

Public Comments and DNR Responses on the draft Economic Impact Analysis for:

- **NR 102: Waterbody assessments, biocriteria, & phosphorus response indicators (Natural Resources Board Order No. WY-23-13)**
and
 - **NR 119: A process for developing site-specific criteria for phosphorus (Natural Resources Board Order No. WT-17-12)**

June 12, 2019

This document presents a summary of public comments received on the economic impact analyses for rule package WY-23-13, revisions to ch. NR 102 related to waterbody assessments, biocriteria, and phosphorus response indicators, and WT-17-12 creating a new chapter NR 119 to establish a process for developing site-specific criteria for phosphorus. Responses from the Department of Natural Resources' (DNR's) are provided.

OVERVIEW

Because these two rules are inter-related and cross-reference one another, a joint Economic Impact Analyses (EIA) comment period was held. A 31-day public comment period on the Draft EIA for the two rules was held from April 16 to May 16, 2019. Along with notification on the Department's rules website, email notification was sent to the following distribution lists, totaling 5,760 recipients:

- Water Quality Standards External Advisory Committee that worked on the rules, including U.S. EPA
- List of interested parties specific to these rules
- Water Quality Standards & Assessments GovDelivery List
- WPDES permitted facilities, industrial and municipal surface water dischargers
- WPDES interested parties list

Four comment letters were received during the EIA comment period, addressed below. Some comments related to both rules; these have been divided and placed under the rule header that they are most directly related to. Some comments were outside the scope of the EIA comment period and may be resubmitted during the rule comment period.

A public comment period will be held on the revised version of the two rules, with a public hearing in September, 2019.

EIA Comments on Ch. NR 102: Waterbody assessments, biocriteria, and phosphorus response indicators

A. Chlorophyll *a* criteria – Scientific support

Comment: DNR has not provided sufficient scientific support for the development of the chlorophyll *a* criteria. Our understanding is that these criteria were developed based on survey data from perceptions of people recreating in lakes, and included data from Minnesota. To the best of our knowledge, DNR has not released the data relied upon for public review. Further, DNR has not provided an analysis as to how these criteria apply to waterbodies including rivers, impoundments, and streams.

DNR Response: The Technical Support Document provides detailed scientific support for the chlorophyll *a* criteria. Comments regarding scientific support for the chlorophyll *a* criteria should be submitted during the comment period on the draft rule or at the public informational hearing.

B. Chlorophyll *a* criteria – Economic impact

Comment: MEG has significant concerns regarding the DNR's determination of minimal economic impact relating to the establishment of the chlorophyll *a* criteria. The establishment of these criteria could result in more restrictive phosphorus limits for a number of permittees. If a permittee discharging upstream causes or contributes to an exceedance of the chlorophyll *a* criteria, there is the potential that permittee will receive more restrictive phosphorus limits. This could result in significant compliance costs to the discharger, potentially including a facility upgrade. It is unclear how DNR could reach a minimal economic impact determination without a comprehensive analysis of every WPDES permit upstream of a waterbody subject to the proposed chlorophyll *a* criteria.

These potential economic concerns are of particular import given that many wastewater treatment plants are already struggling with planning for compliance with phosphorus limits in light of restrictive WQBEL limits, TMDL developments, and potential antidegradation/antibacksliding concerns. The potential economic impacts of these rule packages must be considered in the context of these concerns.

DNR Response: Additional information was provided in the EIA to further explain that economic impacts to WPDES permitted dischargers are not expected. One portion of the rule was revised to remove the application of chlorophyll *a* criteria to rivers.

- **Relationship of chlorophyll *a* to phosphorus permits:**

The department's analysis indicates that, once attained, the existing statewide phosphorus criteria will be protective of the proposed chlorophyll *a* criteria in most waterbodies. The department does not intend to require chlorophyll *a* monitoring of discharges, and there are no permit implementation procedures associated with the chlorophyll *a* standard required in the rule. A more stringent P limit would only be derived if an SSC is developed and approved that demonstrates the need for lower P than the statewide criterion.

For a waterbody in which the phosphorus criterion is attained but the chlorophyll *a* criterion is not attained, the solution is likely to involve addressing phosphorus. However, if this were to occur, the department would first evaluate whether a more stringent site-specific criterion (SSC) for phosphorus is needed to attain the chlorophyll *a* criterion. For any parameter for which the state has a numeric water quality criterion, such as phosphorus, permit limits are set based on attainment of that numeric criterion, not on a separate parameter even though they may be related.

In such a case, if a more protective phosphorus SSC were developed to achieve the chlorophyll *a* criterion and approved by U.S. EPA, then permit limits would be adjusted accordingly. However, development of a more protective phosphorus SSC would have to go through its own rulemaking process or an equivalent public participation process established in rule, and any costs associated with it would be evaluated at that time. In accordance with these points, since the establishment of chlorophyll *a* thresholds in WisCALM guidance in 2012, there have been no cases where a chlorophyll *a* listing has influenced a permit limit, except through Wisconsin River Basin TMDL analysis and related rule proposal for a phosphorus SSC in the Wisconsin River Basin. The Wisconsin River Basin proposed SSC has its own economic analysis.

Further, the potential for a more-stringent SSC for phosphorus to be developed is not increased based on having chlorophyll *a* criteria in place. Without chlorophyll *a* criteria, any party could still make a case that a more-stringent phosphorus SSC is needed to address algae in a receiving or downstream water under existing statutory authority. In such case, the requesting party could base their request on any algae level that they demonstrated was appropriate. By establishing a statewide target, this helps provide a consistent goal. However, on a case-by-case basis, a chlorophyll *a* SSC could also be established if a demonstration were made that a different level of algae is acceptable for recreational or aquatic life purposes in a specific waterbody. Therefore, SSC are still flexible to accommodate site-specific circumstances.

- **Adjustments to rule language:** The department has adjusted the scope of application of river chlorophyll *a* thresholds as follows, which should minimize concerns about potential effects on permits while maintaining adequate protection for rivers.
 - **Surface water criteria:** In the surface water criteria in ch. NR 102, we have removed the chlorophyll recreation criteria for rivers, but retained it for lakes, reservoirs, and impounded flowing waters. This means that rivers would not be listed on the impaired waters list at this time for algae. We believe this is an acceptable approach for the following reasons. DNR has evaluated the phosphorus/chlorophyll *a* relationship at stations on many of Wisconsin’s rivers. This analysis shows that on all but two river stretches assessed, rivers exceeding the chlorophyll *a* recreation criteria are also exceeding the phosphorus criteria. The other two stations are both below impoundments that were passing algae through to the river, and are in TMDL areas so will be addressed by TMDLs. Therefore we believe that rivers should be sufficiently protected by a combination of the existing P criteria and the chlorophyll *a* criteria for any impounded areas along the rivers.
 - **Phosphorus response indicators (PRI):** In the PRI in ch. NR 102, we retain the chlorophyll *a* recreation threshold as a PRI for rivers. These thresholds are used to determine whether a waterbody exceeding phosphorus is in good enough condition to stay off the impaired waters list.
 - **SSC:** In ch. NR 119, we adjusted the requirements for an SSC modeling demonstration on rivers:
 - If the river contains lakes, reservoirs, or impounded areas, the modeling only need demonstrate that the chlorophyll *a* criteria for those lakes/reservoirs/impounded areas will be met under the SSC P criterion. Modeling for lakes/reservoirs/impoundments is much simpler and cheaper than modeling chlorophyll *a* within rivers, thus reducing costs for SSC requestors. And, if chlorophyll *a* targets are met within the lakes/reservoirs/impounded areas, this should ensure that they are also met within the river.
 - If a river does not contain lakes/reservoirs/impounded areas, then the SSC modeling would need to be based on the chlorophyll *a* concentration within the river.

C. Narrative biocriteria: Comparison of rule, guidance, or discontinuation of assessment

Comment: One comment letter requested more detailed analysis of the number of impaired waters under each of several scenarios: (a) if the department did not assess biological communities for impairment status; or if the department assessed biological communities under (b) protocols in WisCALM guidance (status quo); (c) codified narrative biocriteria, and (d) codified numeric biocriteria. The commenter also requested cost estimates under these scenarios.

DNR Response: The department added the following information to the EIA and Technical Support Document to address these comments.

- (a) If the department had **never assessed the health of biological communities** in Wisconsin’s waters, there would be zero impairments listed for fish or aquatic insects on the Section 303(d) impaired waters list. There would presumably be zero cost for the regulated public associated with that scenario. However, it would entail a major step backwards for understanding the health of Wisconsin’s aquatic communities and documentation of which waterbodies may need restoration, and the state could lose funding under federal regulations. Federal regulations and the Clean Water Act require water quality assessments and biological evaluations of waterbodies (see 40 CFR ss. 130.4 and 130.8). The health of biological communities is critical in determining whether aquatic life uses are being met.
- (b) Under the **status quo**, DNR assesses biological communities **using recommended protocols in its WisCALM guidance**. Currently, these include metrics for fish and aquatic insects. If these are not attained, a waterbody is listed for “degraded biological community”. Often there is no pollutant associated with this listing, and biological impairments are not directly addressed through permit limits. Biological metrics are developed to assess overall community health, and these communities can be sensitive to a wide range of stressors outside of specific pollutants, such as habitat loss, invasive species, and dams. Biological listings are not linked to specific pollutants unless a demonstration has been made that a pollutant is causing the degradation. To date, the department is not aware of any economic impacts of these listings.

- *Impairment listings:* As of the 2018 list, there are currently 228 river or stream segments listed for degraded biological community (lakes are not currently assessed for biological metrics). This is 13% of rivers/streams that have been assessed for biology.
 - *Metric updates:* The biotic metrics in guidance may be adjusted over time to reflect the most recent science, and a public comment period is held whenever updates are made.
- (c) Under **narrative biocriteria**, as proposed in this rule package, DNR would continue to conduct assessments under the WisCALM guidance as in (b) above. As demonstrated by several years of listings for biological metrics, we do not expect an economic impact from these listings, even should the thresholds be adjusted in the future. In the rare case that a pollutant discharged by a facility is clearly and demonstrably impacting the community, an SSC for that pollutant may be done, and permit limits may be adjusted accordingly, as is appropriate if the biological community is being degraded by a discharge.
- Because DNR is currently in the process of reviewing and revising the existing metrics for fish and aquatic insects, we do expect that the biological metrics in WisCALM will be updated for the 2022 assessment cycle. We also expect to add an aquatic plant assessment tool for lakes to WisCALM, which is greatly needed because lakes currently do not have any biological assessment tools. These updates would be vetted first through the WisCALM public comment period.
 - Until the tool revisions are complete, we do not yet know the number of waters that would be listed as impaired for fish or insects, but this information will be made available at that time. On the addition of the plant assessments for lakes, we currently have 656 lakes with plant surveys. Of these, 468 lakes (71%) attain the plant assessment tool, and 188 lakes (29%) do not attain and would be listed as impaired. Many of these would not be lakes listed as impaired for the first time, as they are already on the list as impaired for other metrics. Similar to fish or insect metrics, this plant tool is designed to reflect a broad range of stressors, such as shoreline disturbance and invasive species. Lakes with poor plant communities would typically be addressed through voluntary shoreline and lake management rather than through permit adjustments. We therefore do not expect that these biological assessments will result in economic impacts to the regulated community.
- (d) If **numeric criteria** are promulgated in the future, then specific thresholds for various biological communities would be established. The thresholds for the existing fish and insect assessments may be adjusted as needed, and assessments for plant communities may be added, as discussed in (c). As with narrative biocriteria, we do not expect these biological assessments will result in economic impacts to the regulated community.

D. Narrative biocriteria: WisCALM guidance updates; need for clarity

Comment: One comment letter expressed concern that because WisCALM is updated every two years, this creates uncertainty for the regulated public on what biological metrics will be applied, even if it goes through the public comment process. Additionally, since WisCALM was recently public noticed in 2018, the public was not aware that it would be used in conjunction with narrative biocriteria, and may not have provided comments within that context. The commenter stated that WY-23-13 codifies reliance on guidance that is to be updated every two years. While 2017 Act 369 requires some opportunity for public comment on guidance, should it be upheld, it does not excuse an agency from avoiding the rulemaking process when they set a “standard, regulation, statement of policy...to implement” specific legislation. Wis. Stat. s. 227.01(13).

DNR Response: This comment relates to the public comment process for WisCALM, not the economic impacts of the proposed rule. The department’s response on how WisCALM relates to the narrative biocriteria are discussed in section B. This comment may be resubmitted during the formal rule comment period. To be clear, this rule does not codify anything within WisCALM, it only references WisCALM in a note. WisCALM contains protocols for assessment, which are not in and of themselves water quality standards but provide information on how DNR uses its data.

E. Phosphorus response indicators and impairment listings

Comment: Noting that the rule could result in fewer impaired water bodies, with no supporting data, is not sufficient. The Department has extensive data on the phosphorus levels in many of the state's waterbodies, but data correlating phosphorus levels and the proposed indicators or biocriteria in Wisconsin waters was not provided.

DNR Response: Additional information was added to the Technical Support Document addressing this comment. The department provided a data analysis to the External Stakeholder Committee at their request in 2016. A summary is provided here and in the Technical Support Document. As discussed with the stakeholder committee, the percent of waterbodies that exceed the statewide phosphorus criteria but are not experiencing a biological response is small. This indicates that the statewide phosphorus criteria are set at a level that is not overly protective for most waterbodies. The following datasets contain a relatively small portion of the waterbodies in the state. As the phosphorus response indicators are applied more broadly, additional waterbodies are expected to be determined to be attaining these indicators.

Streams: There are 182 stream sites that have been evaluated for phosphorus for which diatom analysis has also been conducted. Of those 182 sites, 67 sites exceed the phosphorus criterion but are within the phosphorus range at which the combined approach can be applied. Six of these sites attained the diatom phosphorus response threshold and would therefore be removed from the impaired waters list for phosphorus or would not be listed for phosphorus when they otherwise would have been.

Rivers: There are 28 river sites that have been evaluated for phosphorus for which chlorophyll *a* data have also been assessed. Of these, 11 exceed the phosphorus criterion but are within the range at which the combined approach can be applied. Two of these attain the phosphorus response indicator for frequency of moderate algae levels, and would therefore be removed from the impaired waters list for phosphorus or would not be listed for phosphorus when they otherwise would have been.

Lakes: There are 161 lakes that have phosphorus data and also have data for the three main phosphorus response indicators: frequency of moderate algal levels (to protect recreation use), chlorophyll *a* concentration (to protect aquatic life use), and the plant phosphorus response tool (aquatic life). Of these 161 lakes, 28 exceed the phosphorus criterion but are within the phosphorus range at which the combined approach can be applied. Eight of those lakes attain all three phosphorus response indicators and would therefore be removed from the impaired waters list for phosphorus or would not be listed for phosphorus when they otherwise would have been.

EIA Comments on Ch. NR 119: Establishment of a process for developing site-specific criteria for phosphorus

F. SSC: Support

Comment: TNC [The Nature Conservancy] thanks and applauds the Department of Natural Resources for its continuing excellent work on collecting credible data to make informed decisions on specific bodies of water. TNC shares the Department's view that further study in this regard will have minimal economic impact. The data currently collected by DNR, whether on oxygen, algae, insects, or aquatic plants is crucial to determining existing phosphorus concentrations are reasonable for the specific site in question.

DNR Response: Thank you for expressing your support of our efforts.

G. SSC: Application of narrative biocriteria to SSC

Comment: The EIA states that this rule “simply clarifies and documents a process for conducting a review already” found in statute and administrative rule. However, the changes proposed in WY-23-13 would be incorporated into these SSC determinations, including the narrative biocriteria analysis and phosphorous indicators. A shift from numeric biocriteria to a narrative approach will fundamentally alter impairment and SSC determinations. There will be cost impacts associated with a changed process, and those costs must be evaluated in the EIA. The EIA should evaluate increased cost of sampling, testing, and demonstrating compliance with a more ambiguous standard based on multiple variables that may change every two years. This should include the cost to both the state and the regulated community.

DNR Response: No change to EIA. We disagree that using narrative versus numeric biocriteria will fundamentally alter the SSC process or determinations, or the overall costs associated with developing an SSC. The process remains very similar regardless of whether the biocriteria are narrative or numeric, or whether non-codified biological metrics are used as the basis of the analysis. In all cases, monitoring and/or modeling would be required to make a demonstration that a certain level of phosphorus is protective of designated uses. The thresholds associated with any of the biological metrics do not affect the costs for monitoring, modeling, or analysis.

H. SSC: Cost of compliance with more-stringent SSC

Comment: EIAs should also include an analysis of costs for a permit holder to comply in cases where the SSC is more stringent based on the adoption of this narrative approach and discuss potential cost benefits to those who are eligible for a less restrictive SSC. Under this proposed rule, a waterbody or segment of the waterbody may be eligible for a more stringent SSC even if they attain the statewide phosphorous standard. The new authority for reviewing these response indicators, found in WY-23-13, creates a new opportunity to waterbodies to be eligible for a more stringent SSC, and the Department must have some understanding of the magnitude of stricter SSCs under this approach, as well as the cost of those. A finding that a water body requires an SSC that is more stringent can result in tens of millions of dollars in compliance costs that are not accounted for in this EIA.

DNR Response: No change to EIA. This rule does not create a new opportunity or new authority for more-stringent SSC. SSC can be created for any pollutant under state statutory authority (s. 281.15 Wis. Stat.; also see s. NR 102.06(7) for phosphorus). Under these provisions, SSC may be either more or less stringent as the case requires to protect designated uses of the waterbody. Furthermore, the establishment of biological metrics, whether in code (numeric or narrative) or in guidance, does not create a new opportunity/authority; any such metric that is an appropriate measure of a waterbody’s designated use can be used as the basis for an SSC, whether specified in code/guidance or not.

We have always acknowledged that where a more-stringent SSC is approved, there may be compliance costs for facilities. However, this would be the case whether the SSC were developed under this process or using another process if this rule were not established. Establishment of this process does not create costs, it provides information regarding the data needed to support a request for an SSC. Any costs for a proposed SSC would be addressed during the rulemaking or equivalent process for the proposed SSC (example: Wisconsin River Basin phosphorus SSC, rule package WY-09-18).

I. SSC: Cost of developing a less-stringent SSC

Comment: Often the only economically feasible option for a WPDES permit holder is to request an SSC that is less stringent than the applicable standard. If a permit holder cannot comply absent an SSC request, the request is not in fact voluntary. Therefore, to characterize the costs associated with SSC development as voluntary does not negate the requirement to analyze the cost. The EIAs must evaluate the process cost as well as the impact on compliance cost.

DNR Response: No change to EIA. SSC are not a compliance tool for permittees. They are a water quality standard set to protect the water quality needed for a waterbody to support aquatic life, recreation, and other designated uses. While an SSC may be proposed by any party, it is not an obligation of a permittee to request an SSC. The department has developed compliance tools for phosphorus such as water quality trading and adaptive management, but SSC is not a compliance tool. Also, if a permittee cannot comply with permit limits because it will cause economic hardship, the appropriate avenue is to request a variance, either individual or multi-discharger. Such a variance might provide a longer time frame under which an SSC or TMDL could be developed. Further, if a permittee decides to propose an SSC, the cost to do so under existing statutory authority is not different from the cost to do so under the process proposed here.

J. SSC: Antidegradation/Antibacksliding

Comment: One commenter expressed concern that although SSC could be favorable for dischargers, the department's antidegradation protocols could prevent permittees from realizing the benefits that a less-stringent SSC may provide if the SSC took place after they had reached compliance with phosphorus permit limits based on the statewide P criterion. The timing of the WPDES permit requirement for compliance with the statewide standard for phosphorous could precede an SSC or TMDL for the waterway that the plant discharges into, resulting in additional costs for phosphorous removal that may not be needed to meet environmental goals. The commenter cited similar concerns with phosphorus TMDLs which may allow higher wasteload allocations for permittees, but which would only be beneficial to the permittee if the TMDL is completed prior to the deadline established in the WPDES permit for phosphorous removal. The commenter provided an example of the City of Brookfield, which will be installing additional treatment technology but could substantially decrease the amount of chemical added to precipitate phosphorus to meet these potentially different limits (statewide criterion vs. SSC or TMDL).

DNR Response: No change to EIA. This comment essentially addresses the economic impacts of other federal and state requirements. The requirements for antidegradation and antibacksliding are federal requirements under the Clean Water Act section 402(o) and 303(d)(4) and at 40 CFR sec. 122.44(l). Some ways to work within the antibacksliding and antidegradation requirements include:

- If a discharger cannot meet its permit limits within the normal compliance deadlines, it may apply for either an individual variance or the multi-discharger phosphorus variance. This extends the compliance timeline and provides some additional time for development of an SSC or TMDL.
- There are certain situations where a discharger can make a demonstration that a relaxed permit limit fits within the antibacksliding and antidegradation requirements, if the circumstances meet requirements in ch. NR 207, Wis. Adm. Code.

K. SSC: Sampling requirements for benthic algae in streams

Comment: The department should add more specific sampling site selection requirements to the benthic algal assessment protocols (viewing bucket method) used as a phosphorus response indicator and as part of the SSC process. It is important that sufficient detail is included such that intentional or unintentional bias does not occur in selection of study sites. The ability of flowing water to support primary production is dependent on several things in addition to nutrients in the water column, including suitable substrate and canopy cover. Given this situation it is possible to select study sites to either selectively show impact (suitable substrate with open canopy) or selectively fail to show impact (unsuitable substrate or with heavy tree canopy). Additionally, the viewing bucket protocol should be housed in WisCALM where it is readily available to users.

DNR Response: This comment relates to monitoring and assessment protocols for the phosphorus response indicators and should be submitted during the public comment period on the draft rule. It will be considered at that time.