waterway and Buffer	Upper Fox [07120006]	Waterway Systems	42.74802	-88.18731	4/30/2021	1	ACRES	66	$18,000.00	$18,000.00
	Racine County Totals	**HUC 8 Watersheds**	**Types of Practices**						**Phosphorus Reduction (lbs/yr)**	**BMP Total Cost**	**MDV Funds Used**
	Projects: 1	**1**	**1**						**66**	**$18,000.00**	**$18,000.00**
Sauk	**Project Name**	**HUC 8**	**BMP Type**	**Latitude**	**Longitude**	**Date Installed**	**Quantity**	**Units**	**Phosphorus Reduction (lbs/yr)**	**BMP Total Cost**	**MDV Funds Used**
	Honey Creek MDV Watershed Plan	Lower Wisconsin [07070005]	Streambank/Shoreline Protection - Shaping & Seeding	43.27996	-90.05271	12/18/2020	1390	FEET	200	$5,000.00	$5,000.00
			Prescribed Grazing	43.29216	-89.95682	9/17/2020	8.6	ACRES	15	$5,160.00	$5,160.00

	Reedsburg MDV Watershed Plan	Baraboo [07070004]	Prescribed Grazing	43.61153	-90.03927	8/4/2020	129.2	ACRES	216	$77,520.00	$77,520.00
			Prescribed Grazing	43.45143	-90.14277	8/4/2020	94.5	ACRES	162	$56,700.00	$56,700.00
	Sauk County Totals	**HUC 8 Watersheds**	**Types of Practices**						**Phosphorus Reduction (lbs/yr)**	**BMP Total Cost**	**MDV Funds Used**
	Projects: 2	**2**	**2**						**593**	**$144,380.00**	**$144,380.00**
Taylor	**Project Name**	**HUC 8**	**BMP Type**	**Latitude**	**Longitude**	**Date Installed**	**Quantity**	**Units**	**Phosphorus Reduction (lbs/yr)**	**BMP Total Cost**	**MDV Funds Used**
	Bauer	Black [07040007]	Barnyard Runoff Control Systems	45.09439	-90.57581	2/4/2021	1	NO.	453	$82,211.00	$11,526.00
			Wastewater Treatment Strips	45.09439	-90.57581	2/4/2021	1	ACRES		$13,116.00	$1,436.00
	Fettes Milkhouse Waste Transfer	Lake Dubay [07070002]	Milking Center Waste Control Systems	45.07604	-90.25945	12/14/2020	1	NO.	272	$26,876.00	$3,821.00
	Goebel	Lower Chippewa [07050005]	Critical Area Stabilization	45.16226	-90.89051	10/8/2020	1	ACRES	64	$71,484.00	$1,264.00
	Taylor County No-Till Drill	Black [07040007]	Nutrient Management	45.12821	-90.3347	3/17/2020	492.6	ACRES	8867	$25,000.00	$5,000.00
	Taylor County Totals	**HUC 8 Watersheds**	**Types of Practices**						**Phosphorus Reduction (lbs/yr)**	**BMP Total Cost**	**MDV Funds Used**
	Projects: 4	**3**	**5**						**9,656**	**$218,687.00**	**$23,047.00**
Trempealeau	**Project Name**	**HUC 8 Name**	**BMP Type**	**Latitude**	**Longitude**	**Date Installed**	**Quantity**	**Units**	**Phosphorus Reduction (lbs/yr)**	**BMP Total Cost**	**MDV Funds Used**
	Daryl Tjerstad 580 & 575	Black [07040007]	Streambank/Shoreline Protection - Rip-rapping	44.21205	-91.163059	9/10/2021	58	FEET	27	$4,417.33	$3,975.60
			Animal Trails & Walkways	44.21205	-91.163059	9/14/2021	430	FEET	27	$11,915.02	$10,723.50
	Ron Halama 580	Trempealeau [07040005]	Streambank/Shoreline Protection - Rip-rapping	44.4448	-91.404381	8/11/2021	346	FEET	73	$10,092.99	$5,509.98
	Trempealeau County Totals		**Types of Practices**						**Phosphorus Reduction (lbs/yr)**	**BMP Total Cost**	**MDV Funds Used**
	Projects: 2		**2**						**127**	**$26,425.34**	**$20,209.08**
Waupaca	**Project Name**	**HUC 8**	**BMP Type**	**Latitude**	**Longitude**	**Date Installed**	**Quantity**	**Units**	**Phosphorus Reduction (lbs/yr)**	**BMP Total Cost**	**MDV Funds Used**
	Waupaca MDV	Wolf [04030202]	Water & Sediment Control Basins	44.54829	-88.90339	12/21/2020	1	NO.	19.9	$15,527.58	$6,143.32
	Waupaca County Totals	**HUC 8 Watersheds**	**Types of Practices**						**Phosphorus Reduction (lbs/yr)**	**BMP Total Cost**	**MDV Funds Used**
	Projects: 1	**1**	**1**						**20**	**$15,527.58**	**$6,143.32**
Waushara	**Project Name**	**HUC 8**	**BMP Type**	**Latitude**	**Longitude**	**Date Installed**	**Quantity**	**Units**	**Phosphorus Reduction (lbs/yr)**	**BMP Total Cost**	**MDV Funds Used**
	Waushara-1	Wolf [04030202]	Riparian Buffers	44.17376	-89.11338	8/26/2019	0.5	ACRES	1.05	$462.00	$0.00
	Waushara County Totals	**HUC 8 Watersheds**	**Types of Practices**						**Phosphorus Reduction (lbs/yr)**	**BMP Total Cost**	**MDV Funds Used**

	Projects: 1	**1**	**1**					**1**	**$462.00**	**$0.00**