Comments and DNR Responses
Natural Resources Board Order WY-21-20

4-26-2023

This document presents a summary of public comments received on a proposed rule affecting chapter NR 102 related to establishing a phosphorus site-specific criterion for Lac Courte Oreilles (LCO) in Sawyer County. Responses from the Department of Natural Resources (DNR, sometimes referred to by commenters as WDNR or department) are provided below.

OVERVIEW

This rule proposes a site-specific criterion of 10 µg/L total phosphorus for Lac Courte Oreilles (LCO), a lake in Sawyer County. The lake straddles both state land and Tribal lands of the Lac Courte Oreilles Band of Lake Superior Ojibwe (hereafter, LCO Tribe). LCO 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 DNR determined that reducing the lake's criterion from 15 µg/L (the statewide criterion for this lake type) to 10 µg/L is necessary to support the lake's coldwater community due to site-specific conditions.

The Courte Oreilles Lakes Association (COLA), the LCO Tribe, and other individuals and organizations in the watershed have been actively engaged in discussion about this rule and other management actions for many years. This rule process included a public comment period to solicit economic information and a public comment period and public hearing on the draft rule, as detailed below. This document contains responses to comments submitted during this rule package's public comment period.

ECONOMIC IMPACT ANALYSIS

A 15-day public comment period on the draft economic impact analysis (EIA) occurred from August 26, 2022 to September 9, 2022. The DNR notified COLA, the LCO Tribe, eight local municipalities, and local businesses and organizations that had previously expressed interest in the rule. Two comment letters were received during the EIA comment period but these comments did not propose any changes to the EIA.

LEGISLATIVE COUNCIL RULES CLEARINGHOUSE

The Legislative Council Rules Clearinghouse submitted comments on form, style and placement in administrative code; and clarity, grammar, punctuation and use of plain language. Changes to the proposed rule were made to address all recommendations by the Legislative Council Rules Clearinghouse.

PUBLIC COMMENTS ON DRAFT RULE

A 57-day public comment period was held from December 5, 2022 to January 30, 2023. A public hearing was held both in-person and virtually on January 23, 2023, at the Hayward DNR office, 10220 N State Hwy 27S, Hayward, WI and via Zoom.

In addition to the statutorily-required public notices and posting of materials, email notification was sent to the following distribution lists, totaling 5,867 recipients:

- Water Quality Standards & Assessments GovDelivery List

- Individuals previously involved in the LCO site-specific criterion discussion from COLA, LCO Tribe, LimnoTech, WI Cranberry Growers, and U.S. EPA
- Organizations, businesses, and individuals that previously commented on related matters (2019) and provided an email address
- Eight local municipality contacts (Sawyer & Washburn counties, city of Hayward, townships)
- DNR staff

A separate letter was sent to Chairman Taylor of the Lac Courte Oreilles Band of Lake Superior Ojibwe on Nov. 28, 2023, and notifications were sent to the Tribal Conservation Department during the rule process.

This document provides a synopsis of the comments received and the DNR's responses. If comments were from an organization, the organization is indicated in the comment. Otherwise, all comments are from individuals.

In total, 101 individuals, 6 organizations, and the LCO Tribe submitted comments and/or attended the public hearing. Of all comments received (including those at the hearing), 87 were in support of the rule (includes LCO Tribe and 4 organizations); 5 were in opposition (includes one municipality); and 16 did not express support or opposition (includes 1 organization). These are broken down as follows:

- The hearing had a total of 66 attendees (not counting DNR staff), with 25 in person and 41 online via Zoom; this includes the LCO Tribe and representatives of 5 local organizations. Forty-six attendees registered in support of the rule, including the LCO Tribe and 4 local organizations. Four attendees registered in opposition to the rule, which includes one representative of a local municipality. Fifteen were neither in support nor opposition. Seven people provided oral statements at the hearing (5 supported, 2 opposed).
- In addition to those already counted in the previous bullet as attending the hearing, 42 comment letters/emails were received: 41 in support (all individuals, no organizations); none in opposition; 1 organization submitted a neutral letter.
- People providing both written and oral comments were counted only once in the tally above.

The following is a summary of comments received (condensed) and the DNR's response.

Public Comment Summary and Responses

The comments received by DNR are categorized into the following groups:

1. Tribal interests and rights under Treaty of 1837
2. General support of a site-specific criterion of 10 µg/L total phosphorus (TP)
3. General opposition to a site-specific criterion of 10 µg/L TP
4. Whitefish and cisco populations
5. Technical support and data analysis

Appendix: Comments outside the scope of rulemaking

A. Voluntary management efforts
B. Lake levels and boating/no wake
C. Musky Bay and musky population
D. Statewide phosphorus criterion for two-story fishery lakes

1. Tribal interests and rights under Treaty of 1837

Comments:

- Brian Bisonette, representing the LCO tribe, described the history of the LCO Band of Lake Superior Chippewa Indians in the Lake Superior region. He explained the importance of LCO to the tribe and the surrounding environment, and the tribe's efforts to maintain LCO. He urged that management of the lake be taken seriously and politics put aside.
- The LCO tribe and COLA commented that establishing a new 10 ug/L total phosphorus criterion for LCO is critical to protecting the LCO's tribes treaty rights under the Treaties of 1837 and 1842. They described the importance of LCO to the tribe, including fishing, hunting, trapping, and gathering aquatic medicines in addition to spiritual connections to the lake. They stated that "the site-specific criterion of 10 ug/L for Lac Courte Oreilles must be adopted as rule."

  Response: The DNR appreciates the great importance of the lake to the Tribe and COLA, and thanks the Tribe for their comments and for their intensive resource protection work. The DNR agrees that setting a criterion that is more protective of the coldwater fish population is in the spirit of supporting Treaty Rights, and hopes that this effort spurs additional improvements to protect LCO and its important role within the ecosystem and community.

2. General support of a site-specific criterion of 10 μg/L total phosphorus (TP)

Comments:

- The LCO Tribe and four local organizations commented in support of the rule: COLA, Hayward Lakes Chapter of Muskies Inc., Whitefish Lake Property Owners Association, and Osprey Lake Property Owners Association. These entities expressed concern for the health of the lake, noting declines over time, and general support for the rule. More specific comments from these entities are addressed under the relevant topic headings throughout this document.
- Eighty-two comments from individuals or families were received in support of the rule. Commenters provided a personal history of their residency on the lake, with many families having lived there for decades and over multiple generations. Commenters provided observations from many vantage points around the lake, including various bays and sandbars.
- Many commenters stated that a lower criterion of 10 ug/L is needed to revive, protect and enhance the fishery. Fishing has been greatly impacted both directly and indirectly due to aquatic plant growth. Impacts not only to cisco and whitefish but also to musky and bass fishing were noted. Many cited the lake's rare status as one of only a handful of two-story fishery lakes in Wisconsin with whitefish, and as an Outstanding Resource Water. One stated that a "one size fits all" management approach [applying the statewide criterion] is not appropriate here.
- Many lamented the great increase of plants such as the Eurasian Water Milfoil (EWM) and Curly Leaf Pondweed (CLP) over the last few years, and attribute this growth to higher phosphorus levels. They noted invasive plants in most shallow areas of the lake, making fishing impossible and clogging boat motors. One also noted large mats of very dense weeds. Some note that the once sandy bottom is now covered in plants. Some note that although there have been large investments to control growth of these invasives, use of chemicals and mechanical weed control is becoming too expensive.
- Many are concerned about water clarity, which historically had been excellent but has declined markedly. One commenter noted that 50 years ago clarity was routinely 25-35 feet, whereas now in the deep basins it has been reduced to 5 feet, with clarity in bays at virtually zero. One observed

"clouds of algae", and another noted that while scuba diving in 18 feet of water, there was algae hanging in the water at the thermocline. Some noted it impacted swimming enjoyment.

- "Recreational use is virtually non-existent in several bays adjacent to cranberry bogs." Commenter said that water clarity in bays is virtually zero and fishing is impossible due to plant growth; boat motors are clogged. Another commenter noted that COLA has offered to subsidize retaining basins on cranberry operations, but with little success.
- Some noted declines in seeing frogs, leeches and clams.
- Some noted an increase in sediment and muck on the lake bottom.
- Some expressed the importance of LCO to Sawyer County's tourism industry, to the LCO Tribe, to residents and anglers. "So much economic benefit to the area (and not just lakeshore owners) depends on a healthy LCO."
- "Especially with global warming, we need to do all we can in our personal lives and work lives to protect our natural resources."
- COLA and the LCO Tribe stated: "LCO is not currently meeting its designated uses pursuant to state and federal water quality statutes and rules. In proposing a 10 µg/L phosphorus site specific criterion for LCO, the WDNR is appropriately setting a standard that when achieved will halt and reverse the declining water quality of LCO and protect for future generations this unique two-story, cold-water fishery that the State of Wisconsin has designated an Outstanding Resource Water (ORW). NR 102.10, (1m)17."
- A representative from the Whitefish Lake Property Owners Association (which is upstream from LCO) stated that "WLPOA adamantly supports this rule to reduce the phosphorus level" in neighboring LCO. She commented that Whitefish Lake is already listed as impaired for phosphorus, and like LCO they are trying to do everything possible to reduce phosphorus levels, both for residents of Whitefish Lake and LCO; "we're all in this together". She stated that Whitefish Lake has a fairly healthy whitefish population and she wishes the same for LCO.
- "Has not Wisconsin signed on to the Federal watershed program to reduce TP run-off, to minimize oxygen impairment in the Gulf of Mexico? Money, human resources, institutional courage, watershed focus, and voluntary compliance are at the heart of the solution there, and in LCO." …"The European re-oligotrophication of lakes like Lake Geneva show that it can be done and that tools are at our disposal, too. An SSC of 10 ppb [site-specific criterion of 10 ug/L] starts the ball rolling."
- Some expressed frustration with a lack of action by DNR to address degradation beginning in the 1980s. Some also questioned why the Natural Resources Board had not previously voted for similar action (in an earlier rulemaking effort) and urged all parties to put politics aside. Many implored the DNR to do whatever is possible to stop the degradation, and expressed the urgency of needed actions and a fear of losing the lake, encapsulated by statements such as "LCO requires life support to survive."
- Several commenters expressed views such as: "There is ample cause to adopt the revision, and no significant adverse factors to adoption, so it should be adopted." "With no economic consequences, [it] seems foolish not to lower the criterion when it could help get grants for lake stewards to work toward it."

Response: The DNR appreciates the personal perspectives provided by commenters, and their dedication to preserving the quality of life on this lake. It is clear that a large majority of those submitting comments support lowering the phosphorus criterion to 10 µg/L. The personal observations described by those who live and recreate on the lake of decreased water quality and clarity, decline of several aspects of the coldwater and warmwater fishery, and invasive plant and

algae growth are valuable. More detailed comments received on specific topics are provided and responded to below.

3. General opposition to a site-specific criterion of 10 μg/L TP

Comments: Four individuals and the Town of Bass Lake registered in opposition to the rule. These entities did not feel a lower criterion for phosphorus was necessary. Some expressed concerns that: factors other than phosphorus were more appropriate to address, such as managing lake levels and erosion; an impairment listing may have negative effects for the area; it may be infeasible to attain a criterion of 10 ug/L; eutrophication is a natural process; and it may be inappropriate to manage for whitefish as the species is affected by climate change.

Response: Specific comments from these entities are addressed under the relevant topic headings throughout this document.

Comments:

- The Town of Bass Lake stated they want phosphorus levels to remain as they are. The DNR interprets this to mean that the Town is in support of maintaining the current criterion of 15 ug/L. The Town feels there is no need to classify the lakes as high in P (list them as impaired); instead, the Town suggests leaving the criterion as it is and managing the lake. The comment also noted that lawn fertilizers contribute to phosphorus, and possibly farms as well. Additionally, the Town states Musky Bay has always been high in phosphorus; boats in the bay stir up the bottom and release P, some of which goes into the big lake.
- A commenter noted that a lowered phosphorus criterion would only have regulatory consequences if a new point source proposes to discharge water into LCO, and that they do not anticipate any new point source discharges. Commenter states "the connotation that LCO is an impaired body of water is not what I want for the lake, I am opposed to the change in the phosphorus criterion from 15 to 10."
- A commenter expressed concern about reducing the phosphorus criterion from 15 to 10, and then declaring LCO an impaired body of water. Commenter opposed an impairment listing and was concerned for whether tourists would want to continue visiting LCO, whether fishing clubs would have tournaments there, and the effect on local businesses that rely on these revenues. Asked how an impairment listing would be removed, stating "I have not heard anything which convinces me that we know how to reduce LCO's phosphorus to below 10, so the impaired designation will remain indefinitely?"

Response: Thank you for your perspective. Based on the data available to date, it is true that revising the criterion to 10 μg/L would be expected to result in listing the lake as impaired for phosphorus, which would only be de-listed if/when actual reductions are achieved. LCO is already listed as impaired for dissolved oxygen. Formally recognizing these issues by listing a waterbody as impaired can provide benefits to the local community by bolstering the ability to receive funding to address the issues through DNR grant programs, which provide $2.3-3.3 million every year for these purposes. Voluntary management actions from all sources are needed, whether the phosphorus criterion is revised or not, and the criterion does not specify any one form of management over another. Actions taken to improve the health of Musky bay could certainly help the lake as a whole achieve the phosphorus criterion.

Comment: Is 10 µg/L, doable and/or realistic? If so, at what cost--both monetary and ecologically? If doable, what are the monetary costs to society—who pays? Who really benefits and who is hurt? No suggested solutions with costs are presented; without such information, how does one make an intelligent decision? Is this part of a scheme to increase real estate values of shoreland owners?

Response:

- Under the Clean Water Act, criteria setting is not based on feasibility or economics. Water quality criteria are to be set based on what would be required to attain a waterbody's designated uses, and feasibility may be taken into account (to some degree) in setting the designated use via a Use Attainability Analysis. However, if there is historic information that a use was present at any point since 1975 (an "existing use"), then that use must be protected via the criteria applied to the waterbody. In this case, the coldwater community is clearly present, but is also clearly declining even at phosphorus levels below the current criterion of 15 µg/L. This demonstrates that a) the coldwater use is what is considered an "existing use" and must be protected via criteria, and b) that 15 µg/L is too high for this particular lake. By setting the proposed criterion at 10 µg/L, DNR selected a target at the high range for what is expected to support the coldwater species—i.e. "no more stringent than reasonably necessary", as required by s. 281.15(2)(c), Wis. Stats.
- As noted by the commenter, this analysis does not specifically address the feasibility or voluntary cost of attaining a TP concentration of 10 µg/L. Because implementation actions are voluntary, these decisions are made by local initiatives determining how to balance local issues within their budgets, or by private citizens on their own land. While the DNR understands concerns about feasibility of the final goal, this is often not completely known until full implementation efforts have been enacted and time has passed to see the effects of phosphorus reduction actions.

Comment: What is the ecological basis for the regulation change? Commenter noted "the reality that ecosystems change over time—ecosystems are not static; the water quality of the past is not the water quality of today. Land and lake productivity changes over time as well." Commenter discussed eutrophication and vegetation changes as natural processes, and cited "the reality of climatic warming." The commenter stated that information provided by the lake association may be incorrect, misleading, or contradictory, citing concerns about using a litigation approach versus an objective approach to ecosystem management that addresses both benefits/services and damages/disservices to society. Future petitioners and the DNR should provide an objective, unbiased report that addresses the history and ecology of the issue with references that support the facts.

Response: The ecological basis for this proposal is detailed within the Technical Support Document and other cited materials. The DNR agrees that ecosystems and lake productivity change naturally over time. However, it is the DNR's aim to reduce the accelerated effects of eutrophication due to human impacts where possible, enabling lake systems to retain clear water quality where that has historically been their condition. The DNR also agrees that climate warming is a factor that must be acknowledged in cases such as this one, and there was considerable analysis of climate and temperature within the technical documents prepared for this lake (see 2018 Technical Support Document with 2019 Addendum). In large part because of warming temperatures, addressing other factors impacting the lake are all the more necessary, such as addressing phosphorus reductions.

Comment: Commenter provided three alternatives to rulemaking for consideration:

- Alternative 1: "Retain current State total TP criterion of 15 µg/L for stratified, two-story fishery lakes; and, for those lakes with species that are locally threatened or needing special management attention" such as whitefish in Lac Courte Oreilles "be specially noted by WDNR for attention and then be addressed in the lake management plan."
- Alternative 2: "Retain current state total phosphorus (TP) criterion of 15 µg/L for stratified, two-story fishery lakes and delay any change to TP criterion until COLA/WDNR has brought the recent frequent excess TP levels down below the 15 µg/L criterion and document positive and negative impacts on ecosystem functions and benefits/losses to society of the methods/solutions to be used."
- Alternative 3: "Be realistic and accept the inevitable of climatic warming and loss of lake whitefish and revise lake management plans to address the associated impacts of climatic change." Cisco are a totally separate issue.

Response: If the rule is not adopted, Alternative 1 may be appropriate for LCO. Alternative 2 recommends waiting for management actions to be implemented before setting the target goal. While management actions may be implemented at any time, this is not a reason to delay setting an appropriate criterion. Under the Clean Water Act, the DNR is responsible for determining these goals to support the waterbody's designated uses. Under alternative 3, the DNR understands that loss of certain species in certain waterbodies due to warming may be a reality in the future. However, at this time the DNR is seeking to protect vulnerable species to the extent possible, to retain their viability in their native habitats.

Comments:

- A commenter opposed to the rule expressed concern about "dredging or using the Aqua-Thruster to flush muck and organic matter to elsewhere into the lake, aquatic vegetation removal (Eco-Harvester and hand-pulling) that disturbs sediments resulting putting TP back into the water column."
- Is there a better procedure for eradicating Eurasian Water Milfoil (EWM) than the EcoHarvester, which might spread EWM if it doesn't collect all the plant fragments?

Response: Although these and other management actions are related to phosphorus levels, establishing a criterion is based on determining the concentrations of phosphorus in the lake that could allow the coldwater community to maintain stability, which is a separate process from determining appropriate management actions that will, on balance, both reduce phosphorus and address invasives. Management of aquatic plants is not directly related to this rule and would be better addressed in the lake's Aquatic Plant Management Plan. For more information see DNR's Strategic Analysis of Aquatic Plant Management document, specifically Supplemental Chapter 3: Toolbox for Aquatic Plant Management.

Comment: As a voting citizen of and income taxpayer to the State of Wisconsin, I oppose the "petition" by COLA or any Lake Association, an IRS tax exempt organization, consisting of Wisconsin citizens and non-citizens:

- Use of the petition process gives non-residents a say in the management of Wisconsin citizens' resources and control of the use of citizens' income tax dollars that support state agencies such as WDNR.
- Use of the petition, a form of lobbying, appears to contravene COLA's IRS tax exempt status—how can WDNR accept/condone a questionably legal document?

- The commenter noted that the Natural Resources Board previously considered the matter and due to a tie vote, the rule was effectively denied. They said that it is incorrect to petition the DNR to start a new rule-making process, and that instead the petitioners should have appealed the NRB's decision. They asked what the issues were (scientific, political, other) that caused the "non-Yes" vote, and questioned whether the denial was based on environmental concerns or public/personal politics.

  Response:
  - The procedure for petitioning for rules can be found in s. 227.12, Wis. Stats. That section states, in relevant part, that "a municipality, an association which is representative of a farm, labor, business or professional group, or any 5 or more persons having an interest in a rule may petition an agency requesting it to promulgate a rule." The statute does not speak to resident vs. non-resident status for petitioners. The correct petition requirements were followed in this case.
  - The DNR is not the correct entity to make determinations on a petitioner's tax exempt status, so cannot speak to the veracity of this comment.
  - A recording of the NRB meeting from January 22, 2020, where phosphorus levels in LCO are discussed, is available on the DNR's website at https://dnrmedia.wi.gov/main/Play/3a36c7582f8042488265dca9d168d0aa1d?catalog=9da0bb432fd448a69d86756192a62f1721 (see agenda item 4B, at time mark 8:00). There is no process under state regulations for appealing a decision of the NRB.

Comment: One commenter listed several concerns about the status and operations of COLA, the lake association, including:
- COLA does not make a list of members publicly available, and does not publish minutes. The WDNR should require Lake Associations to make membership lists available to the public and that they include property owner(s) name, permanent addresses, and local site (seasonal) addresses as provided in County tax records and, also, publish meeting minutes.
- Recognition of the disparity [between members who are citizens of the state and those who are not] by the State of Wisconsin must be recognized and noted by Lake Associations as to voting citizenship and only Wisconsin citizens be part of the recorded official vote.
- I further oppose the continuation of State grants provided to organizations such as COLA with a large out-of-state membership to support activities which may negatively impact state resources and use. The State's funding of WDNR is directly or indirectly the result of State income tax dollars.
- Commenter expressed a grievance about having been denied membership to the lake association.

Response: The status and operations of the lake association is outside the scope of this rule. The DNR does not have authority over lake associations and their operations, but the DNR does issue grants to lake associations that meet certain qualifying criteria within the statutes (s. 281.68 (3m), Wis. Stats.). This rule in itself does not allocate grant funds to the lake association, but we have forwarded these concerns to our surface water grants program.

4. Whitefish and cisco populations

Comments: Commenters noted a considerable decline in, and die-offs of, cisco and whitefish. One commenter submitted the following points:
- LCO is biologically impaired as a two-story fishery as evidenced by cisco survey data; there has been a catastrophic decline. In Nov. 1978, 10 hauls on spawning grounds yielded just under 500 mature

cisco, average size 7.0". In Nov. 2016-17, 24 hauls yielded one 11+" cisco, using the same gear, same sites, same investigator.

- The oxythermal standard may be a little conservative for oxygen (3.0 ppm might be as low as 1.0 ppm in some lakes) but the upper thermal standard of 73 degrees is ridiculously high and should be more like 70 F, as it is in most states. Oxythermal habitat in all of LCO's basins has approached zero in several recent years, along with documented fish kills of cisco and whitefish (which supposedly are not supposed to be in LCO, to begin with, and their acknowledged presence would push the thermal standard down to 66 F!). This depletion is made more pronounced and critical by longer growing season/climate change.

Responses:

- The DNR appreciates the commenter's information regarding the decline in fish populations. The oxythermal goal set for LCO specifically included the more stringent thermal needs of whitefish as well as cisco. Specifically, the temperature threshold applied to LCO is the whitefish threshold of 66 °F [18.8 °C], which would be protective of both species.
- From the DNR's research leading to the establishment of the oxythermal criteria for cisco, the primary paper that the Wisconsin criteria are based on (Lyons et al., 2017*) states "Field and laboratory studies have shown that cisco prefer water temperatures of 12.5–16.5 °C [54.5-61.7 °F], avoid temperatures above 20–21 °C [68-69.8 °F] if possible, and have an upper lethal limit of 23.8–26.0 °C [74.84-78.8 °F] when dissolved oxygen levels are near saturation (Cahn 1927; Fry 1937; Frey 1955; Colby and Brooke 1969; Edsall and Colby 1970; Engel and Magnuson 1976; Edsall and DeSorcie 2002; Jacobson et al. 2008*a*)." The relationship between the temperature and dissolved oxygen (DO) at which cisco can survive "has been shown to be curvilinear, with an estimated upper thermal limit for adult cisco of 23.8 °C [74.84 °F] at 8 mg/L dissolved oxygen, **23.3 °C [73.94 °F] at 6 mg/L** (emphasis added), 22.0 °C [71.6 °F] at 3 mg/L, and 19.5 °C [67.1 °F] at 1 mg/L (Jacobson et al. 2008*a*)." In Minnesota, the Jacobson research was used to develop a cisco habitat threshold at a DO of 3 mg/L with a temperature of 22 °C [71.6 °F]. However, in Wisconsin, the threshold was set to require a higher DO of 6 mg/L with a correspondingly higher temperature limit of 22.78 °C [73 °F], which is within the range reported by Jacobson's research. In Wisconsin, this also corresponds to previously existing regulations for coldwater fish (albeit applied primarily to stream species) that require maintaining a DO of 6 mg/L at all times and a temperature of 73 °F or less.

  * Lyons, John, et al. 2017. Evaluation of oxythermal metrics and benchmarks for the protection of cisco (Coregonus artedi) habitat quality and quantity in Wisconsin lakes. Canadian Journal of Fisheries and Aquatic Sciences.
- We are unaware of other states that have specified thermal thresholds for cisco.

Comment: "Morphologically, the mouths of whitefish and cisco differ significantly so that whitefish are predominately bottom feeders and cisco are predominately open water (pelagic) plankton feeder. Thus, grouping them together creates a false impression of habitat requirements. […] The thermal regime of each of the two are different. […] Is COLA or WDNR able to provide me with observed upper temperature limits for both species and advise how they continue to survive such lethal temperatures; I am not interested in modelling temperatures. I believe temperature limits (ideal, preferred, or lethal) vary by fish development/activity phase (spawning, eggs, embryo, juvenile, adult)."

Response: The DNR agrees that whitefish and cisco occupy different niches within a lake, with whitefish as bottom-dwellers (benthic) and cisco living higher up within the water column (pelagic). This rulemaking seeks to improve habitat for the coldwater community as a whole, which would include both fish species. The DNR also agrees that whitefish are more sensitive to temperature than cisco, which is why the state applies a lower temperature threshold to protect whitefish in lakes where they exist (must be cooler than 66°F for whitefish vs. 73°F for cisco). This lower temperature threshold was a critical component in determining the proposed phosphorus criterion in this rule. In 2022 the state promulgated oxythermal criteria for lakes with coldwater fish, which contain thermal requirements for different coldwater species (see s. NR 102.04(4), Wis. Adm. Code). The 2021 Technical Support Document for the oxythermal criteria states the following in Sec. 2.2:

> "WDNR assessed species information is from recent (2011-2015) data from a majority (~155) of Wisconsin's two-story fishery lakes combined with research done in Minnesota. […] The data assessed indicated the following: […]
> - The upper temperature limit for cisco is 73°F (22.8°C) (i.e., cisco will begin to die if exposed to temperatures above this limit for more than a few days). Their ideal range is ~39-63°F (~4-17°C), with an optimal temperature of ~48°F (9°C) (i.e. when given a choice, most cisco are found at this temperature if the DO is above 3 mg/L).
> - The upper temperature limit for whitefish is ~66°F (~19°C). Their ideal range is ~39-52°F (~4-11°C), with an optimal temperature of ~39°F (~4°C)."

Comment: Some commenters noted the reliance of musky and other warmwater species on cisco: "LCO has a demonstrated capacity to produce above-average sized fish, including world record musky, our state fish. This is likely due in part to the cisco forage base." "It is well understood that musky grow large and fat on high quality forage such as cisco – a cold water species. A 10 micrograms per liter limit on phosphorus has the potential to substantially benefit the musky fishery by protecting key forage species such as cisco."

Response: Agreed; the warmwater fishery in LCO is closely tied to the coldwater fishery as an important food source. Protection of the coldwater fishery is critical for the lake ecosystem as a whole.

5. Technical support and data analysis

Comment: Commenter stated the Technical Support report (WDNR 2022[TECH]) appears somewhat less than objective; in places it appears to be biased or sympathetic in favor of the petitioner(s). The DNR must be objective and show no bias. To be more convincing, both sides of the issue should be adequately addressed. Commenter felt that the data did not support the proposed TP criterion change. The commenter requested that the DNR address this concern and if necessary, delay the change decision by six months.

Response: The DNR conducted an independent analysis using all available data from the main basins of LCO, developing its own model to assess the relationship between TP, dissolved oxygen, and available habitat. The DNR addressed both the expected benefits and limitations of establishing a more-stringent criterion of 10 µg/L TP in the Technical Support Document, and felt

the results of the report supported the proposed rulemaking. The DNR does not see a need to delay rulemaking at this time.

Comment: Cited references should follow a standard format. Citations [are] often less than adequate—do not support or confirm statements in document, especially facts. Source of information often not provided or where to find it is not well presented or incomplete.

Response: In the References section, formatting inconsistencies were corrected, and hyperlinks were added to each document (except one that is not available online) to make resources more accessible for users.

Comment: Two commenters stated that there are different forms of phosphorus that should be considered, and that of these, phosphate is the most soluble.

Response: Wisconsin's EPA-approved statewide water quality phosphorus criteria are for total phosphorus (TP), as established and defined in s. NR 102.06 , Wis. Adm. Code. The proposed LCO site-specific criterion and other site-specific phosphorus criteria in the state are also based on TP, consistent with the statewide criteria. Total phosphorus is the most commonly used measure of phosphorus in state water quality criteria. EPA released guidance for states and tribes both in 2000 and in 2021 that recommended use of TP for development of water quality criteria. Phosphorus criteria are expressed in terms of TP for two main reasons. First, the chemical form of P changes in the environment, depending on a number of factors. For example, iron-bound P may be released as bioavailable P in the absence of oxygen. And second, the statistical relationship between TP and chlorophyll *a* (a measure of algal biomass and one of the most important response metrics) is stronger than the relationship between dissolved orthophosphate (PO_4, typically a large fraction of bioavailable P) and chlorophyll *a*. This is probably because PO_4 is rapidly used by growing algae, and is therefore not present in high concentrations in filtered water samples. Bioassay procedures to directly quantify bioavailable P can be prohibitively expensive and time consuming, so a surrogate measure relying on TP continues to be the only practical option. Since the TP:chlorophyll relationship is the strongest of assessed alternatives, TP is the best surrogate among practical options.

Comment: Appendices not always provided—so where is the supporting data for making a thoughtful analysis and decision? …should be "supported by tabular data (actual/factual numbers)."

Response: The Technical Support Document does not contain appendices with data tables. It would be unwieldy to attach the large amounts of data and modeling as appendices. The report provides summary graphs/tables within the text. However, information was added to the document stating who to contact within the DNR if readers would like to obtain the datasets electronically.

Comment: Graphs show trends, but often not real numbers. Graphical representations can result in exaggerated information, for example, the scale of one [of] the axes. Also stated that graphs should show "correlation using regression format (not simply connecting dots)."

Response: Figures 2-4 show trends in total phosphorus and chlorophyll *a* concentrations. DNR staff reviewed the graphs but did not make changes in response to this comment. While individual

numeric concentrations are not shown with each data point, the vertical axis (concentration) provides horizontal guidelines every 1 to 2 units (µg/L). The DNR aimed to make the figures as easy to interpret as possible, and felt that adding numbers to every point would make the graphs more difficult to view. The vertical scales on the two phosphorus graphs are very similar to one another, so they should not skew interpretation of the trends from one to another. The chlorophyll graph does have a vertical scale of a different proportion, but chlorophyll concentrations are not directly comparable to phosphorus concentrations and it is helpful to see the variability between points across years. Figures 2-3 do provide regression lines across the data.

Comment: "Substitution of regression values for real values without clarifying causes doubt of all numbers and challenges the argument for a stricter criterion."

Response: The DNR is unclear what section of the document this statement is referring to, and what is meant by "real values." Staff have tried to clearly describe the methods used for all modeling and calculations contained in the Technical Support Document.

Comment: For mean values, sample sites should be random except possibly when trying to show trends and then you need a minimum of 3 sample sites per locality.

Response: The DNR disagrees that for mean values, sample site locations should be random. DNR's standard monitoring protocols specify that mean values used for assessing long-term trends should be sampled from the same locations across time. For lakes, DNR protocols typically only require one sampling site per lake (at the deep spot), but for LCO three sites are sampled: West, Central, and East basins.

Comment: "Current available data (WDNR) appear to contain errors, e.g. surface TP values greater than bottom TP values."

Response: More information on which data points are in question would be needed to determine whether there is an issue. Data used for waterbody assessment purposes undergoes quality control processes before being incorporated into calculations. TP data from the lake bottom is not used in DNR's water quality assessment methods or in the modeling for this rulemaking effort (though dissolved oxygen and temperature data from multiple depths, including the bottom, are). This comment was shared with the lake biologist.

Comment: "Use of significant decimal points suggest a precision that is not there or possible"…elsewhere commenter clarifies "(e.g. lake levels measured to two decimal points)."

Response: The DNR Technical Support Document does not report on lake levels. The DNR is unclear whether there are other values in question here.

Comment: Map providing sample location

Response: Further explanatory text was added to the map caption for Figure 1 to indicate which of the sampling points shown are those for the deep points of each main basin, referenced in the report.

Comment: Reports largely ignore other environmental factors that may be a more serious or imminent factor, for example, long-term climatic warming since the Little Ice Age and prior glaciations. The concept of relict species/communities such as the lake whitefish is ignored as potential cause of their probable extirpation. "My impression regarding Lac Courte Oreilles whitefish, based on personal observations and the literature, is that whitefish are facing extirpation due to climatic warming. Currently, it [whitefish] is found almost exclusively in glacial-related lakes and is a relict of the past. Wisconsin is on/near the southern and warmest end of the whitefish range and less than a dozen lakes support them. Should we even try to manage for them? [Commenter provided literature citations about geographic ranges and declines of cisco and whitefish historically.]

My impression regarding Lac Courte Oreilles cisco, again, based on personal observations and the literature is that cisco are not facing extirpation at this time and that its history and ecological requirements be thoroughly reviewed and reported in order to make intelligent management approach/decisions."

> **Response:** This report expressly references our earlier Technical Support Document (2018) and Addendum (2019), which include a robust discussion on other factors affecting the lake, including climate/warming data. As noted earlier, the DNR understands that loss of certain species in certain waterbodies due to warming may be a reality in the future. However, at this time we are seeking to protect vulnerable species to the extent possible, to retain their viability in their native habitats. A statement addressing this issue was added to the Technical Support Document. Additionally, reducing phosphorus inputs and improving dissolved oxygen will result in improvements to cisco habitat. Cisco are an important base of the food chain for many species in the lake, such as muskies, and managing to protect cisco as well as whitefish is critical.

Comment: A commenter recommended enumerating all sources of TP, both natural and human-caused, and identifying those that can be realistically addressed "without significantly interfering with ecosystem processes or benefits to humans." The commenter listed multiple types of sources to consider, including seven inflowing creeks, precipitation, surface runoff, seepage water, shoreline and upland erosion, decay of plant materials on the lake bottom, and many human-caused factors that could contribute to resuspension of TP such as boats, dredging, and plant management techniques such as the Ecoharvester, AquaThruster and hand-pulling. Lack of natural background data versus human effects raises questions.

> **Response:** While the factors listed above are all likely inputs to the overall TP concentrations in the lake, this rulemaking effort did not necessitate a watershed loading analysis. Deriving a criterion that would be considered protective of the aquatic life community is based, in this case, on the relationship between in-lake TP concentrations and dissolved oxygen levels. Watershed TP inputs, regardless of the sources, are inherently included in the historic and current in-lake TP concentrations that are used for this analysis. Some work has been done previously by LimnoTech (2014*) and Barr Engineering (1998*) to enumerate and quantify TP sources. Such work could be updated as part of the effort to reduce TP concentrations.
> *Studies are online here: https://www.cola-wi.org/water-quality.

Comment: "Reducing erosion in the watershed or along the banks of lakes and streams is more cost effective than trying to correct water quality and habitat impairment resulting from continuing erosion (The Outdoor Wire 2019)".

Response: Agreed. Establishing management practices to prevent degradation is more efficient than correcting degradation. A combination of both is required for systems already experiencing degradation.

Comment: One commenter noted support for a language revision discussed by DNR at the public hearing to be more succinct in describing that the lake as a whole will be considered impaired if not attaining the standard, but that bays will not be assessed separately.

Response: Support noted. This change is reflected in the proposed rule language proposed for adoption.

Appendix: Comments outside the scope of rulemaking

The DNR received a number of comments that were beyond the scope of this rule. Many of these are on topics related to nutrient or plant management. The DNR has summarized these comments, provided brief responses below, and forwarded them to appropriate DNR staff.

A. Voluntary management efforts

Comments: COLA and the LCO Tribe commented: "COLA and the LCO Tribe recognize that achieving a new 10 µg/L total phosphorus criterion for LCO will have to be done through voluntary efforts, and they have already been actively pursuing that goal." They go on to describe multiple such efforts, including septic system surveys, shoreline buffers, education, and work to reduce lawn fertilizers. They invested over $100,000 on a specialized mechanical harvester to remove invasive aquatic plants and on aquatic herbicides to target invasives. They are working with Sawyer County on effective shoreline zoning to reduce impervious surfaces/runoff. They also worked with UW-Stevens Point to complete an erosion study of agricultural land in the Upper Couderay River Watershed, to identify "priority farms" for erosion control practices. They also completed an analysis of timber management practices to surface waters in the Upper Couderay River Watershed.

> **Response:** The DNR appreciates the extensive management actions undertaken by COLA and the LCO Tribe over many decades. Many other commenters also noted appreciation for these efforts, including some commenters who were opposed to this particular rule.

Comments: The Town of Bass Lake asks to be notified of DNR actions affecting the lake (as well as other entities' actions) so they can provide input. A resident also expressed concern that DNR is not involving the Town of Bass Lake in decision making, and suggests that "WDNR copy correspondence regarding land use and water management to the Town of Bass Lake administration." The resident was also concerned that while COLA states that the Town is a partner, they need to work more closely with the Town on issues such as dredging, TP management, and shoreline erosion.

> **Response:** Thank you for your interest in partnering on these matters. Your interest has been shared with the local DNR lake biologist and fisheries manager. During this rulemaking effort (and previous similar efforts), the DNR emailed notices to the Town of Bass Lake during the Economic Solicitation Period and the Public Comment Period, and appreciates the Town's comments. The Town may also find it useful to sign up for lake association emails to stay up to date on issues that are being discussed within the lake community.

Comment: Commenter questioned the DNR's assertion that because most phosphorus sources are non-point agriculture, they cannot be regulated under the Clean Water Act, citing concerns about partisan stances. Commenter recognizes that while the lack of regulatory enforcement authority may be true, the power of the human relations aspect of listing a water as impaired should not be ignored.

> **Response:** The DNR has the authority to administer the Wisconsin Pollutant Discharge Elimination System (WPDES) program as prescribed in ch. 283, Wis. Stats. The WPDES program regulates discharges of pollutants from point sources to waters of the state as required by the federal Clean Water Act. A "point source" is defined in s. 283.01(12)(a), Wis. Stats., in relevant part, as a "discernible, confined, and discrete conveyance, including but not limited to

any pipe, ditch, channel, tunnel, conduit, well…this term does not include agricultural storm water discharges and return flows from irrigated agriculture." As such, phosphorus sources from non-point agriculture cannot be regulated under the WPDES program.

Comment: Comments relating to a variety of lake management practices include:

- One commenter pointed out that certain types of lake management may have undesirable side effects affecting TP levels and said these may be considered mismanagement; specifically:
  - "Increase Lake Level for members' convenience that increases shoreline erosion and TP input into lake waters;
  - Dredging/thruster (from nearshore) Musky Bay to remove muck (organic and silt/clay) further out into the lake;
  - Disturbance of TP-rich lake sediments by uprooting aquatic vegetation (Eco-harvester/hand pulling);
  - Use of motor craft (boats and personal watercraft) in waters with TP-rich muck-bottoms like Musky Bay"
- One commenter suggested the following practices to reduce phosphorus levels:
  - "Keep LCO at 1.49 on Thoroughfare Bridge gauge on the high side to reduce shoreline erosion and draw down LCO to .99 or less prior to ice in to reduce ice damage to the shoreline which increases erosion.
  - Make Musky Bay a no wake zone to reduce the spreading of phosphorus throughout LCO.
  - Study whether removing lots of plant material in the fall would reduce natural phosphorus produced from rotting vegetation.
  - Sample all creeks, Grindstone, Spring, Ghost, Whitefish, Ring and Round Lake that flow into LCO to see if they are contributors to LCO's phosphorus level. […] would be interesting to sample water entering from Grindstone Lake and water exiting to LCO. Does a slow moving creek with a mud bottom, lots of weeds, lily pads, floating bog, etc., add or subtract phosphorus from the water?
  - Encourage irrigating yards with LCO lake water instead of fertilizer and well water. Will the filtering of this water through the sand in the shoreline reduce the overall phosphorus level in LCO? […]
  - Establish a DNR forum for individuals and groups (COLA) to submit their proposals/ideas for review. Then the DNR can review whether the proposal has merit regarding reducing phosphorus in LCO or rejecting said proposal based on factual data. If no data is available, compile a means to gather said data. We need a way to eliminate the personal objectives out of the proposals and make LCO's well being the goal."
- One commenter stated that DNR should mandate and enforce prevention of fertilizer use for both farmers and homeowners, noting that there are pollution controls on cars, factories, and industrial and commercial products, and that the same should be done for pollution to the lake.
- "Buffer of 35' is not being addressed."
- "We need more direction from the DNR on what would help LCO lower the total phosphorus level. If the DNR could compile what has worked on other lakes in Wisconsin, these ideas could be implemented on LCO. Also, ideas that did not work would be helpful so we do not make the same mistakes. Reducing the phosphorus criterion in itself, does not help LCO."

Response: Any type of lake management action has pros and cons that should be considered. The costs and benefits of different management techniques should be weighed by the local entities that will be implementing them. This proposed rule does not require or preclude any specific

management activities, which are primarily local decisions. When the DNR makes permit decisions that affect a lake, such as for plant management, the DNR considers these pros and cons and feedback from all stakeholders, and can include conditions in permits to minimize the risk of negative impacts.

Comment: Concern about duck itch and whether it is related to nutrients.

Response: Information about "swimmer's itch" can be found on the DNR's website at https://dnr.wi.gov/lakes/swimmersitch/ . Swimmer's itch is due to a flatworm parasite that relies on the presence of certain types of snails (which host the parasite's young) and quantities of waterfowl (which host adult parasites). It does not appear to be related to nutrients, as the website reports that, "It makes no difference if your beach area is sandy, rocky or weedy. Host snails will live on all sites and one species which commonly harbors swimmer's itch actually prefers sandy-bottom areas." The website provides some practical measures to take to prevent getting swimmer's itch after you swim, but there is little that can be done to prevent a lake from getting the parasites that cause it.

Comment: The Wisconsin State Cranberry Growers Association commented that they appreciate the DNR's concurrence that the proposed rule would not result in any regulatory requirements for cranberry operations.

Response: Comment noted.

Comments:

- Several people praised the East cranberry marsh on Musky Bay for installing practices to prevent P from going into the East part of the bay, and cited great results: new aquatic plants, bluegills spawning, northern pike, largemouth bass, and Northern ducks & Canada geese feeding. They noted that the West end is still in poor condition.
- Commenter stated that DNR has favored the protection and expansion of agricultural interests to the detriment of tourism and recreation.
- Commenter stated that cranberry operations should employ modern agricultural methods; "it should be mandated that the other cranberry bogs on the lake be required to install closed water systems –perhaps even with state subsidies. Also, fertilizers exist which would reduce the amount of phosphorus being discharged into lake waters, and usage of these product should be mandated." One commenter asked what practices Ocean Spray uses in Tomah.
- Commenter points out that Wisconsin is the largest cranberry producer in the country and the industry likely has strong political support. Asks that politics and profits be put aside to protect natural resources and hold growers accountable.
- "The DNR's stocking efforts are admirable, but seem to be fruitless due to the negative impacts the cranberry bogs are having on the water quality. We should let the technological improvements of farming cranberry's be proactive in our approach to cleaning up the lakes."
- "Of significance is that the cranberry operation on Musky Bay on LCO voluntarily installed a closed system on its east marsh a number of years ago. … The installation was funded completely by the Natural Resources Conservation Service (NRCS). With the passage of the Inflation Reduction Act by Congress, millions of dollars more are earmarked for conservation practices which could include additional funding for the Musky Bay cranberry operation to add another closed system on its west marsh."

Response: Cranberry production is federally classified as an agricultural non-point source of water pollution and cranberry operations are therefore not regulated under DNR's Wisconsin Pollutant Discharge Elimination System (WPDES) discharge permit program (also see Wis. Stat. ch. 283 exemption). Cranberry bogs are exempt from the Clean Water Act (CWA) point source definition because cranberry bogs meet the exemption for return flows from irrigated agriculture.

Based on the Petitioners' own load analysis, cranberry operations contribute approximately 11% of the phosphorus load to the lake. As an agricultural non-point source, cranberry operations are regulated under Wisconsin's agricultural performance standards in ch. NR 151, Wis. Adm. Code. Although most of these performance standards are not applicable to cranberry operations (for instance, manure spreading prohibitions), cranberry operations are required to have a nutrient management plan following NRCS Standard 590 and apply nutrients according to that plan. The DNR encourages collaborative action within the LCO watershed to address any sources of non-point source phosphorus pollution.

Promulgating a more stringent criterion will not result in any regulatory requirements for any of the sources of phosphorus to the lake—cranberry operations, other agricultural operations, or residential. It will take voluntary actions from all sources of phosphorus, and perhaps other types of management actions to address factors other than phosphorus that are affecting the lake.

B. Lake levels and boating/no wake

Comments:

- The Town of Bass Lake is against raising of the water level on the lake controlled by Billy Boy Dam. They state that the County has been doing a good job regulating the water height over last two years. Before that, when water levels were high, over a foot of shoreline was lost. When water levels are at the appropriate height we don't lose shoreline. Boats & waves cause erosion if water levels are above the shore & the waves break on the banks. Does high water effect the spawning beds? The lake association wants to be able to take boats on creeks into another lake and not have to put an extension on their dock. Leave everything as-is and that will help the ecosystem.
- Three commenters stated that water clarity and/or erosion has been much improved over the last two years when water levels have been held lower. One of these, who has worked on water level issues and gauge monitoring from 2008-2017, said that water levels from that period were very high, raising concerns over shoreline damage and erosion. However, more recently the lake levels have been held lower, which has been positive and from which they've seen improved water clarity. He praised the restoration work at Billy Boy Dam where they improved the berm and added riprap for erosion prevention when the gates are open. He recommended:
    - Improving the flow restriction at Thoroughfare Bridge and addressing the riprap that has migrated into the streambed and displaced water flow.
    - Restoring Co. K bridge, where again riprap has fallen into the streambed.
    - Installing a gauge at Co. E bridge.
    - A proper drawdown rate in the winter to prevent shoreline heaving from higher water levels.
- Two people commented that the increased boat and jetski traffic during the July 4 weekend near Co. K Bridge resulted in brown water instead of clear water. They would like to see more protection for waterways in those areas with a lot of disturbance.

- A commenter expressed concern about the impact of high water/flooding on wild rice, providing the following quote: "In 1921, Lac Courte Oreilles tribal member Jim Bennet testified about the devastating impact the flooding from dams has on wild rice: "It is very tender at that time, the roots are tender, and if there is a sudden rise of water it pulls out the rice straws from the bottom or else after the flood goes down it is so weak that it falls over. Any disturbance of high water on the rice at certain periods when it is tender, before it is ripe, has usually the effect of either the roots pulling loose or the rice falling over." Commenter additionally stated concern about potential impacts of dredging on availability of wild rice habitat in Musky Bay: "Musky Bay, especially in the east supported excellent sands of wild rice—wild rice needs muck or organic-rich sediments for seed germination. Wild rice disappeared from Musky Bay due to high water caused by the logging dam, Billy Boy, not eutrophication."
- One commenter noted that COLA has requested higher water levels, above the PSC [Public Service Commission] order of 1955 that will again increase shoreline erosion and add phosphorus to the lake water. Another noted that a representative from the Whitefish Lake Association has also requested that LCO water levels be raised 6 inches to raise levels in Whitefish Lake (upstream), but that because Whitefish Lake is already 6-12 inches higher than LCO, raising LCO levels is not likely to affect the level of Whitefish Lake.

> **Response:** Comments on the dam and lake levels are outside of the scope of the proposed rulemaking. The DNR appreciates the comment and the concerns have been passed along to appropriate DNR staff members in the dam safety program.

C. Musky populations and Musky Bay

Comments:

- Some commenters remarked on the heavy weed growth impeding navigation and the decreased water clarity in Musky Bay over time. Some emphasized the decline of the fishery in Musky bay and of swimming opportunity.
- The Hayward Lakes Chapter of Muskies Inc. commented: "The current Muskie population on LCO [is] well below historic levels. This is in part directly related to the phosphorus level in the lake. For about 60 years the DNR netted LCO Muskies in the spring and used their spawn to stock the lakes of northwest Wisconsin. LCO fish were used because they were quality fish that would grow big, producing a world record on occasion. The fish would be numerous in Muskie Bay in the spring. This is no longer the case. Muskie spawning on Muskie Bay is now mostly unsuccessful because the spawning area, instead of being clean sand, is now covered with dead plant material and the resulting silt. The remaining Muskies come in to spawn and their eggs are deposited into the silt where they die because of oxygen deprivation. The dead plant material and silt is the direct result of phosphorus laden water coming into the bay. This has created rampant plant growth. The plants die in the fall and over the years have created a layer of dead plant material and silt that is more than several feet deep in spots…COLA has hired an aquatic environmental company to study the possibility of dredging the spawning area or using water jets [to] remove the silt and restore natural reproduction, but unless the phosphorus and resulting weed growth are controlled the restoration will not last long." They also noted the importance of the cisco in the deep part of the lake as a food source for Muskies and other species. "We are urging the DNR to help restore the Muskie population and protect the lake."
- Two commenters recommended designating Musky Bay as a no-wake bay to try not to disturb sediments and release phosphorus. One stated that the dredging idea for Musky Bay needs more

review, as dredging will stir up the phosphorus in Musky Bay moving it throughout LCO. Noted that 2022 was a good year for musky.

- One commenter stated that Musky Bay used to be over 90% wild rice in 1930s and 40s, with local tribes harvesting. He observed that wild rice has not grown there for 30 years, and ducks and geese do not use the bay.

> **Response:** The DNR supports efforts to improve the habitat for musky, waterfowl, and other aquatic life, but does not have authority to mandate reductions of phosphorus discharge into the bay or lake, as there are currently no point-source discharges to the lake. Knowing the sources of phosphorus and how they relate to problems that are seen on LCO and in Musky Bay is an important step towards developing a lake management plan and phosphorus control strategy. Regardless of what the water quality standard for phosphorus is set at, the approach to reducing phosphorus from agricultural non-point sources relies upon mainly voluntary action by those operations to implement best management practices.

D. Statewide phosphorus criterion for two-story fishery lakes

Comment: One commenter stated "The current standard of 15 ppb for all two-story lakes is likely too high." Another "hope[d] that the remaining clear water lakes in this area might one day be required to meet this new rule [lower TP criteria of 10 ug/L], too."

> **Response:** At this point in time the DNR is not planning to revise the statewide criterion for two-story fishery lakes. Comment noted.