1. Type of Estimate and Analysis	2. Date	
🛛 Original 🔲 Updated 🔲 Corrected	8-22-2019	
3. Administrative Rule Chapter, Title and Number (and Clearinghouse Number if applicable) Ch. NR 102, Board Order # WY-09-17		
4. Subject Establishment of site-specific phosphorus criterion for Lac Courte Oreilles, a lake in Sawyer County		
5. Fund Sources Affected	6. Chapter 20, Stats. Appropriations Affected None	
7. Fiscal Effect of Implementing the Rule		
☑ No Fiscal Effect ☐ Increase Existing Revenues	□ Increase Costs □ Decrease Costs	
□ Indeterminate □ Decrease Existing Revenues	Could Absorb Within Agency's Budget	
8. The Rule Will Impact the Following (Check All That Apply)		
State's Economy Specific Businesses/Sectors		
Local Government Units Publ	lic Utility Rate Payers	
Small Businesses (if checked, complete Attachment A)		
9. Estimate of Implementation and Compliance to Businesses, Local Governmental Units and Individuals, pers. 227.137(3)(b)(1).		
\$0 (no compliance cost anticipated)		
10. Would Implementation and Compliance Costs Businesses, Local Governmental Units and Individuals Be \$10 Million or more Over Any 2-year Period, per s. 227.137(3)(b)(2)?		
□ Yes ⊠ No		
11. Policy Problem Addressed by the Rule		

This rule proposes two alternatives for a phosphorus site-specific criterion for Lac Courte Oreilles, a lake in Sawyer County. The lake straddles both State land and Tribal lands of the Lac Courte Oreilles Band of Lake Superior Chippewa. Lac Courte Oreilles is a state-classified Outstanding Resource Water and one of a small number of "two-story fishery" lakes in Wisconsin that support a coldwater fishery within its deep basins. The three main basins of Lac Courte Oreilles support cisco and whitefish. The lake also has several small bays and a larger bay called Musky Bay, which are shallow and do not support coldwater fish. The lake has experienced several fish kills of cisco and whitefish in the main basins, likely due to reductions of its oxythermal layer during late summer. The oxythermal layer is the layer of water that is both cold enough and has enough dissolved oxygen to support coldwater fish. Multiple analyses have been done to determine the cause of the oxygen depletion in this lake, and specifically to determine whether a reduction of phosphorus levels in the lake is necessary to support the coldwater fish population.

Pursuant to s. NR 102.06(7), Wis. Adm. Code, and s. 281.15, Stats., the Department of Natural Resources (the Department) has the authority to develop a site-specific criterion in place of the generally applicable phosphorus criteria in s. NR 102.06, Wis. Adm. Code, if site-specific, scientifically defensible data and analysis demonstrate a different criterion is protective of the designated use of the specific surface waterbody and, in accordance with s. 281.15(2)(c), Wis. Stat., the site-specific criterion is no more stringent than reasonably necessary to protect the designated use.

The Department is proposing rules to establish a phosphorus site-specific criterion for Lac Courte Oreilles because the Department agreed to initiate this rulemaking effort as part of a court-approved stipulation filed on April 4, 2017: Dane County Case No. 16-CV-1564 (Admin. Agency Review 30607), *James Coors, et. al., v. Wisconsin Department of Natural Resources and Wisconsin State Cranberry Growers Association*. The Department is proposing two options for comment: Option A: a site-specific criterion of 10 µg/L for the lake, to be assessed at the three deep basins that provide two-story fishery habitat, and Option B: no change to the existing criterion of 15 µg/L for the lake.

12. Summary of the Businesses, Business Sectors, Associations Representing Business, Local Governmental Units, and Individuals that may be Affected by the Proposed Rule that were Contacted for Comments.

A site-specific phosphorus criterion for Lac Courte Oreilles may affect or be of interest to the Courte Oreilles Lakes Association, The Lac Courte Oreilles Band of Lake Superior Chippewa, cranberry operators along the lake, homeowners or business owners within the watershed, and others who recreate on the lake. The Department has been in discussion with these groups regarding a site-specific criterion for the lake and contacted these groups and local municipalities for comment on the EIA. Comments were received from the Courte Oreilles Lakes Association, the Lac Courte Oreilles Tribe, and the Wisconsin State Cranberry Growers Association.

13. Identify the Local Governmental Units that Participated in the Development of this EIA. Local governments were contacted to provide the opportunity to comment on this EIA as part of the EIA comment period. No comments from local governments were received.

14. Summary of Rule's Economic and Fiscal Impact on Specific Businesses, Business Sectors, Public Utility Rate Payers, Local Governmental Units and the State's Economyas a Whole (Include Implementation and Compliance Costs Expected to be Incurred)

The Department does not anticipate any compliance costs related to this rule. Water quality criteria are established to protect designated uses of surface waters and are used in calculating limitations that apply to point source discharges covered by Wisconsin Pollutant Discharge Elimination System (WPDES) permits. Restrictions on pollutant loads to comply with water quality based effluent limitations or to comply with a federally approved Total Maximum Daily Load analysis (TMDL) only apply to point source discharges that require a WPDES permit. There are no point source discharges to this lake, so there will be no regulatory required reductions of phosphorus discharges and consequently no fiscal impacts from promulgating a site-specific criterion. The phosphorus loads are from forested lands, agricultural lands, cranberry bogs and private residences (septic systems or holding tanks). All of these sources are nonpoint sources; therefore there will be no regulatory impacts on phosphorus sources that contribute phosphorus to the lake.

The lake is already on the impaired waters list for dissolved oxygen impacts. If Option A is promulgated, the lake will also be listed as impaired for phosphorus until such time the criterion of 10 μ g/L is attained. If Option B is promulgated, the lake will not be listed as impaired for phosphorus at this time because the lake is currently meeting the criterion of 15 μ g/L. Listing status does not have a direct economic effect. Even if a TMDL is developed based on a more stringent phosphorus site-specific criterion of 10 μ g/L, there will be no regulatory required reductions of phosphorus because all of the phosphorus sources are nonpoint sources.

15. Benefits of Implementing the Rule and Alternative(s) to Implementing the Rule

Option A would set a lower phosphorus criterion for the lake. Option B would be no change to the current criterion of $15 \mu g/L$, which is the statewide criterion for two-story fishery lakes. Other alternatives would be to set a different phosphorus criterion ranging from 6 to $15 \mu g/L$.

Setting the criterion establishes a goal, but it is unclear whether an environmental benefit would result from a lower criterion. If the criterion is attained through voluntary actions, it is further unknown whether the two-story fishery will improve. Improvements may occur, in which case greater stability of the coldwater fishery would provide a benefit environmentally and to the communities surrounding the lake. The existing data do not indicate a specific threshold below $15 \mu g/L$ at which two-story fishery designated uses are expected to be supported.

16. Long Range Implications of Implementing the Rule

Long-range implications depend in part upon whether voluntary actions are taken to achieve a lower phosphorus concentration. In turn, they also depend on whether a lower phosphorus concentration results in improvements to the two-story fishery habitat. If so, then a more stable two-story fishery in the long term would be a benefit to the community.

17. Compare With Approaches Being Used by Federal Government

The Federal water quality standards regulation at 40 CFR 131.11(b)(1)(ii) provides States with the opportunity to adopt water quality criteria that are "modified to reflect site-specific conditions." Wisconsin has used this authority, as well as the authority under 281.15, Wis. Stats., to promulgate the existing narrative phosphorus site-specific criteria language in s. NR 102.06(7), Wis. Adm. Code. The portions of 40 CFR 131 related to establishing water quality standards include:

- 40 CFR 131 Subparts A-C: Requirements for establishing state water quality standards.
- 40 CFR s. 131.4: States are responsible for establishing and revising water quality standards. U.S. EPA approves or disapproves standards under 40 CFR s. 131.5.
- 40 CFR 131.6: Water quality standards consist of designated uses and criteria to protect the designated uses.
- 40 CFR 131.11: States must adopt water quality criteria that protect designated uses. For waters with multiple uses, the criteria must protect the most sensitive use. 40 CFR 131.11(b)(1)(ii) authorizes states to adopt numeric water quality criteria that are "modified to reflect site-specific conditions."
- 40 CFR 131.20: Revision of state water quality standards is subject to public participation procedures and U.S. EPA review and approval under 40 CFR 131.20.

18. Compare With Approaches Being Used by Neighboring States (Illinois, Iowa, Michigan and Minnesota) Wisconsin has numeric phosphorus criteria for lakes, reservoirs, rivers, streams, and impounded flowing waters. Wisconsin's phosphorus criteria for lakes and reservoirs vary by lake type with values ranging from 15 to 40 μg/L. As described in Section 3, Wisconsin statutes provide authority to develop site-specific criteria, and s. NR 102.06(7), Wis. Adm. Code, recognizes that site-specific criteria may be developed for phosphorus.

Minnesota has adopted phosphorus criteria for lakes, reservoirs, rivers and streams. Minnesota's phosphorus criteria for lakes and reservoirs vary by ecoregion with values ranging from 12 to 90 μ g/L. Minnesota allows specific water quality standards, referred to as site-specific criteria in Wisconsin, to be adopted when appropriate if information is available to derive standards based on a waterbody's specific characteristics. This process is outlined in Minn. R. 7050.0220, 7050.0222, and 7052.0270. Site-specific standards must maintain and protect a waterbody's beneficial uses. Several site-specific phosphorus criteria have been approved in Minnesota.

Illinois has adopted partial phosphorus criteria for lakes and reservoirs. Illinois' phosphorus criteria for any lake or reservoir greater than 20 acres is set at 50 μ g/L. Illinois does not have provisions for site-specific criteria.

Iowa, Indiana, Michigan and Ohio do not have statewide numeric phosphorus criteria. However, Michigan widely applies a method to derive appropriate site-specific phosphorus targets for waterbodies in the state. Ohio has a longstanding approach for developing site-specific phosphorus targets using a weight of evidence approach based on several eutrophication indicators. The targets set by Michigan and Ohio are applied in permits and TMDLs.

Wisconsin, Minnesota, and Michigan are the main states in EPA Region 5 that have two-story fishery lakes supporting coldwater fish. Wisconsin's phosphorus criterion for two-story fishery lakes with cisco, whitefish, or lake or stream trout is 15 μ g/L. Minnesota has a specified criterion for lakes with lake trout (the most sensitive species) of 12 μ g/L, and for lakes with stream trout of 20 μ g/L, but does not specify separate criteria for lakes with cisco or whitefish. In Minnesota, a lake such as Lac Courte Oreilles, which does not have lake or stream trout, would have a phosphorus criterion of either 30 or 40 μ g/L under Minn. R. 7050.0222 (3) and (4). Therefore Wisconsin's statewide phosphorus criterion of 15 μ g/L for Lac Courte Oreilles (Option B) is more stringent than Minnesota's comparable criteria of 30-40 μ g/L for non-trout lakes. Option A (Petitioner's proposed site-specific criterion) would be even more stringent at 10 μ g/L. Michigan does not have phosphorus targets specific to lakes with coldwater fish.

19. Contact Name	20. Contact Phone Number
Kristi Minahan	608-266-7055

This document can be made available in alternate formats to individuals with disabilities upon request.

ATTACHMENT A

1. Summaryof Rule's Economic and Fiscal Impact on Small Businesses (Separatelyfor each Small Business Sector, Include Implementation and Compliance Costs Expected to be Incurred)

The Department has determined the rule will have no fiscal impact on small businesses. Promulgation of a site-specific criterion for the lake will not impose additional pollution reduction requirements for WPDES permittees or nonpoint sources. Small businesses within the watershed could take voluntary measures to reduce phosphorus inputs to the lake if desired, but that can be done without a phosphorus site-specific criterion for the lake.

2. Summary of the data sources used to measure the Rule's impact on Small Businesses $N\!A$

3. Did the agency consider the following methods to reduce the impact of the Rule on Small Businesses?

Less Stringent Compliance or Reporting Requirements

Less Stringent Schedules or Deadlines for Compliance or Reporting

Consolidation or Simplification of Reporting Requirements

Establishment of performance standards in lieu of Design or Operational Standards

Exemption of Small Businesses from some or all requirements

Other, describe:

4. Describe the methods incorporated into the Rule that will reduce its impact on Small Businesses

NA

5. Describe the Rule's Enforcement Provisions

NA

6. Did the Agency prepare a Cost Benefit Analysis (if Yes, attach to form)

🗌 Yes 🛛 No