EPA's Review of Revisions to the
Fond du Lac Band of Lake Superior Chippewa's Water Quality Standards
Under Section 303(c) of the Clean Water Act
WQSTS # TR2018-1280

Date: October 5, 2020

I. Executive Summary

Section 303(c)(1) of the Clean Water Act (CWA) requires that, every three years, states and authorized tribes[1] hold public hearings for reviewing and, as appropriate, updating water quality standards (WQS) (i.e., the "triennial review"). The objective of this requirement is to ensure that state and tribal WQS reflect current science and public policy. On August 6, 2020, the U.S. Environmental Protection Agency received a triennial review submission from the Fond du Lac Band of Lake Superior Chippewa (hereafter referred to as "Fond du Lac" or "the Band") containing revisions to the Band's WQS rules found in the Band's Ordinance # 12/98[2]. Fond du Lac's rule revisions include changes to the Band's antidegradation implementation procedures, adoption of numeric nutrient criteria, adoption of EPA's recommended criteria for ammonia to protect aquatic life, adoption of a specific conductance criterion to protect aquatic life, and adoption of WQS applicable to wetlands.

As discussed in Section II of this document, EPA has determined that these rule revisions are consistent with the relevant requirements of the CWA and federal regulations at 40 CFR parts 131 and 132 and therefore approves the WQS revisions. Consistent with the requirements of the Endangered Species Act (ESA), EPA evaluated the potential impacts of its approval of the WQS revisions on federally-protected species and designated critical habitat and determined that consultation with the U.S. Fish and Wildlife Service (FWS) is necessary. As discussed in Section III of this document, EPA developed a biological evaluation (BE) that evaluates potential effects of its approval and sent it to FWS on September 18, 2020, seeking concurrence with EPA's conclusion that approval of the Band's WQS revisions may affect, but is not likely to adversely affect, federally-listed species. Lastly, as discussed in Section IV of this document, EPA provided substantive opportunity for all tribes with treaty rights near the Fond du Lac Reservation to provide input on EPA's decision-making process and has therefore fulfilled its duty to consult on a government-to-government basis with federally-recognized tribes on actions that may affect tribal interests, consistent with the "*EPA Policy on Consultation and Coordination with Indian Tribes*."

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[1] "Authorized tribes" in this document refers to those federally recognized Indian tribes with authority to administer a CWA Section 303(c) WQS program. Under EPA's regulations at 40 CFR § 131.4(c), a tribe that is eligible to administer WQS is likewise eligible to administer CWA Section 401 water quality certifications.

[2] Fond du Lac Band of Lake Superior Chippewa Water Quality Standards of the Fond du Lac Reservation Ordinance #12/98, as amended by Resolution #1321/20 of the Fond du Lac Reservation Business Committee on July 8, 2020 [hereafter, "Ordinance #12/98, Amended, [Section]"]. Fond du Lac Band's previously federally approved Water Quality Standards are hereafter referenced as "Ordinance #12/98, [Section]."

II. EPA Review of Fond du Lac's Submittal

WQS requirements of CWA sections 101(a)(2) and 303(c)(2) are implemented through federal regulations contained in 40 CFR Part 131. WQS requirements of CWA Section 118, specific to waters of the Great Lakes System, are implemented through federal regulations contained in 40 CFR Part 132. Consistent with federal regulations at 40 CFR § 131.21, new or revised WQS do not become applicable WQS for CWA purposes until they are approved by EPA. The criteria by which EPA evaluates a state or authorized tribe's adopted WQS are identified in 40 CFR §§ 131.5(a)(1) through (a)(8). Because the revisions included in this rule package do not grant any WQS variances, affect any tribal adopted provisions authorizing the use of schedules of compliance or affect any tribal standards that do not include the uses specified in Section 101(a)(2) of the CWA, the WQS requirements in 40 CFR §§ 131.5(a)(4), (5) and (7) are not relevant in considering whether to approve Fond du Lac's new or revised WQS. EPA's review of each of the applicable criteria of Part 131 can be found in sections II.A - D. EPA's review for consistency with the WQS requirements specific to waters of the Great Lakes System in 40 CFR Part 132 can be found in Section II.E.2.

A. Whether the State or Authorized Tribe has adopted designated water uses that are consistent with the requirements of the CWA. (40 CFR § 131.5(a)(1))

Section 101(a)(2) of the CWA states:

> it is the national goal that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water be achieved by July 1, 1983.

Section 303(c)(2)(A) of the CWA requires states and authorized tribes to establish WQS for their waters, taking into consideration the use of waters for "propagation of fish and wildlife" among other uses. 40 CFR § 131.10 governs designation of uses for surface waters. With respect to the uses specified in Section 101(a)(2) of the CWA (hereafter collectively referred to as "101(a)(2) uses"), states and authorized tribes must adopt uses consistent with those specified in Section 101(a)(2) of the CWA or demonstrate why attaining these uses is not feasible through a use attainability analysis (UAA). With respect to uses not specified in Section 101(a)(2) of the CWA (hereafter collectively referred to as "non-101(a)(2) uses"), states and authorized tribes are not required to designate waters with those uses but must submit documentation justifying how their consideration of the use and value of the water for those uses appropriately supports such a designation. As specified at 40 CFR §§ 131.10(g) and (h)(1), states and authorized tribes may not remove a designated use if it is an existing use.

1. Definition of the Band's cultural use designation

The Band's existing WQS include a cultural use designation at Ordinance #12/98, Section 302(e) that applies to wild rice waters and aesthetic waters. The Band's revisions clarify the cultural use by adding the following general definition:

> Water-based activities essential to maintaining the Band's cultural heritage, including but not limited to ceremony, subsistence fishing, hunting and harvesting. This use includes primary and secondary contact. Ordinance #12/98, Amended, Section 302(E).[3]

Fond du Lac's cultural use designation is not intended to protect aquatic life or recreation in and on the water[4] and, thus, is a non-101(a)(2) use. As discussed in Section II.A above, states and authorized tribes are not required to establish non-101(a)(2) uses but where they choose to do so, Section 303(c)(2)(A) of the CWA provides that such standards shall be established "taking into consideration their use and value for public water supplies, propagation of fish and wildlife, recreational purposes, and agricultural, industrial, and other purposes."

The Band's revisions do not alter the use designations for any individual waterbodies but only clarify the definition of the existing cultural use by providing examples of the types of water-based activities intended to be protected by the cultural use. Additionally, the revision does not limit protection under the cultural use to only those activities listed in the definition and, thus, would not prevent the Band from applying the cultural use to any water-based activities previously considered to be "essential to maintaining the Band's cultural heritage." Because the adopted revisions do not change the level of protection provided by the Band's cultural use designation, EPA concludes that Fond du Lac's revisions to its cultural use designation at Section 302(e) (now denoted as 302(E)) are consistent with the CWA and 40 CFR § 131.10.

2. Wetland designated use

Fond du Lac's adopted revisions establish a new wetland designated use defined in Chapter 7 of the Band's WQS Ordinance as follows:

> For all wetlands, as defined by the Cowardin classification scheme, the uses to be protected include, but are not limited to: baseflow discharge, cultural opportunities, flood flow attenuation, groundwater recharge, indigenous floral and faunal diversity and abundance, nutrient cycling, organic carbon export/cycling, protection of downstream water quality, recreation, resilience against climatic effects, sediment/shoreline stabilization, surface water storage, wild rice, and water-dependent wildlife to the extent that such uses, functions, and values occur as represented by reference wetlands. Ordinance #12/98, Amended, Section 701.

The Band's additional revisions at Ordinance #12/98, Amended, Section 302(I) apply the newly adopted wetland designated use to all wetlands in the Fond du Lac Reservation.

To develop the wetland designated use, the Band used EPA's *Templates for Developing Wetland Water Quality Standards* (hereafter referenced as "Wetland WQS Templates" and accessible at https://www.epa.gov/wqs-tech/templates-developing-wetland-water-quality-standards). As

[3] EPA notes that the Band's previously approved WQS used lower case letters to denote subsections within Section 302 and that the Band's current submittal includes relabeling these subsections with capital letters.
[4] While the Band's revised definition states that the use includes "primary and secondary contact," the rest of the definition indicates that the contact with the water would occur as part of water-based activities related to the Band's cultural heritage and, thus, is not intended to protect water-based recreation activities.

discussed in EPA guidance *Narrative Templates for Wetland Water Quality Standards Frequently Asked Questions* (May 2016) (hereafter referenced as "Narrative Templates FAQs"), the templates are intended for states and authorized tribes "to use to simplify and streamline the development of protective standards that will guide maintenance of the spatial and functional components of wetlands."

The Band's definition of the wetland designated use includes protection for both aquatic life ("indigenous floral and faunal diversity and abundance" and "water-dependent wildlife") and recreation and, thus, includes the uses specified in Section 101(a)(2) of the CWA. As discussed above, Section 302(I) of the Band's revised WQS ensures that the wetland designated use, which includes the 101(a)(2) uses, applies to all wetlands in the Fond du Lac Reservation.

Because the Band's wetland designated use includes the uses specified in Section 101(a)(2) of the CWA and the Band's revised WQS apply those uses to all wetlands in the Fond du Lac Reservation, EPA concludes Fond du Lac's wetland designated use and the application of that use to all wetlands are consistent with the CWA and 40 CFR § 131.10.

3. Downstream protection provision

Fond du Lac's WQS revisions establish a new provision at Section 301(q) requiring that:

> All waters of the Reservation shall maintain a level of water quality that provides for the attainment and maintenance of the water quality standards of downstream waters, including the downstream waters of a state or another federally-recognized tribe. Ordinance #12/98, Amended, Section 301(q).

Federal WQS regulations at 40 CFR § 131.10(b) require that:

> In designating uses of a water body and the appropriate criteria for those uses, the State[5] shall take into consideration the water quality standards of downstream waters and shall ensure that its water quality standards provide for the attainment and maintenance of the water quality standards of downstream waters.

The Band's revision at Section 301(q) requires the attainment and maintenance of WQS in downstream waters, consistent with 40 CFR § 131.10(b), and, thus, EPA concludes that Ordinance #12/98, Amended, Section 301(q) is consistent with the CWA and 40 CFR § 131.10.

4. Natural background provision

Fond du Lac inserted a new provision into the introductory language of Section 302 of its WQS that provides:

> Some waters of the Reservation may have natural ambient water quality containing concentrations of parameters that exceed water quality criteria necessary for the

[5] As defined at 40 CFR § 131.3(j), the term "state" as it is used in 40 CFR Part 131 includes "Indian Tribes that EPA determines to be eligible for purposes of the water quality standards program."

> protection of a designated use. Natural ambient water quality is defined as the quality in absence of human caused additions of a substance, and shall be determined by water quality monitoring. Designated uses will not be used to control, and are not invalidated by, natural ambient water quality. Ordinance #12/98, Amended, Section 302.

Fond du Lac's revision does not modify the designated use or criteria for any specific waterbody but only establishes the Band's general intention that designated uses reflect natural ambient water quality.

Federal rules regarding designated uses at 40 CFR § 131.10(g)(1) allow states and authorized tribes to modify designated uses based on a use attainability analysis demonstrating, among other factors, that "[n]aturally occurring pollutant concentrations prevent the attainment of the use" and, thus, EPA concludes that Fond du Lac's revision to the introductory language of Section 302 is consistent with the CWA and 40 CFR § 131.10.

As discussed above, Fond du Lac's adopted revision does not modify the designated use or criterion for any specific waterbody but only provides a factor that Fond du Lac will consider in the future. Any individual designated use change or site-specific criterion that Fond du Lac may adopt using these rules will be case-specific and must be submitted to EPA for approval under Section 303(c) of the CWA, taking into consideration the documentation supporting Fond du Lac's decision to adopt any given designated use or criterion change. For such future submittals, EPA will approve those designated use changes that are consistent with the federal regulations at 40 CFR § 131.10 and those criteria that are consistent with 40 CFR § 131.11.

B. Whether the State or Authorized Tribe has adopted criteria that protect the designated water uses based on sound scientific rationale consistent with §131.11. (40 CFR § 131.5(a)(2))

40 CFR § 131.11(a) provides that

> States must adopt those water quality criteria that protect the designated use. Such criteria must be based on sound scientific rationale and must contain sufficient parameters or constituents to protect the designated use.

40 CFR § 131.11(b) provides that states and authorized tribes should

(1) Establish numerical values based on:
  (i) 304(a) Guidance; or
  (ii) 304(a) Guidance modified to reflect site-specific conditions; or
  (iii) Other scientifically defensible methods;
(2) Establish narrative criteria or criteria based upon biomonitoring methods where numerical criteria cannot be established or to supplement numerical criteria.

1. Numeric nutrient criteria

Fond du Lac's existing narrative criterion for nutrients at Ordinance #12/98, Section 301(d) requires that, "[r]eservation waters shall be free from nutrients (nitrogen and phosphorus) entering the waters as a result of human activity in concentrations that create nuisance growths of aquatic weeds and algae." The adopted revisions modify this criterion by establishing numeric nitrogen, phosphorus and chlorophyll *a* criteria for nine primary fisheries lakes identified in Appendix 5 of Fond du Lac's WQS. As required by Ordinance #12/98, Amended, Section 301(d), the numeric nutrient thresholds for each lake will be applied as follows:

> The lakes listed in Appendix 5 will be considered in attainment with their nitrogen thresholds if the summer mean concentration for nitrogen is not exceeded. Exceedance of the summer mean total phosphorus threshold and either the summer mean chlorophyll-a threshold or the Fond du Lac Secchi disk transparency index, developed as a component of the Fond du Lac Assessment Methodology, is required to indicate a polluted condition.

The basis for the numeric nutrient criteria is described in a report prepared for the Tribe and included in the Tribe's Triennial Review Submittal. *See* Patricia Soranno, *Development of Lake-specific Numerical Nutrient Criteria for Water Quality Standards in Reservation Lakes* (May 20, 2011) (hereafter referenced as "the Soranno Report"). The Soranno Report discusses that the basis for the numeric nutrient criteria for these nine primary fisheries lakes is that each lake is currently in a minimally impacted condition, nutrients are not currently impacting designated uses, and therefore, maintenance of current ambient conditions will protect designated uses.

To reach the conclusion that the nine lakes are currently in a minimally impacted condition, the Band considered evidence detailed in the Soranno Report as well as a 2015 report: PhycoTech, Inc., *Development of Lake-specific Numerical Nutrient Criteria for Water Quality Standards in Fond du Lac Reservation Lakes: Analysis of the Phytoplankton Rapid Assay Results 1998-2012 Compared to Southern MN Lakes* (August 20, 2015) (hereafter referenced as "the PhycoTech Report"). As discussed in the Soranno Report, human land use makes up a small percentage of the watersheds of the nine lakes, which suggests that anthropogenic nutrient loading to the lakes is low. In most cases, the proportion of the watershed subject to human use was less than 5%, with 12% (in the Big Lake watershed) being the highest proportion. Additionally, the Soranno Report compared ambient phosphorus, nitrogen and chlorophyll *a* concentrations in the nine lakes with reference (non-impacted) lakes in the same ecoregion (Northern Lakes and Forests) and concluded that phosphorus and chlorophyll *a* concentrations in the nine lakes were similar to concentrations in the reference lakes. While nitrogen concentrations in the nine lakes were greater than nitrogen concentrations in the reference lakes, the Soranno Report concluded that the nine lakes were more limited by phosphorus than nitrogen and, thus, that the higher nitrogen concentrations in the nine lakes would not be expected to cause excessive algal growth. The fact that the Fond du Lac lakes did not have greater chlorophyll *a* concentrations than the reference lakes supported this conclusion.

To further support the assertion that the nine lakes are currently in a minimally impacted condition, Fond du Lac's Triennial Review Submittal also included information from the

PhycoTech Report, which evaluated data on phytoplankton communities in the nine lakes. The PhycoTech Report analyzed the results of sampling data collected by the Band between 1998 and 2012 using the phytoplankton rapid assay method. As discussed in the PhycoTech Report, because different algal taxa have different pigment composition, chlorophyll *a* measurements may not be able to detect relative changes among the different algal taxa due to nutrient inputs. Therefore, algal community composition is considered to be a more sensitive indicator of system change due to nutrient inputs than chlorophyll *a* measurements.

The PhycoTech Report determined that the composition of algal communities in the nine lakes was relatively stable over the study period, with cryptophytes, dinoflagellates, chrysophytes and diatoms dominating the algal communities in the lakes. Non-toxin-producing bluegreen algae (cyanobacteria) were consistent contributors but rarely dominated phytoplankton communities in the nine lakes. Additionally, the lakes had a low percentage of taxa that produce harmful algal blooms. The PhycoTech Report also compared phytoplankton communities in the nine Fond du Lac lakes with phytoplankton communities in Central Minnesota lakes[6] with varying levels of productivity. Using multidimensional scaling and cluster analysis, the PhycoTech Report analyzed the phytoplankton community composition in all lakes (both Fond du Lac and Central Minnesota lakes) and identified five groups of lakes. The five groups were characterized by distinct phytoplankton community characteristics. Conversely, lakes classified within the same group displayed similar phytoplankton community characteristics. The nine Fond du Lac lakes all clustered within the highest water quality group (Group 1), which was characterized by "a high proportion of [cryptophyte/dinoflagellate] and [chrysophyte/diatom] taxa, moderately low [chlorophyte], [non-toxin producing cyanobacteria] and [toxin-producing heterocystic cyanobacteria] taxa, and low [euglenophyte/other] taxa." PhycoTech Report at 14.

To evaluate the effect of using other numeric response variables and to address potential quality assurance/quality control issues, the PhycoTech Report also described a 2014 PhycoTech calibration study using phytoplankton samples collected at each lake (both Fond du Lac and the Central Minnesota lakes). The calibration study compared results based on different quantitative measures of the algal community (i.e., percent biovolume, percent cell concentration, and phytoplankton rapid assay) and phytoplankton results based on different independent algal identification analysts. The PhycoTech Report determined that "[n]one of the response variables produced significantly different clusters, consistent with the analysis of the larger database." PhycoTech Report at 16.

Since the analyses provided in the Soranno and PhycoTech reports indicated that the current condition of each lake is not affecting algal communities and that nuisance growths of aquatic weeds and algae do not currently occur on the lakes, the Band concluded that the current ambient concentrations of nitrogen, phosphorus and chlorophyll *a* in each lake would be protective of the designated use. The Soranno Report evaluated total nitrogen, total phosphorus and chlorophyll *a* data collected on each lake between 1999 and 2009 (all available data at the time the Soranno Report was written) and identified the threshold protective of current conditions as the upper 90th

[6] The Central Minnesota lakes considered in the PhycoTech Report include 38 lakes near Minneapolis, sampled by Minneapolis Parks and Recreation and Minnehaha Creek Water District. A full list of the Central Minnesota lakes can be found in Table 1 of the PhycoTech Report and maps of the Central Minnesota lakes can be found in figures 1, 3 and 4 of the PhycoTech Report.

percentile of all samples for each parameter within the summer season (July, August and September) for each lake. Accordingly, the Band set the criteria for total nitrogen, total phosphorus and chlorophyll *a* for each lake at the thresholds identified in the Soranno Report.

As discussed above, the Soranno and PhycoTech reports demonstrated that the nine lakes are currently supporting their designated uses and, thus, that maintenance of the current condition of each lake will ensure continued protection of the designated use in each lake. Additionally, as discussed in the Soranno Report, the numeric nutrient criteria are set to maintain or improve the current condition of each lake, which will ensure protection of the designated use in each lake. Therefore, EPA concludes, in accordance with 40 CFR §§ 131.5(a)(2) and 131.11(a), that Fond du Lac's numeric nutrient criteria at Ordinance #12/98, Amended, Section 301(d) and Appendix 5 are based on sound scientific rationale and are protective of Fond du Lac's aquatic life uses.

2. Ammonia

To protect the Band's aquatic life use designations, Fond du Lac adopted acute and chronic criteria for ammonia at Ordinance #12/98, Amended, Section 301(f) and Appendix 4 that are consistent with EPA's current CWA Section 304(a) criteria recommendations (EPA, "Aquatic Life Ambient Water Quality Criteria for Ammonia – Freshwater," 78 *Fed. Reg.* 52191-52194 (2013)).

Consistent with Section 304(a) of the CWA, EPA publishes national recommended water quality criteria that accurately reflect the latest scientific knowledge regarding criteria necessary to protect the aquatic life uses specified in Section 101(a)(2) of the CWA. As discussed in Chapter 3 of EPA's *Water Quality Standards Handbook*[7], EPA's CWA 304(a) criteria recommendations, if not exceeded, generally ensure adequate water quality for protection of a 101(a)(2) aquatic life designated use and "[i]f a state or authorized tribe relies on 304(a) criteria recommendations (or other up-to-date EPA guidance documents), they may reference and rely on the data in those documents and may not need to create duplicative or new material for inclusion in their records." WQS Handbook, Chapter 3 at 2-3.

EPA's 2013 CWA 304(a) ammonia criteria include separate criteria recommendations for waters where salmonids in the genus *Oncorhynchus* are present and for waters where salmonids in the genus *Oncorhynchus* are absent. The Band's adopted ammonia criteria are consistent with the recommended criteria for waters where *Oncorhynchus* are present, which are the more stringent set of criteria and, thus, would also be protective of waters where *Oncorhynchus* are absent.

As discussed above, EPA's CWA 304(a) criteria recommendations are developed to ensure protection of the aquatic life uses specified in CWA Section 101(a)(2) and incorporate the latest scientific knowledge. Therefore, EPA concludes in accordance with 40 CFR §§ 131.5(a)(2) and 131.11(a) that Fond du Lac's ammonia criteria at Ordinance #12/98, Amended, Section 301(f)

[7] U.S. Environmental Protection Agency, Office of Water, Office of Science and Technology, *Water Quality Standards Handbook,* (2017) at https://www.epa.gov/wqs-tech/water-quality-standards-handbook, last accessed September 2020 (hereafter referenced as "the WQS Handbook").

and Appendix 4 are based on sound scientific rationale and protective of Fond du Lac's aquatic life uses.

3. Specific conductance

Fond du Lac's existing narrative criterion at Ordinance #12/98, Section 301(j) requires that, "[e]xisting mineral quality shall not be altered by municipal, industrial and instream activities or other waste discharges so as to interfere with the designated uses for a water body." The adopted revisions modify the Band's narrative criterion by establishing a numeric criterion for specific conductance of 300 µS/cm, not to be exceeded as an annual average. Ordinance #12/98, Amended, Section 301(k)[8].

Fond du Lac submitted the following documents to support its adoption of the 300 µS/cm numeric criterion:

- Johnson and Johnson, *An Evaluation of a Field-Based Aquatic Life Benchmark for Specific Conductance in Northeast Minnesota* (November 2015) (hereafter referenced as "the Johnson and Johnson Report") and
- Susan Cormier, EPA Office of Research and Development, *Review: An Evaluation of a Field-Based Aquatic Benchmark for Specific Conductance in Northeast Minnesota* (February 2016) (hereafter referenced as "Cormier Review").

In addition, both documents relied on and evaluated the appropriateness of applying the results of an earlier EPA study (EPA, *A Field-Based Aquatic Life Benchmark for Conductivity in Central Appalachian Streams* (March 2011) (hereafter referenced as "the EPA Benchmark Report")) within the Fond du Lac Reservation.

a. EPA's 2011 Benchmark

The EPA Benchmark Report established a 300 µS/cm benchmark that is consistent with CWA Section 101(a)(2) and protective of aquatic life in parts of West Virginia and Kentucky (in ecoregions 68, 69 and 70). As discussed in the EPA Benchmark Report, conductivity levels at or below 300 µS/cm would be expected to prevent the extirpation of 95% of invertebrate genera in ecoregions 68, 69 and 70, which corresponds with the level of protection provided under EPA's 1985 Guidelines for Protection of Aquatic Organisms[9] (protection of 95% of aquatic species).

As discussed in the EPA Benchmark Report, the 300 µS/cm benchmark was derived using a field-based method modeled on EPA's 1985 methodology for deriving ambient water quality

[8] EPA notes that the Band's narrative mineral quality criterion was previously found at Section 302(j) but the Band reordered the subsections in Section 302 due to the insertion of a new subsection for the ammonia criteria to protect aquatic life at Section 302(f), as described in Section II.B.2. Therefore, the narrative mineral quality criterion is now found at Section 302(k) in the Band's amended WQS.

[9] Stephan, C., D. Mount, D. Hansen, J. Gentile, G. Chapman, and W. Brungs, *Guidelines for Deriving Numerical Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses* (1985) (hereafter "Guidelines for Protection of Aquatic Organisms").

criteria for the protection of aquatic life. EPA Benchmark Report at 3. Specifically, Chapter 3 of the EPA Benchmark Report describes the field-based method, which involved three steps:

> [F]irst, the extirpation values (XCs) for each invertebrate genus was derived. Second, the XC_{95} values for all genera were used to generate [a species sensitivity distribution] and the 5th centile of the distribution, the 5th centile hazardous concentration (HC_{05}). (The HC_X terminology for concentrations derived from [species sensitivity distributions] is not in the EPA method [Stephan et al., 1985[10]], but its usage has become common more recently [Posthuma et al., 2002[11]]). Finally, background values were estimated for the regions to ensure that the benchmark is not in the background range. EPA Benchmark Report at 13.

Additionally, the EPA Benchmark Report noted that relationships between conductivity and biological responses appear to vary among different mixtures of ions and, thus, that the benchmark would not be applicable in areas with different ionic compositions. Specifically, the EPA Benchmark Report stated that the benchmark is intended to address "loss of aquatic life in the Appalachian Region associated with a mixture of salts dominated by [calcium], [magnesium], [sulfate], and [bicarbonate] at circum-neutral pH" and "might not apply when the relative concentrations of dissolved ions are not dominated by salts of [calcium], [magnesium], [sulfate] and [bicarbonate] or the natural background exceeds the benchmark." EPA Benchmark Report at 41. On the other hand, in areas where the ionic composition is analogous to that found in ecoregions 68, 69, and 70, the relationship between conductivity and biological responses should be the same.

In summary, the EPA Benchmark Report identified three factors that affect ion toxicity and, thus, the protective level of conductivity in an area:

1) The sensitivity of aquatic organisms found in the area,
2) The ionic composition of waters in the area, and
3) The natural background conductivity levels in the area.

This field-based methodology and the resulting 300 µS/cm benchmark underwent an extensive peer review process from both reviewers within EPA and external reviewers, including a review by EPA's Science Advisory Board. EPA's Science Advisory Board's Mountaintop Mining Panel concluded that "the general approach, including the use of field data and the resulting benchmark, is sound and provides a degree of protection comparable to or greater than a conventional ambient water quality criterion derived from traditional chronic toxicity testing…." U.S. Environmental Protection Agency Science Advisory Board Panel on Ecological Impacts of Mountaintop Mining and Valley Fills, *Review of Field-Based Aquatic Life Benchmark for Conductivity in Central Appalachian Streams* (March 25, 2011) at 3.

[10] Guidelines for Protection of Aquatic Organisms (as cited in the EPA Benchmark Report).
[11] Posthuma, L., G.W. Suter II, and T.P. Traas (eds.), *Species Sensitivity Distributions in Ecotoxicology* (2002) (as cited in the EPA Benchmark Report).

b. Information provided by Fond du Lac and reviewed by EPA in applying the EPA 2011 Benchmark method to Reservation waters

To develop the conductivity criterion, the Band started by requesting that the authors of the Johnson and Johnson Report evaluate whether EPA's 2011 Benchmark would be appropriate for waters within the Fond du Lac Reservation. The Johnson and Johnson Report concluded that the 2011 300 µS/cm benchmark would be protective of aquatic life in the Fond du Lac Reservation because ion concentrations in northeast Minnesota streams are similar to the Central Appalachian streams considered in the EPA Benchmark Report, and northeast Minnesota streams contain many of the same genera as Central Appalachia that are demonstrated to be sensitive to conductivity. Johnson and Johnson Report at 12.

To evaluate Johnson and Johnson's conclusions and the scientific validity and protectiveness of the 300 µS/cm benchmark for Reservation waters, the Band subsequently requested that Susan Cormier of EPA's Office of Research and Development review the Johnson and Johnson Report. As discussed in the Cormier Review, Cormier considered the information in the Johnson and Johnson Report, as well as data from other sources, to evaluate whether the assumptions underlying the 2011 Benchmark are met in Reservation waters and to calculate the protective level of conductivity for waters in the Fond du Lac Reservation using the methods described in the Benchmark Report.

As discussed in Section II.B.3.a above, EPA's 2011 Benchmark (i.e., the scientific method used to derive the benchmark) is a scientifically sound approach for deriving criteria sufficient to protect aquatic life from adverse effects associated with a mixture of salts dominated by calcium, magnesium, sulfate and bicarbonate at circum-neutral pH. While the EPA Benchmark Report applied that method specifically to data from Central Appalachian streams, it is reasonable to assume that the same method could also be used to calculate conductivity levels protective of aquatic life outside the region covered in the Report where the assumptions underlying the approach are true. As discussed in Section II.B.3.a above, the methodology in the EPA Benchmark Report is based on the following assumptions:

1) Ionic composition in the area waters is dominated by calcium, magnesium, sulfate, and bicarbonate at circum-neutral pH, and
2) Natural background conductivity levels do not exceed the benchmark.

As discussed below, the Band's Triennial Review Submittal included documentation analyzing each of the above factors in the context of the Fond du Lac Reservation.

i. Ionic composition in the area waters is dominated by calcium, magnesium, sulfate, and bicarbonate at circum-neutral pH.

As discussed in the EPA Benchmark Report, the 300 µS/cm benchmark was derived based on biological and water chemistry data from streams where loss of aquatic life is associated with a mixture of salts dominated by calcium, magnesium, sulfate and bicarbonate at circum-neutral pH. As discussed in the EPA Benchmark Report, at the Central Appalachian sites used to derive the 300 µS/cm benchmark, pH ranged between 6 and 10, with a median pH of 7.62. A pH range

of less than 6 was found at some sites in the ecoregions, but EPA excluded those sites from the analysis to prevent potential confounding effects. EPA Benchmark Report at 10-11. Consequently, pH between 6 and 10 would be considered circum-neutral for the purposes of the benchmark method.

In seeking to translate the EPA Benchmark Report to Reservation waters, the Johnson and Johnson Report considered water chemistry data from the Minnesota Copper-Nickel Study[12]. The Minnesota Copper-Nickel Study included hundreds of water quality samples collected from 32 stream sites and 35 lake sites between March 1976 and September 1977. Based on the relative concentrations of the ions measured, Johnson and Johnson concluded that the most prevalent ions were sulfate, calcium, magnesium and bicarbonate. Additionally, pH ranged between 4.7 and 8.4, with a median of 6.9. Consequently, the Johnson and Johnson Report concluded that "[t]he key parameters in the water chemistry in the Minnesota ecoregions and the Appalachian ecoregions are similar." Johnson and Johnson Report at 12-13.

Subsequently, the Cormier Review evaluated Johnson and Johnson's results and also considered additional data from stream surveys conducted by EPA and cooperating agencies since 1985[13]. Based on the available data, The Cormier Review concluded that:

> In Appalachia (U. S. EPA, 2011)[14] and northeast Minnesota, the ionic mixture is dominated by bicarbonate and sulfate anions and calcium and magnesium cations (Thingvold et al., 1979)[15]. This finding is consistent with dominant ions for Ecoregion 50 (including Minnesota, Wisconsin, and Michigan) reported by Griffith (2014)[16], whose study Johnson and Johnson (2015) did not cite. Cormier Review at 2.

Consequently, there is a sound scientific rationale for the Band's conclusion that ionic composition in Reservation waters is dominated by calcium, magnesium, sulfate and bicarbonate at circum-neutral pH.

ii. Natural background conductivity levels do not exceed the benchmark.

As discussed in the EPA Benchmark Report, background conductivities (estimated to be equal to the 25th percentile of probability based samples) in the ecoregions for which the 300 µS/cm benchmark was derived were 72 µS/cm for Ecoregion 69, 153 µS/cm for Ecoregion 70 and 116 µS/cm when samples from both ecoregions were combined. EPA Benchmark Report at 22. When considering only reference sites in the ecoregions, background conductivities (estimated to be the 75th percentile of conductivity samples at reference sites) were 66 µS/cm for

[12] D. Thingvold, N. Sather, P. Ashbrook, *Water Quality Characterization of the Copper-Nickel Research Area* (December 1979), https://www.leg.state.mn.us/docs/pre2003/other/CN153.pdf (hereafter referenced as the Minnesota Copper-Nickel Study).
[13] M.B. Griffith, "Natural Variation and Current Reference for Specific Conductivity and Major Ions in Wadeable Streams of the Conterminous U.S.," *Freshwater Science* 33(1): 1-17 (as cited in the Cormier Review).
[14] EPA Benchmark Report (as cited in the Cormier Review).
[15] Minnesota Copper-Nickel Study (as cited in the Cormier Review).
[16] Griffith at 1-17 (as cited in the Cormier Review).

Ecoregion 69, 214 µS/cm for Ecoregion 70 and 150 µS/cm when samples from both ecoregions were combined. EPA Benchmark Report at 22.

The data from the Minnesota Copper-Nickel Study considered in the Johnson and Johnson Report indicated that median conductivity in the study area was 65 µS/cm, which is lower than both the 300 µS/cm Appalachian benchmark and the 261 µS/cm median conductivity in Central Appalachian streams used to derive the Appalachian benchmark. Johnson and Johnson Report at 12-13.

According to information submitted by the Band in its Triennial Review Submittal, the Cormier Review considered the data presented in the Johnson and Johnson Report, along with additional water chemistry data from MPCA collected between 1996 and 2013, EPA surveys in Ecoregion 50 (including Griffith 2014), and Minnesota Environmental Quality Board (MN EQB) data from 1975-1977. Cormier Review at 2-4. Table 1 summarizes these data as compared with the corresponding data from the Central Appalachian streams used to derive the Appalachian benchmark.

Based on the available data, the Cormier Review concluded that:

> Independent data sets from different decades confirm Johnson and Johnson's conclusion that the background [specific conductance] in Ecoregion 50 in Minnesota is less than the background of the data set used to develop the [specific conductance] benchmark for Ecoregions 69 and 70 in Central Appalachia. Hence, a benchmark value for [specific conductance] in Ecoregion 50 is not expected to be greater than the benchmark for central Appalachia, i.e., 300 µS/cm. Cormier Review at 9.

Consequently, there is a sound scientific rationale supporting the Band's conclusion that background conductivity levels in Reservation waters do not exceed the Central Appalachian benchmark and are similar to, or less than, conductivity levels in the waters used to derive the Central Appalachian benchmark.

Table 1. Comparison of estimates of natural background conductivity levels (µS/cm) in northeast Minnesota reported in the documents submitted by the Band with natural background conductivity levels in Central Appalachian streams reported in the EPA Benchmark Report.

Region	Ecoregion	Data Source	25th Percentile	Mean	75th Percentile (reference sites only)
Central Appalachian streams	Ecoregion 69	EPA Benchmark Report	72		66
	Ecoregion 70	EPA Benchmark Report	153		214
	Combined	EPA Benchmark Report	116		150
Northeast Minnesota	Ecoregion 50	Cormier Review (MPCA)	135	210	
	Ecoregion 50 (paired sites only)	Cormier Review (MPCA)	108		
	Ecoregion 50	Cormier Review (Griffith, 2014)	111		
	Ecoregion 50	Cormier Review (MN EQB)		55	

c. Application of 2011 Benchmark method to Reservation waters.

Because the Band concluded that the assumptions underlying the method used to calculate the 2011 EPA Benchmark are valid for Reservation waters, the Band determined that the method could be applied to Reservation waters.

As discussed in Section II.B.3.a above, the EPA Benchmark Report's 300 µS/cm threshold was calculated by first determining for each invertebrate genus the specific conductance level that is expected to extirpate the genus (XC_{95}) and then calculating the 5th percentile of the distribution of XC_{95} values, which corresponds to the specific conductance level that is expected to extirpate 5% of the genera in the ecoregion (HC_{05}). For Central Appalachian streams, EPA calculated XC_{95} values for 163 genera, which ranged between 121 and >11,646 µS/cm. The calculated HC_{05} was 295 µS/cm. EPA Benchmark Report at 18 and Appendix D.

The Cormier Review used the methods described in the EPA Benchmark Report to evaluate biological and water chemistry data collected by MPCA in Ecoregion 50 between 1996 and 2013. Cormier Review at 6. Cormier calculated XC_{95} values for each of the benthic

macroinvertebrate genera that occurred at 25 sites or more in Ecoregion 50. Data were sufficient to calculate XC_{95} values for 164 benthic macroinvertebrate genera and Cormier concluded that the data allowed for a "confident estimation of the [specific conductance] that would result in the loss of 5% of genera." Cormier Review at 6. Using the 164 XC_{95} values, Cormier calculated the specific conductance level estimated to extirpate 5% of genera (HC_{05}) to be 320 µS/cm, which is similar to the corresponding level calculated in the Appalachian study (295 µS/cm). Cormier Review at 67. Consequently, Cormier concluded that "the inference that 5% extirpation of benthic invertebrates would occur at similar conductivity levels in central Appalachia and Ecoregion 50 in Minnesota was supported by analysis of an independent data set of paired benthic invertebrate and [specific conductance] data from Ecoregion 50 in Minnesota." Cormier Review at 10.

As discussed in the EPA Benchmark Report, the benchmark method is based on exposures to aquatic organisms "throughout their life cycle" and, thus, the resulting benchmark is a chronic value. EPA Benchmark Report at 41. Research by Cormier and others in 2018, further clarified that benchmarks produced using this method are intended to be applied based on an annual average duration.[17] Accordingly, the Band set the duration of specific conductance criterion as an annual average that is not to be exceeded.

As discussed in Section II.B.3.a above, EPA's 2011 Benchmark (i.e., the scientific method used to derive the benchmark) is a scientifically sound approach for deriving a conductivity benchmark sufficient to protect aquatic life. Because application of that method to Fond du Lac waters resulted in a protective specific conductance level protective of aquatic life that is similar to, if not greater than, the 2011 EPA Benchmark (300 µS/cm), EPA finds that there is a sound scientific rationale to conclude that the 300 µS/cm specific conductance criterion would be protective of aquatic life in Reservation waters. Ordinance #12/98, Amended, Section 301(k).

d. Conclusion

In summary, the 300 µS/cm benchmark was developed using a valid scientific method to calculate the conductivity level protective of aquatic life in Central Appalachian streams. EPA Benchmark Report at 1. As discussed above, the Band's Triennial Review Submittal included information demonstrating that (1) ionic composition of Reservation waters is similar to the waters in which extirpation values were derived, and (2) natural background conductivity in Reservation waters does not exceed the benchmark and, thus, that the assumptions underlying the method used to calculate the 2011 Benchmark are valid for Fond du Lac Reservation waters. Application of the method used to calculate the 2011 Benchmark to Fond du Lac waters indicated that conductivity levels at or below 300 µS/cm on an annual average basis would protect aquatic life in Reservation waters. Therefore, the Band's submittal provided a sound scientific rationale to conclude that the 300 µS/cm benchmark is also protective of aquatic life uses in Fond du Lac's Reservation waters and is consistent with Section 101(a)(2) of the CWA. Accordingly, EPA concludes, in accordance with 40 CFR §§ 131.5(a)(2) and 131.11(a), that

[17] Cormier, et al. "Field-based method for evaluating the annual maximum specific conductivity tolerated by freshwater invertebrates," *Science of the Total Environment* 633: 1637-1646 (2018).

Fond du Lac's conductivity criterion at Ordinance #12/98, Amended, Section 301(k) is based on sound scientific rationale and protective of Fond du Lac's aquatic life uses.

4. Narrative wild rice criterion

To protect wild rice, the Band adopted a narrative criterion at Ordinance #12/98, Amended, Section 301(n) requiring that:

> Water quantity and quality and habitat alterations that may limit the growth and propagation of, or otherwise cause or contribute to an adverse effect to wild rice and other flora and fauna of cultural importance to the Band shall be prohibited.

Federal rules at 40 CFR § 131.11(a)(1)[18] require that "[s]tates must adopt those water quality criteria that protect the designated use. Such criteria must be based on sound scientific rationale and must contain sufficient parameters or constituents to protect the designated use." 40 CFR § 131.11(b)(2) provides that states and authorized tribes may "establish narrative criteria or criteria based upon biomonitoring methods where numerical criteria cannot be established or to supplement numerical criteria."

As described in Ordinance #12/98, Amended, Section 301(n), the narrative criterion is intended to protect aquatic flora and fauna of cultural importance to the Band. The Band specifically identified wild rice as an aquatic plant species of cultural importance to the Band. As part of its Triennial Review Submittal and specifically to support this adopted narrative criterion, the Band provided a report: Fond du Lac Band of Lake Superior Chippewa, *Expanding the Narrative of Tribal Health: The Effects of Wild Rice Water Quality Rule Changes on Tribal Health* (undated) (hereafter referenced as the Wild Rice Report). According to the Wild Rice Report, wild rice may be affected by multiple stressors:

> The decline in stands of natural wild rice has been linked to modified hydrology, such as extensive ditching or channelization that drains a rice bed, or inundation from dams or industrial discharges that overwhelm the shallow-rooted plants. … Shoreline development can increase runoff, sedimentation and nonpoint source pollutants. Wild Rice Report at 50.

In its review of a similar narrative criterion adopted by the Lac du Flambeau Band (*see EPA's Review of Lac du Flambeau Band of Lake Superior Chippewa Indians' Water Quality Standards Under Section 303(c) of the Clean Water Act* (September 17, 2010) (hereafter "EPA LDF Review")), EPA reviewed the scientific literature on wild rice ecology and the importance of hydrologic cycles, water quality, and habitat (e.g., sediment quality) to support the growth and development of wild rice. EPA LDF Review at 13-16. As part of its review of Fond du Lac's narrative criterion, EPA reviewed additional studies on wild rice ecology published since 2010. This research largely has focused on the effects of surface water sulfate and sediment porewater

[18] Because the narrative criterion at Ordinance #12/98, Section 301(n) does not relate to toxic pollutants, the federal rules regarding narrative criteria for toxic pollutants at 40 CFR § 131.11(a)(2) are not applicable to this provision.

sulfide on wild rice (*e.g., see* Myrbo et al. (2017)[19]), and confirms the role of water quality in supporting the growth and development of wild rice. EPA also reviewed scholarship[20] that investigated the role of water quantity and/or habitat on wild rice growth, all of which confirmed the role of water depth as a factor of wild rice growth.

The information submitted in the Band's Triennial Review Submittal is consistent with EPA's 2010 literature review and research conducted since 2010 that indicates the potential for adverse effects to wild rice through effects on water quality and hydrologic and physical modifications of waterways. Therefore, EPA finds that the Fond du Lac Band has demonstrated that its narrative criterion is consistent with the available data on wild rice ecology and ensures protection of the Band's cultural use of waters for wild rice harvesting by maintaining the conditions necessary to support wild rice growth. Consequently, EPA concludes in accordance with 40 CFR § 131.5(a)(2) and § 131.11(a) that Fond du Lac's narrative criterion at Ordinance #12/98, Amended, Section 301(n) is based on sound scientific rationale and protective of Fond du Lac's cultural use designation.

5. Narrative hydrologic conditions criterion

To protect aquatic life, Fond du Lac adopted a narrative criterion at Ordinance #12/98, Amended, Section 301(o) providing that:

> Natural hydrologic conditions supportive of the natural biological community, including all flora and fauna, and physical characteristics naturally present in the waterbody shall be protected to prevent any adverse effects. The migration of fish and other aquatic biota normally present shall not be hindered.

As provided by Ordinance #12/98, Section 301 of Fond du Lac's WQS, the narrative criterion applies to all waters of the Fond du Lac Reservation.

EPA guidance has recognized that narrative criteria may be appropriate for the protection of aquatic life from hydrologic alterations. For example, as discussed in Chapter 3 of EPA's WQS Handbook:

> The natural flow regime, defined as the characteristic pattern of flow magnitude, timing, duration, frequency, and rate of change, plays a central role in supporting the chemical, physical, and biological integrity of streams and rivers and the services they provide. Hydrologic alteration is a change to a natural flow regime and can include an increase or

[19] A. Myrbo, et al, "Sulfide Generated by Sulfate Reduction is a Primary Controller of the Occurrence of Wild Rice (*Zizania palustris*) in Shallow Aquatic Ecosystems," *Journal of Geophysical Research: Biogeosciences* 122: 2736-2753 (2017).

[20] K. Aagard, et al., "Modeling the Relationship between Water Level, Wild Rice Abundance, and Waterfowl Abundance at a Central North American Wetland," *Wetlands* 39:149-160 (2019); Z. Li, et al, "Effects of Water Depth and Substrate Type on Rhizome Bud Sprouting and Growth in *Zizania latifolia*," *Wetlands Ecology and Management* 26:277-284 (2018); R.C. Tucker, et al., "Effects of Water Depth and Seed Provenance on the Growth of Wild Rice (*Zizania aquatica* L.)," *Aquatic Botany*: 113-118 (2011); and Z. Yang, et al, "Responses of an Emergent Macrophyte, *Zizania latifolia*, to Water-level changes in Lakes with Contrasting Hydrological Management," *Ecological Engineering* 151:105814 (2020).

> decrease in water volume, seasonal pulse flow disruption, dramatic variation in water temperature, and other factors. CWA programs can incorporate strategies to protect aquatic ecosystems from the harmful effects of hydrologic alteration, and WQS programs in particular can include water quality criteria for flow to protect designated uses such as aquatic life, recreation, fishing, or shellfish harvesting. Several states and authorized tribes have adopted a narrative form of flow criteria in their WQS. EPA, WQS Handbook at 21.

Because the Band's narrative criterion applies to all surface waters and provide protection consistent with the aquatic life designated use, EPA concludes in accordance with 40 CFR §§ 131.5(a)(2) and 131.11(a) that Fond du Lac's narrative criterion at Ordinance #12/98, Amended, Section 301(n) is based on sound scientific rationale and protective of Fond du Lac's aquatic life uses.

6. Criteria to protect the wetland designated use

As discussed in Section II.A.2 above, Fond du Lac adopted a new wetland designated use that applies to all wetlands in the Fond du Lac Reservation. To protect the wetland designated use, the Band adopted narrative wetland criteria in Ordinance #12/98, Amended, Chapter 7:

> All wetlands, as defined by the Cowardin classification scheme, shall maintain biological, physical, chemical, and hydrological conditions - as determined by reference wetlands - including, but not limited to: base flow, flow regime, wetland hydroperiod; chemical, nutrient, dissolved oxygen regime of the wetland; conditions favorable to protect propagation of threatened, endangered, and at-risk species; conductivity; floristic quality; integrity of species diversity, abundance, and zonation; normal movement of fauna; pH of wetland waters; salinity; size and shape; soil type horizon structure; water currents, erosion, or sedimentation patterns; water levels or elevations; and water temperature variations. Ordinance #12/98, Amended, Section 702.

To develop the wetland narrative criterion, the Band used EPA's Wetland WQS Templates. As discussed in EPA's Narrative Templates FAQs, the templates are intended for states and authorized tribes "to use to simplify and streamline the development of protective standards that will guide maintenance of the spatial and functional components of wetlands."

EPA guidance has recognized that narrative criteria may be appropriate for the protection of attributes and functions unique to wetlands:

> [W]etlands are different from other surface water systems in that they provide different functions and have different vulnerabilities. Without specific recognition of these attributes and functions – along with statements to protect and maintain those attributes and functions – it is possible to lose or impair these features. … Given the complex spatial and temporal heterogeneities of these unique ecosystems, narrative (rather than numeric) statements may be the best approach for states when first developing water quality standards for wetlands. Narrative Templates FAQs at 3.

The Fond du Lac narrative criterion requires the maintenance of all biological, physical, chemical and hydrological conditions in wetlands and, thus, would prevent adverse impacts to wetland functions and attributes. Consequently, EPA concludes in accordance with 40 CFR §§ 131.5(a)(2) and 131.11(a) that Fond du Lac's narrative criterion at Ordinance #12/98, Amended, Section 702 is based on sound scientific rationale and protective of Fond du Lac's wetland use.

In addition to the narrative criterion at Ordinance #12/98, Amended, Section 702, the Band also revised appendices 1 and 2 of its WQS to apply the Band's existing criteria for aquatic life, human health and wildlife to the wetland designated use. Ordinance #12/98, Amended, Appendices 1 and 2. As discussed in EPA's Narrative Templates FAQs:

> Water quality criteria for the protection of human health are based on the toxicity of a contaminant and the amount of the contaminant consumed through ingestion of water and fish regardless of the type of water body. Narrative Templates FAQs at 4.

The Band's numeric criteria, although not designed specifically for wetlands, were designed to be protective of aquatic life, wildlife and human health regardless of waterbody type. Ordinance #12/98, Amended, Section 601. EPA previously reviewed those criteria and determined that there was a sound scientific rationale to conclude that those criteria are protective of aquatic life, wildlife and human health in surface waters. EPA, *U.S. EPA Record of Decision for Approval of Fond du Lac Band's Water Quality Standards Under § 303 of the Clean Water Act* (2001). EPA's review of the Band's criteria at that time was not based on the type of water body that the criteria applied to but was only based on the available data on potential effects to aquatic life, wildlife and human health.

Because those criteria are protective of the aquatic life, wildlife and human health use designations irrespective of water body type, there is a sound scientific rationale to conclude that those criteria are also protective of the aquatic life, wildlife and human health components of the wetland use adopted by the Band.

C. Whether the State or Authorized Tribe has adopted an antidegradation policy that is consistent with §131.12, and whether the State or Authorized Tribe's adopted antidegradation implementation methods are consistent with §131.12.
(40 CFR § 131.5(a)(3))

Federal regulations regarding antidegradation implementation methods at 40 CFR § 131.12(b) require that:

> The State shall develop methods for implementing the antidegradation policy that are, at a minimum, consistent with the State's policy and with paragraph (a) of this section. The State shall provide an opportunity for public involvement during the development and any subsequent revisions of the implementation methods, and shall make the methods available to the public.

The adopted revisions do not modify the Band's existing EPA-approved antidegradation policy at Ordinance #12/98, Section 105(a), but the Band made several revisions to its antidegradation implementation methods in Ordinance #12/98, Amended, Section 105(b). These revisions are discussed below.

1. Whether Fond du Lac's methods for implementing the antidegradation policy are consistent with the State or Authorized Tribe's policy and 131.12(a).

a. Identification of waters for Tier 2 protection

Fond du Lac's previously approved antidegradation implementation procedures define "High Quality Waters" as:

> Surface waters of the Reservation in which, on a parameter by parameter basis, the quality of the waters exceeds levels necessary to support propagation of fish, shellfish and wildlife and recreation in and on the water. Ordinance #12/98, Section 201(z)[21].

In Fond du Lac's Triennial Review Submittal, these "High Quality Waters" have been renamed as "Exceptional Resource Waters," and

> . . . shall mean high quality waters not specifically classified as Outstanding Reservation Resource Waters. Exceptional Resource Waters are subject to the provisions of 105(a)(2) and (4) of the Fond du Lac antidegradation policy. Ordinance #12/98, Amended, Section 201(t).

The Band's "Outstanding Reservation Resource Waters (ORRW) continue to be defined as:

> . . . those waters of the highest quality that are designated by the Reservation Business Committee for their uniqueness or ecological sensitivity. Waters may be designated as ORRW because of their exceptional cultural, aesthetic, recreational or ecological significance. Ordinance #12/98, Amended, Section 201(oo).[22]

The Band's change at Ordinance #12/98, Amended, Section 201(t) removes ORRWs from being included in the definition of Exceptional Resource Waters. This change reflects the fact that, under Fond du Lac's antidegradation policy, ORRWs are subject to separate, more stringent antidegradation requirements. Section 105(a)(5) of Fond du Lac's antidegradation policy continues to require that water quality in ORRW waters "shall be maintained and protected without degradation." Ordinance #12/98, Section 105(a)(5).

In contrast, the Band's existing WQS provided that a lowering of water quality may be allowed in Exceptional Resource Waters "where lower water quality is determined to be necessary to support important social and economic development." Ordinance #12/98, Section 105(a)(4). The

[21] Due to the insertion of new definitions to Section 201, the Band's existing definition of "High Quality Waters" was renumbered as Section 201(bb).

[22] In the Band's existing WQS, Outstanding Reservation Resource Waters are defined in the same way. Ordinance #12/98, Section 201(mm).

antidegradation implementation procedures regarding Exceptional Resource Waters at Ordinance #12/98, Amended, Section 105(b)(4) pertain to the process by which a lowering of water quality may be allowed in those waters. Since no lowering of water quality is allowed in ORRWs, it is appropriate to not apply those procedures to ORRWs. Consequently, EPA concludes that the removal of ORRWs from the definition of Exceptional Resource Waters serves to clarify the Band's classification of waters and is consistent with the Band's antidegradation policy and federal requirements at 40 CFR § 131.12(a).

b. Expansion of current Tier 2 antidegradation implementation procedures to "other pollutants"

Section 105(b)(4) of Fond du Lac's antidegradation implementation procedures for Exceptional Resource Waters provides that an antidegradation review is not required for "changes in loadings of any [bioaccumulative chemical of concern (BCC)] within the existing capacity and processes and that are covered by the existing applicable control document." Ordinance #12/98, Section 105(b)(4). Fond du Lac's revisions extend this provision to other (non-BCC) pollutants: "For BCCs or other pollutants known or believed to be present in a discharge. . . ." Ordinance #12/98, Amended, 105(b)(4).

As provided by Section 105(b)(4) of the Band's antidegradation implementation procedures, an antidegradation review is required for any action resulting in a lowering of water quality. The Band's antidegradation implementation procedures continues to define a lowering of water quality as:

> 1) the projected or observed diminished chemical or biological integrity of Reservation surface waters as established by the Fond du Lac Environmental Program through the collection and analysis of baseline biological data, and the determination of reference conditions for such surface waters; or, 2) a new or increased loading of a pollutant from any regulated existing or new facility, either point source or nonpoint source, for which there is a control document or reviewable action, as a result of any activity including, but not limited to:
>
> A. Construction of a new regulated facility or modification of an existing regulated facility such that a new or modified control document is required;
>
> B. Modification of an existing regulated facility operating under a current control document such that the production capacity of the facility is increased;
>
> C. Addition of a new source of untreated or pretreated effluent containing or expected to contain any pollutant to an existing wastewater treatment works, whether public or private;
>
> D. A request for an increased limit in an applicable control document; and

E. Other deliberate activities that, based on the information available, could be reasonably expected to result in an increased loading of any pollutant to any waters of the Fond du Lac Reservation. Ordinance #12/98, Section 105(b)(1).

Thus, as defined by the Band's antidegradation implementation procedures, a lowering of water quality does not include modifications to existing regulated facilities that would not require a new or modified control document. Ordinance #12/98, Section 105(b)(4). This approach is consistent with the definition of a "significant lowering of water quality" included in federal antidegradation requirements for BCCs in the Great Lakes Basin at 40 CFR Part 132, Appendix E. The Band's definition of a lowering of water quality, which would trigger an antidegradation review, is not based on the type of pollutant but only on whether a proposed activity is expected to increase loading rates beyond what is currently authorized by the existing control document.

Because the Band's definition of a lowering of water quality is based on the nature of the proposed activities rather than the nature of the pollutant, it is reasonable to apply the same definition of a lowering of water quality to BCCs and non-BCCs. Consequently, EPA concludes that the Band's revision to Section 105(b)(4) to include "other pollutants" is consistent with the Band's antidegradation policy and 40 CFR § 131.12(a).

c. Expansion of Tier 2 antidegradation monitoring requirements to non-BCC pollutants

Section 105(b)(4) of Fond du Lac's antidegradation implementation procedures for Exceptional Resource Waters includes an existing requirement that "[f]or BCCs known or believed to be present in a discharge, from a point or nonpoint source, a monitoring requirement shall be included in the control document." Fond du Lac's revisions extend this requirement to "other pollutants." Ordinance #12/98, Section 105(b)(4).

Federal antidegradation regulations and guidance do not specify any monitoring requirements applicable to antidegradation policies or implementation procedures for non-bioaccumulative pollutants. The federal regulations at 40 CFR § 131.12(b) provide that state and tribal antidegradation implementation policies are acceptable if they are consistent with the State's or Tribe's antidegradation policy and 40 CFR § 131.12(a). 40 CFR § 131.12(a) states that an antidegradation review is required when an activity or action is proposed that would lower water quality but is silent on the specifics of how that lowering of water quality is to be quantified for purposes of triggering antidegradation review. Discharge monitoring is used routinely in water quality management to evaluate the effects of a discharge on water quality (e.g., *see* EPA's *Technical Support Document for Water Quality-based Toxics Control* (March 1991)).

For the reasons described above, EPA concludes that the Band's provision requiring a monitoring requirement to be included in control documents for "other pollutants" as set forth in revised Ordinance #12/98, Amended, Section 105(b)(4) is consistent with the Band's antidegradation policy and 40 CFR § 131.12(a).

d. Revision of short-term, temporary exemption for Outstanding Reservation Resource Waters (Tier 3)

Section 105(b)(3) of Fond du Lac's existing EPA-approved antidegradation implementation procedures (which generally correspond with the "Tier 3" requirements of 40 CFR § 131.12(a)(3)) allow that "a short-term, temporary exemption may be permitted." The Band's WQS revisions modify this provision by requiring that:

> an entity seeking to engage in such discharge demonstrate that such discharge will arise entirely from one of the following and meets the Outstanding Reservation Resource Waters Antidegradation Demonstration requirements below:
>
> > a. Maintenance or repair of existing roads, bridges, culverts, boat landings, septic systems, or other similar structures: construction of buildings, wells, roads, or other similar structures.
> >
> > b. Response actions undertaken to alleviate a release into the environment of hazardous substances, pollutants, or contaminants which may pose an imminent and substantial threat to public health or welfare.
> >
> > c. Actions undertaken to restore culturally important species and their habitats. Ordinance #12/98, Section 105(b)(3).

EPA has explained that it is consistent with federal antidegradation requirements pertaining to Outstanding National Resource Waters (40 CFR § 131.12(a)(3)) for states and authorized tribes to allow "some limited activities that result in temporary and short-term changes in the water quality of ONRWs." 48 *Fed. Reg*. 51400, 51403 (Nov. 8, 1983); *see also* EPA's WQS Handbook at 12-13. The Band's revisions have the effect of restricting its existing provision for temporary and short-term changes in the water quality of ORRWs by limiting the exemption to the specific types of activities listed in rule. The Band's modifications thus increase the level of protection provided for ORRWs.

Consequently, EPA concludes that Fond du Lac's revisions to Ordinance #12/98, Amended, Section 105(b)(4) regarding activities that would have only short-term, temporary effects on water quality in ORRWs are consistent with 40 CFR § 131.12(a) and Fond du Lac's antidegradation policy.

e. Designation of Five Lakes as ORRWs

Fond du Lac's WQS revisions designate five lakes (Perch Lake, Rice Portage Lake, Dead Fish Lake, Jaskari Lake, and Wild Rice Lake) as ORRWs. Ordinance #12/98, Amended, Section 105(b)(3). Section 105(a)(5) of the Band's antidegradation policy requires that "[w]ater quality in ORRWs shall be maintained and protected without degradation" and, thus, designation as ORRW provides the highest level of antidegradation protection within the Band's antidegradation policy. Ordinance #12/98, Section 105(a)(5).

Fond du Lac's antidegradation policy provides that "[w]aters may be designated an ORRW because of exceptional cultural, aesthetic, recreational or ecological significance. … [O]ther waters may be designated ORRW as determined by the Reservation Business Committee after at least one public hearing." Ordinance #12/98, Section 105(a)(5). As discussed in Section II.F below, Fond du Lac followed these procedures in making its ORRW designation for the five lakes: the Band held a public hearing on December 6, 2018 to discuss and provide an opportunity for the public to comment on the proposed WQS revisions, which included the designation of the five lakes as ORRWs, and the Reservation Business Committee approved and adopted the WQS revisions on July 8, 2020. Fond du Lac's Triennial Review Submission includes a discussion of this process and the Band's supporting documents. Consequently, EPA concludes that Fond du Lac's designation of five lakes as ORRWs is consistent with 40 CFR § 131.12(a) and Fond du Lac's antidegradation policy.

f. Antidegradation requirements for wetlands

Fond du Lac's revisions add antidegradation requirements specific to wetlands. To develop the wetland narrative criterion, the Band used EPA's Wetland WQS Templates.

As seen in Table 2 below, the antidegradation requirements for wetlands in Chapter 7 of the Band's WQS correspond directly to the Band's antidegradation policy, but account for functions and attributes specific to wetlands. As discussed in EPA's Narrative Template FAQs,

> wetlands are different from other surface water systems in that they provide different functions and have different vulnerabilities. Without specific recognition of these attributes and functions—along with statements to protect and maintain those attributes and functions—it is possible to lose or impair these features. Wetland-specific standards provide for more robust wetland protection when implementing the Clean Water Act and other resource protection programs. Narrative Template FAQs at 3.

Table 2. Comparison of Fond du Lac's wetland antidegradation requirements added at Chapter 7 with the Band's existing, EPA-approved antidegradation policy at Section 105(a) (italics showing emphasis added).

New Wetland antidegradation requirements (Chapter 7)	**Existing Antidegradation policy (Section 105(a))**
Tier I: For all wetlands, using the Cowardin classification scheme, *there shall be no degradation of existing uses*. Ordinance #12/98, Amended, Section 703 (paragraph 1).	Existing instream water uses, as defined pursuant to 40 C.F.R. Part 131, and the level of water quality necessary to protect existing uses shall be maintained and protected. *No further water quality degradation which would interfere with or become injurious to existing or designated uses shall be permitted*. Ordinance #12/98, Section 105(a)(1).

New Wetland antidegradation requirements (Chapter 7)	**Existing Antidegradation policy (Section 105(a))**
Tier II: Using the Cowardin classification scheme: *there shall be no net loss to the water quality*, functions, area, or ecological integrity of high quality lacustrine, lacustrine fringe, palustrine, riverine, and slope wetlands, *unless, after satisfying applicable antidegradation provisions including avoidance, minimization, and mitigation/replacement requirements, the authorized tribe determines that allowing degradation is necessary to accommodate important social or economic development in the area in which the wetlands are located*. Ordinance #12/98, Amended, Section 703 (paragraph 2).	For waters identified as high quality under 105.a.2 of this Ordinance, the Fond du Lac Reservation Business Committee, after appropriate public notice and intergovernmental coordination requirements and after due consideration of such technical, economic, social and other criteria in the area in which the water is located, *may choose to allow lower water quality, where lower water quality is determined to be necessary to support important social and economic development.* Ordinance #12/98, Section 105(a)(4).
Tier III: There shall be no loss to the water quality, functions, values, area, or ecological integrity of wetlands designated as Outstanding Reservation Resource Waters (ORRW), as per applicable Tier III requirements. Ordinance #12/98, Amended, Section 703 (paragraph 3).	Waters proposed in this Ordinance as Outstanding Reservation Resource Waters (ORRW) shall be designated as such upon approval of this Ordinance and maintained and protected. Waters may be designated an ORRW because of exceptional cultural, aesthetic, recreational or ecological significance. Upon approval of this Ordinance, other waters may be designated ORRW as determined by the Reservation Business Committee after at least one public hearing. *Water quality in ORRWs shall be maintained and protected without degradation*. Ordinance #12/98, Section 105(a)(5).

On the basis of the discussion above, EPA concludes that Fond du Lac's revised wetland antidegradation requirements in Chapter 7 are consistent with 40 CFR § 131.12(a) and Fond du Lac's antidegradation policy.

2. Whether the Tribe provided an opportunity for public involvement during the development and any subsequent revisions of the implementation methods and has made the methods available to the public. (40 CFR § 131.12(b))

Federal regulations at 40 CFR § 131.12(b) require that a state or authorized tribe "provide an opportunity for public involvement during the development and subsequent revisions of the implementation methods, and shall make the methods available to the public." As described in Section II.D below, Fond du Lac held a public hearing consistent with 40 CFR § 25.5 and provided an opportunity for public comment during the development of these rules. Fond du Lac

also prepared a response to public comments received. Fond du Lac provided information regarding its public process, comments received, and response to comments in its Triennial Review Submittal to EPA. Additionally, the Band duly adopted its revisions into Ordinance #12/98 through its legislative process. Ordinance #12/98, Amended, is posted on the Band's website and, thus, is available to the public. Consequently, EPA concludes that the Band has satisfied the public involvement requirements at 40 CFR § 131.12(b).

3. Conclusion

For the reasons described above, EPA concludes that Fond du Lac's revisions to its antidegradation implementation procedures at Ordinance #12/98, Amended, Section 703 are consistent with 40 CFR § 131.12.

D. Whether the State or Authorized Tribe has followed applicable legal procedures for revising or adopting standards. (40 CFR § 131.5(a)(6))

In a letter dated August 4, 2020 and received by EPA on August 6, 2020, Kevin R. Dupuis, Sr. of Fond du Lac's Reservation Business Committee certified that the rules were duly adopted in accordance with the laws of the Band.

In adopting the rules, Fond du Lac also provided opportunities for public input consistent with federal requirements at 40 CFR § 131.20(b) and 40 CFR Part 25. On September 28, 2018, Fond du Lac published a public notice and a copy of the draft rules on its website, requesting comments by November 19, 2018. Fond du Lac also published a public notice in the *Duluth News Tribune* and mailed electronic copies of the public notice and the draft rules to all interested parties. The Band subsequently extended the deadline for comments until December 7, 2018. The Band held a public hearing on December 6, 2018, in Cloquet, Minnesota. Fond du Lac publicized the public hearing more than 45 days prior to the date of the hearing, recorded the hearing and met other requirements for public hearings specified at 40 CFR § 25.5.

The Band received more than 500 written comments during this comment period and 16 individuals provided comments at the public hearing. Fond du Lac considered and responded to the public comments before adopting the rules. Fond du Lac proposed amendments to the rules in response to some of the comments. EPA reviewed the comments and Fond du Lac's responses in deciding whether to approve the Band's new and revised WQS, and nothing in those comments causes EPA to conclude that the Band's WQS revisions are not based on sound scientific rationale or do not protect applicable designated uses. Consequently, EPA concludes that the Band satisfied the public participation requirements of 40 CFR § 131.20(b) and 40 CFR § 25.5.

E. Whether the Tribal submission meets the requirements included in §131.6 of this part and, for Great Lakes States or Great Lakes Tribes (as defined in 40 CFR § 132.2) to conform to section 118 of the Act, the requirements of 40 CFR 132. (40 CFR § 131.5(a)(8))

40 CFR § 131.6 identifies the minimum requirements of a WQS submission. As described below, Fond du Lac's submittal meets all the relevant requirements of 40 CFR § 131.6.

1. Minimum requirements for WQS submission (40 CFR § 131.6)

a. Use designations consistent with the provisions of sections 101(a)(2) and 303(c)(2) of the Act (40 CFR § 131.6(a))

The Band's WQS revisions establish a wetland designated use and designate all wetlands with that use. As discussed in Section II.A.2 above, the wetland use includes aquatic life and recreation protections consistent with Section 101(a)(2) of the CWA.

b. Methods used and analyses conducted to support WQS revisions (40 CFR § 131.6(b))

The Band submitted the following documents in support of these rules:

- Fond du Lac Reservation Business Committee Certification of Proper Adoption of Tribal Water Quality Standards, as amended (August 4, 2020 and received August 6, 2020);
- Transmittal Letter from Nancy Schuldt, Fond du Lac, to Tera Fong (August 5, 2020 and received August 6, 2020);
- Fond du Lac Band of Lake Superior Chippewa Water Quality Standards of the Fond du Lac Reservation Ordinance # 12/98, as amended by Resolution #1321/20 of the Fond du Lac Reservation Business Committee on July 8, 2020;
- Fond du Lac Reservation Ordinance #12/98, with revisions shown in redline/strikeout format;
- Resolution #1821/20 Amending the Water Quality Standards for the Fond du Lac Reservation, Fond du Lac Ordinance #12/98;
- Public Notice for Water Quality Standards Public Meeting held January 12, 2018;
- Public Notice Seeking Public Comment on Revised Water Quality Standards, published September 28, 2018;
- Transcript of public hearing held December 6, 2020;
- Public comments received;
- Fond du Lac Water Quality Standards Triennial Review Final Report and Summary of Responses (December 2019);
- Devin Edge, Adam Frankiewicz, Jacob Fredrickson and Audrey Huff, University of Minnesota Duluth, *An Evaluation of the Specific Conductivity and Benthic Invertebrate Population in the Streams of the Fond du Lac Band of Lake Superior Chippewa Reservation* (May 6, 2020);
- Bruce L. Johnson and Maureen K. Johnson for WaterLegacy, *An Evaluation of a Field-Based Aquatic Life Benchmark for Specific Conductance in Northeast Minnesota* (November 2015);
- Susan M. Cormier, Ph.D., EPA Office of Research and Development, *Review: "An Evaluation of a Field-Based Aquatic Life Benchmark for Specific Conductance in Northeast Minnesota" (November 2015) Prepared by B.L. Johnson and M.K. Johnson for WaterLegacy* (February 4, 2016);
- Patricia Soranno, Associate Professor, Michigan State University, *Development of Lake-specific Numerical Nutrient Criteria for Water Quality Standards in Reservation Lakes* (May 20, 2011);

- Ann St. Amand, PhycoTech, Inc., *Development of Lake-specific Numerical Nutrient Criteria for Water Quality Standards in Fond du Lac Reservation Lakes: Analysis of the Phytoplankton Rapid Assay Results 1998-2012 Compared to Southern Minnesota Lakes* (August 20, 2015);
- *Expanding the Narrative of Tribal Health: The Effects of Wild Rice Water Quality Rule Changes on Tribal Health, Fond du Lac Band of Lake Superior Chippewa Health Impact Assessment* (undated);
- Earth Economics, *The Food that Grows Out of the Water: The Economic Benefits of Wild Rice in Minnesota* (2018);
- S. LaFond-Hudson, Johnson, N.W., Pastor, J., Dewey, B., *Iron sulfide formation on root surfaces controlled by the life cycle of wild rice (*Zizania palustris*)*, Biogeochemistry 141: 95-106 (2018);
- Sophia LaFond-Hudson, *Iron and Sulfate Cycling in the Rhizosphere of Wild Rice (*Zizania palustris*)* – A thesis submitted to faculty of the University of Minnesota (May 2016); and
- Minnesota Pollution Control Agency, *Wild Rice Sulfate Standard – Summary of Findings and Preliminary Recommendations, Legislative Briefing Document* (February 2014).

c. Water quality criteria sufficient to protect the designated uses (40 CFR § 131.6(c))

The WQS revisions include the adoption of several numeric and narrative criteria. As discussed in Section II.B above, the revisions are consistent with 40 CFR § 131.11.

d. An antidegradation policy consistent with 40 CFR 131.12 (40 CFR § 131.6(d))

The Band's WQS revisions modify several of the Band's existing EPA-approved antidegradation rules. These revisions do not modify the Band's existing, approved antidegradation policy but only affect the implementation of that policy. As described in Section II.C above, these revisions are consistent with Fond du Lac's existing antidegradation policy and 40 CFR § 131.12.

e. Certification by the State or Authorized Tribe's Attorney General or other appropriate legal authority within the State or Tribe that the WQS were duly adopted pursuant to State or Tribal law (40 CFR § 131.6(e))

Fond du Lac's Reservation Business Committee certified the rules in a letter from Kevin R. Dupuis, Sr. to Kurt Thiede, dated August 4, 2020.

f. General information which will aid the Agency in determining the adequacy of the scientific basis of the standards which do not include uses specified in section 101(a)(2) of the Act as well as information on general policies applicable to State or Authorized Tribe's standards which may affect their application and implementation (40 CFR § 131.6(f))

The Fond du Lac WQS revisions establish a wetland designated use and designate all wetlands of the Fond du Lac Reservation for that use. As discussed in Section II.A.2, the wetland designated use includes the uses specified in Section 101(a)(2) of the CWA. The WQS revisions

do not modify Fond du Lac's existing, effective designated uses as they are applied to specific Fond du Lac surface waters.

The adopted revisions include rule revisions that affect the application and implementation of Fond du Lac's antidegradation policy. See Section II.C for EPA's review of these implementation procedures for consistency with 40 CFR § 131.12(b).

2. Requirements of 40 CFR Part 132

The adopted revisions affect the entire Fond du Lac Reservation, a majority of which is located within the Lake Superior Basin. Therefore, the Band's WQS revisions apply to waters in the Great Lakes Basin and the requirements of 40 CFR Part 132 apply to the adopted revisions.

Federal WQS requirements in 40 CFR Part 132 that apply to waters in the Great Lakes System do not specifically address how states and authorized tribes may designate and modify uses. Therefore, there are no designated use requirements of 40 CFR Part 132 that are applicable to EPA's review of the Band's cultural use designation and wetland designated use, discussed in Section II.A above.

As discussed in Section II.B of this document, Fond du Lac's WQS revisions include the adoption of numeric criteria for nutrients, ammonia and specific conductance and narrative criteria to protect wild rice and hydrologic conditions. Federal regulations specific to the Great Lakes System in 40 CFR Part 132 do not include specific requirements regarding narrative criteria and, thus, there are no requirements of 40 CFR Part 132 that are applicable to EPA's review of the Band's adopted narrative criteria. Phosphorus (nutrients), ammonia, and dissolved solids (specific conductance) are included in Table 5 of 40 CFR Part 132 as pollutants subject to federal, state and tribal requirements. For pollutants listed in Table 5 of 40 CFR Part 132, 40 CFR § 132.4(g)(1) requires Great Lakes states and tribes to "[a]pply any methodologies and procedures acceptable under 40 CFR Part 131 when developing water quality criteria or implementing narrative criteria." As discussed in Section II.B above, the Band's numeric nutrient criteria, ammonia criteria, and specific conductance criterion are consistent with 40 CFR § 131.11.

State and tribal antidegradation rules applicable to the discharge of BCCs within the Great Lakes basin must be consistent with 40 CFR Part 132, Appendix E. Fond du Lac's existing antidegradation rules at sections 105(a) and (b) apply to the discharge of BCCs. EPA previously approved these as being consistent with 40 CFR Part 132 and nothing in the adopted revisions removes or modifies these antidegradation requirements. Consequently, EPA concludes that the Band's revisions to its antidegradation implementation procedures discussed in Section II.C of this document are consistent with 40 CFR Part 132, Appendix E.

F. Other items that EPA is approving

In addition to the revisions discussed above, Fond du Lac made several other revisions to the Band's WQS. EPA reviews each of these below.

1. Provisions clarifying the intent of Fond du Lac's WQS

Section 102 of Fond du Lac's existing WQS rules establish the purpose of the Band's WQS, which is to "protect the health and welfare of the Fond du Lac Band and other residents of the Fond du Lac Reservation." Ordinance #12/98, Section 102 also includes a list of methods by which the WQS shall achieve this purpose (e.g., "[t]he designation of uses for which the waters of the Fond du Lac Reservation shall be protected").

Fond du Lac's WQS revisions add the following two items to the list of methods by which the Band's WQS shall achieve its stated purpose:

d. The prevention of degradation of existing water quality; and

e. The protection of the Fond du Lac Band's political integrity, economic security, and health and welfare.

Ordinance #12/98, Amended, Section 102(d)-(e). Federal regulations at 40 CFR § 131.2 describing the purpose of WQS states that states and authorized tribes "adopt water quality standards to protect public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act." The Band's added purposes for their WQS are consistent with 40 CFR § 131.2 in that they establish the Band's intention to use WQS to enhance the quality of water and protect public health or welfare. Consequently, EPA concludes that the Band's revisions to Section 102 are consistent with the CWA and 40 CFR parts 131 and 132.

2. Provisions clarifying the intent of designated uses and water quality criteria

Fond du Lac's WQS revisions add language to sections 302 and 601 of the Band's WQS defining designated uses and water quality criteria.

As seen in Table 1 below, the Band's definitions of designated uses and criteria are consistent with federal regulations at 40 CFR § 131.3 and, thus, EPA concludes that Fond du Lac's revisions to sections 302 and 601 of its WQS are consistent with the CWA and 40 CFR parts 131 and 132.

Table 3. Comparison of Fond du Lac's definitions of designated uses and water quality criteria with federal regulations in 40 CFR Part 131.

Term	Fond du Lac Definition	Federal Regulation
Designated Use	Waters of the Reservation are assigned designated uses to serve the purposes defined in Sections 101(a)(2) and 303(c) of the Clean Water Act: to ensure that water quality standards should provide, wherever attainable, water quality sufficient for the protection of fish, shellfish, and wildlife, recreation in and on the water, as well as considering the use and value of waters for cultural purposes, public water supplies, industrial purposes, and navigation. Designated uses are assigned to individual waterbodies in order to protect water quality appropriate for each use. Ordinance #12/98, Amended, Section 302.	States adopt water quality standards to protect public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act (the Act). "Serve the purposes of the Act" (as defined in sections 101(a)(2) and 303(c) of the Act) means that water quality standards should, wherever attainable, provide water quality for the protection and propagation of fish, shellfish and wildlife and for recreation in and on the water and take into consideration their use and value of public water supplies, propagation of fish, shellfish, and wildlife, recreation in and on the water, and agricultural, industrial, and other purposes including navigation. 40 CFR § 131.2.
Criteria	Criteria are elements of the Fond du Lac water quality standards, expressed as constituent concentration, levels, or narrative statements, representing a quality of water that supports a particular use. When criteria are met, water quality will generally protect the designated use. When criteria are not met, the designated uses may be affected adversely. Ordinance #12/98, Amended, Section 601.	*Criteria* are elements of State water quality standards, expressed as constituent concentrations, levels, or narrative statements, representing a quality of water that supports a particular use. When criteria are met, water quality will generally protect the designated use. 40 CFR § 131.3(b).

3. Provisions clarifying the applicability of Fond du Lac's WQS

Section 103 of Fond du Lac's existing WQS establish that the Band's WQS apply to all "waters of the Fond du Lac Reservation" and provide a list of the types of activities to which WQS will be applied. The Band's revisions modify this section by adding "the physical alterations of waterbodies including wetlands" to the list of activities to which WQS will be applied. Ordinance #12/98, Amended, Section 103. Section 101(a) of the CWA establishes that "[t]he objective of this Act is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." Additionally, the addition is consistent with implementation of EPA approved WQS within CWA Section 401 certifications. Consequently, EPA concludes that Fond du Lac's revisions to Section 103 of its WQS are consistent with the CWA and 40 CFR parts 131 and 132.

Fond du Lac's WQS revisions also add the following definition of "Waters of the Fond du Lac Reservation" at Section 201(ccc):

> Waters of the Fond du Lac Reservation shall mean all waters within the exterior boundaries of the Fond du Lac Reservation, including but not limited to lakes, ponds, reservoirs, springs, streams, flowages, rivers, wetlands, and any subterranean waters having a demonstrable hydrologic connection with the surface. Ordinance #12/98, Amended, Section 201(ccc).

As discussed above, Section 103 of the Band's WQS require that the Band's WQS apply to all "waters of the Fond du Lac Reservation" and, thus, this definition affects the waterbodies to which the Band's WQS apply. Ordinance #12/98, Section 103. The Band's definition of "Waters of the Fond du Lac Reservation" does not exclude any surface waters and, thus, allows the Band to apply its WQS to all navigable waters. Consequently, EPA concludes that Fond du Lac's definition of "Waters of the Fond du Lac Reservation" at Ordinance #12/98, Amended, Section 201(ccc) is not inconsistent with the CWA and 40 CFR parts 131 and 132.

The CWA and federal regulations implementing the CWA extend only to waters of the United States. Application of the Band's WQS to waters outside the definition of waters of the United States is under Fond du Lac's own inherent authority and outside of EPA's authority under Section 303(c) of the CWA to approve or disapprove.

Additionally, EPA approves these WQS for the surface waters within the exterior boundaries of the Fond du Lac Reservation that are included in EPA's May 16, 1996 approval to obtain authorization for a WQS program. Application of these WQS by the Band to waters other than those specifically described above is under the Band's own inherent authority and outside of EPA's authority under CWA 303(c) to either approve or disapprove.

4. Non-substantive revisions to the Tribe's WQS

Fond du Lac also made numerous non-substantive revisions to revise or replace existing definitions, rename terms, clarify intent, add tribal names to definitions and lakes, and make grammatical edits. EPA reviewed these non-substantive revisions and concluded that these revisions do not change the meaning or implementation of the Band's existing federally-approved WQS. Therefore, EPA concludes that these reorganizational revisions are consistent with the CWA and 40 CFR parts 131 and 132.

G. Items that EPA has determined are not new or revised WQS

As described in Section II above, EPA has authority and duty to review state and tribal rules under Section 303(c) of the CWA if those rules constitute new or revised WQS. The EPA document entitled *What is a New or Revised Water Quality Standard Under CWA 303(c)(3)? Frequently Asked Questions* (October 2012) describes the criteria by which EPA determines whether a provision constitutes a new or revised WQS, one of which is whether the provision "address[es] designated uses, water quality criteria (narrative or numeric) to protect designated

uses, and/or antidegradation requirements for waters of the United States." *What is a New or Revised Water Quality Standard Under CWA 303(c)(3)? Frequently Asked Questions* at 3.

Fond du Lac's revisions include several revisions to the Band's list of documents for Sample Collection, Preservation and Analysis in Section 501. Ordinance #12/98, Amended, Section 501. These revisions address the documents and methods the Band uses to collect, preserve and analyze samples. These revisions do not address designated uses, water quality criteria or antidegradation requirements and, thus, EPA concludes that these revisions are not new or revised WQS and is taking no action under Section 303(c) of the CWA on these revisions.

Additionally, Fond du Lac's revisions add language at Section 301(m) specifying the methods that the Band will use to assess waters based on its existing narrative biological criterion. Ordinance #12/98, Amended, Section 301(m). Nancy Schuldt, Fond du Lac Water Projects Coordinator, clarified in an email to Aaron Johnson, EPA Region 5, Watersheds and Wetlands Branch, on June 5, 2020, that the provision only addresses the methods the Band will use to conduct condition assessments based on the narrative biological criterion and does not revise the narrative criterion itself. Therefore, EPA concludes that this revision only addresses implementation of the existing narrative criterion and does not address designated uses, water quality criteria or antidegradation requirements. Consequently, EPA concludes that the Band's revision of Section 301(m) is not a new or revised WQS and is taking no action under Section 303(c) of the CWA on this revision.

H. Conclusion

For the reasons described above, EPA concludes that the Band's WQS revisions adopted as part of its WQS triennial review are consistent with the CWA and federal WQS regulations in 40 CFR parts 131 and 132 and approves these revisions.

III. Endangered Species Act (ESA) Requirements

Consistent with Section 7 of the ESA and federal regulations at 50 CFR Part 402, EPA is required to consult with FWS on any action taken by EPA that may affect federally-listed threatened or endangered species or designated critical habitat. Actions are considered to have the potential to affect listed species if listed species are present in the action area.

According to the FWS Section 7 consultation assistance webpage[23], the listed threatened or endangered species in Carlton and St. Louis counties, Minnesota that could possibly be in the action area include Canada lynx, gray wolf, northern long-eared bat, piping plover and rufa red knot. Additionally, critical habitat for piping plover is located in St. Louis County.

Based on a review of the available information for these species, EPA concluded that Canada lynx, piping plover and rufa red knot are not located in the action area, and therefore, the WQS revisions will have no effect on those species. EPA also determined that critical habitat for piping plover is located more than 20 miles downstream of the Fond du Lac Reservation and,

[23] Accessed by EPA staff September 3, 2020, https://ecos.fws.gov/ipac/ and/or https://www.fws.gov/midwest/endangered/lists/minnesot-cty.html.

thus, the WQS revisions will not affect any critical habitat. However, based on the potential presence of aquatic, aquatic-dependent, and/or wetland species in the action area, EPA decided that consultation under Section 7 of the ESA is required. EPA drafted a BE during its review of the Band's WQS revisions and concluded that its approval of the Band's WQS revisions may affect, but is not likely to adversely affect, the gray wolf and northern long-eared bat. EPA sent its BE to FWS on September 18, 2020, seeking concurrence on the Agency's conclusion.

IV. Tribal Consultation

On May 4, 2011, EPA issued the "EPA Policy on Consultation and Coordination with Indian Tribes" to address Executive Order 13175, "Consultation and Coordination with Indian Tribal Governments." The EPA Tribal Consultation Policy states that "EPA's policy is to consult on a government-to-government basis with federally-recognized Tribes when EPA actions and decisions may affect tribal interests." EPA consulted the location of tribal lands in Minnesota and determined that the Fond du Lac Reservation is located within and upstream of ceded territory where 12 federally-recognized tribes (including Fond du Lac) have treaty rights.

On August 12, 2020, EPA sent letters outlining the proposed WQS revisions and offering government-to-government consultation to the tribal leaders of the 11 federally-recognized tribes that are party to the 1854 Treaty. The consultation letter further clarified that if EPA did not receive a response from the Tribe within 30 days of the date of the letter (September 11, 2020), as either written comments or an attempt to schedule a conference call, EPA would conclude that the Tribe did not wish to engage in consultation and EPA could therefore move forward with a decision.

None of the 11 identified tribes responded to the letter in written or verbal means by September 11, 2020. EPA therefore provided substantive opportunity for the 11 tribes to provide input on EPA's decision-making process and has therefore fulfilled its duty to consult on a government-to-government basis with federally-recognized tribes on actions that may affect tribal interests.