



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 8**

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DEC 21 2018

Ref: 8WP-CWQ

Mr. L. David Glatt, Chief  
Environmental Health Section  
North Dakota Department of Health  
918 East Divide Avenue  
Bismarck, North Dakota 58501-1947

Re: EPA Action on Revisions to Standards of Water Quality of the State

Dear Mr. Glatt:

The U.S. Environmental Protection Agency (EPA) Region 8 completed its review of North Dakota's new and revised water quality standards. The North Dakota State Health Council (Council) adopted these revisions on May 16, 2018, and submitted them to the EPA for review with a letter dated July 31, 2018, from the North Dakota Department of Health (Department). The submittal package included: (1) a copy of the notice of proposed amendments; (2) the state's response to comments; (3) revised Standards of Quality for Waters of the State (33-16-02.1); and (4) a letter certifying that the amendments were adopted in accordance with state law. Receipt of the submittal package on August 8, 2018 initiated the EPA's review pursuant to Section 303(c) of the Clean Water Act (CWA or the Act) and the implementing federal water quality standards regulation (40 C.F.R. Part 131).

We commend the Department and Council for the improvements to North Dakota's water quality standards. Commendable revisions include the adoption of 87 updated human health criteria for the protection of human health, the adoption of new narrative nutrient criteria, and the adoption of updated aquatic life criteria for cadmium, consistent with the EPA's national criteria recommendations published pursuant to CWA § 304(a).

### **Clean Water Act Review Requirements**

Section 303(c)(2) of the CWA requires states and authorized Indian tribes<sup>1</sup> to submit new or revised water quality standards to the EPA for review. The EPA is required to review and approve, or disapprove, the submitted standards. Pursuant to CWA § 303(c)(3), if the EPA determines that any standard is not consistent with the applicable requirements of the Act, the Agency shall, not later than the ninetieth day after the date of submission, notify the state or authorized tribe and specify the changes needed to meet the requirements. If such changes are not adopted by the state or authorized tribe within ninety days after the date of notification, the EPA is to propose and promulgate such standards pursuant to CWA § 303(c)(4)(A). The Region's goal has been, and will continue to be, to work closely with states and authorized tribes throughout the standards revision process so that submitted revisions can be

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<sup>1</sup> CWA Section 518(e) specifically authorizes the EPA to treat eligible Indian tribes in the same manner as states for purposes of CWA Section 303. See also 40 CFR Section 131.8.

approved by the EPA. Pursuant to the EPA's Alaska Rule (40 C.F.R. § 131.21(c)), new or revised state and authorized tribal standards submitted to the EPA after May 30, 2000, are not effective for CWA purposes until approved by the EPA.

### **Today's Action**

Today the EPA is approving most of the revisions to the state water quality standards. The rationale for the EPA's action is discussed in detail in the enclosure. These actions are summarized below:

#### **1) Water Quality Standards Approved Without Condition**

- Updated human health criteria to match the 2015 EPA ambient water quality criteria for the protection of human health for all priority pollutants and the five select non-priority pollutants (barium, chlorophenoxy herbicide (2-4-D), Methoxychlor, nitrates and pH);
- A compliance schedule authorizing provision; and
- Clarifying additions, edits, and format modifications to existing rule.

#### **2) Water Quality Standards Approved Subject to Endangered Species Act (ESA) Consultation**

- Revised acute and chronic aquatic life criteria for cadmium;
- Corrected acute aquatic life criteria for endrin; and
- A new narrative criterion for nutrients.

#### **3) Provisions the EPA is Not Acting on Today**

- Ground water classifications and standards.

### **Endangered Species Act Requirements**

The EPA's approval of North Dakota's water quality standards is considered a federal action which may be subject to the Section 7(a)(2) consultation requirements of the ESA. Section 7(a)(2) of the ESA states that "each federal agency... shall... insure that any action authorized, funded or carried out by such agency is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined to be critical..." 16 U.S.C. § 1536. The EPA initiated consultation under ESA § 7(a)(2) with the U.S. Fish and Wildlife Service (FWS) on August 31, 2018, regarding our approval of the new or revised water quality standards summarized in category two above and discussed in the enclosure.

The EPA's approval of revisions to North Dakota's criteria pending completion of consultation under Section 7(a)(2) is fully consistent with Section 7(d) of the ESA because it does not foreclose either the formulation by the FWS or the implementation by the EPA of any alternatives that might be determined in the consultation to be needed to comply with ESA § 7(a)(2). Proceeding with a CWA § 303(c) approval action prior to the completion of Section 7 consultation provides a more protective condition for listed species and/or designated critical habitat during the interim period while the EPA is completing the Section 7 consultation requirements on the WQS approval. Under CWA § 303(c)(4)(B), the EPA has authority to take additional action regarding the revision of water quality standards for

North Dakota if the consultation with the FWS identifies deficiencies in the revised water quality standards requiring remedial action by the EPA, after the EPA has approved the revisions.

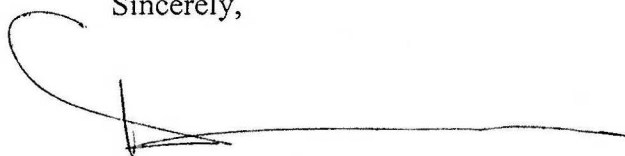
### **Indian Country**

The water quality standards approvals in today's letter apply only to water bodies in the state of North Dakota, and do not apply to waters that are within Indian country, as defined in 18 U.S.C. § 1151. Today's letter is not intended as an action to approve or disapprove water quality standards applying to waters within Indian country. The EPA, or authorized Indian tribes as appropriate, will retain responsibilities for water quality standards for waters within Indian country.

### **Conclusion**

The EPA Region 8 thanks the Department and Council for its efforts to improve the water quality standards that protect the waters of North Dakota. The recent revisions clarify North Dakota's existing regulations and improve the state's water quality program. The EPA looks forward to working with the Department to make additional improvements to the state's water quality standards. If you have any questions, please call Holly Wirick on my staff at (303) 312-6238.

Sincerely,

A handwritten signature in black ink, appearing to read 'Darcy O'Connor', with a long horizontal stroke extending to the right.

Darcy O'Connor,  
Assistant Regional Administrator  
Office of Water Protection

Enclosure

Cc: Mr. Peter Wax  
Division of Water Quality, North Dakota Department of Health

## **Rationale for EPA's Action on North Dakota's Revised Surface Water Quality Standards**

Today's EPA action letter addresses the revisions to North Dakota's water quality standards (WQS) adopted by the North Dakota State Health Council (Council) on May 16, 2018. This enclosure provides a summary of the revisions and a rationale for the action taken by the EPA. The discussion below covers the following categories of changes made to the state's WQS: (1) revisions that are approved for purposes of CWA § 303(c) without condition, (2) revisions that are approved for purposes of CWA § 303(c), subject to ESA consultation, and (3) provisions that EPA is not acting on today.

### **1) WATER QUALITY STANDARDS APPROVED WITHOUT CONDITION**

#### Human Health Criteria (§ 33-16-02.1-09 Table 2)

The EPA's 2015 Update for Human Health Ambient Water Quality Criteria<sup>2</sup> revised 94 of the EPA's existing National Recommended Water Quality Criteria (NRWQC)<sup>3</sup> published pursuant to CWA § 304(a), and the maximum contaminant level (MCL)<sup>4</sup> established by the EPA under the Safe Drinking Water Act, for the protection of human health. The 2015 Update reflects the latest scientific information, including updated exposure inputs for body weight (80 kg), drinking water consumption rate (2.4 L), and fish consumption rate (22 grams per day). North Dakota revised 82 of the state's human health criteria<sup>5</sup> to be consistent with the 2015 NRWQC or MCL for the protection of human health for priority pollutants, and revised five human health criteria for the following non-priority pollutants: chlorophenoxy herbicide (2,4-D), methoxychlor, 2-Methyl-4,6-Dinitrophenol, 3-Methyl-4-Chlorophenol, and Bis(2-chloro-1-Methylethyl) ether.

The revisions to North Dakota Admin. Code § 33-16-02.1-09 Table 2, described above are consistent with recently issued changes to the EPA criteria recommendations for those parameters. These revisions improve the public health protections in North Dakota's WQS, and the EPA commends the North Dakota Department of Health (Department) and the Council for making these changes. The EPA approves the new and revised human health criteria because they are scientifically defensible and consistent with the requirements of the CWA and the EPA's implementing regulation at 40 C.F.R. § 131.11. Accordingly, the revisions to Table 2 are approved without condition.

The numeric human health criterion for delta-Hexachlorocyclohexane was deleted from Administrative Code § 33-16-02.1-09(3) Table 2. This parameter is listed as delta-BHC in EPA's NRWQC for priority pollutants, but does not include a numeric criterion. Previously, this pollutant was listed in § 33-16-02.1-09(3) Table 2, but had no criterion. North Dakota adopted revised human health criteria for alpha, beta, and gamma hexachlorocyclohexane. The EPA concludes that because the EPA has no recommended criterion for delta-Hexachlorocyclohexane, and that the state's adoption of the alpha, beta, and gamma

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<sup>2</sup> See <https://www.epa.gov/sites/production/files/2015-10/documents/human-health-2015-update-factsheet.pdf>.

<sup>3</sup> See <https://www.epa.gov/wqc/national-recommended-water-quality-criteria>

<sup>4</sup> See <https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations>

<sup>5</sup> See July 31, 2018 version of NDDH Amendments Chapter 33-16-02.1 showing all revisions (submission file Amendments\_to\_33-16-02.1\_NDDH\_Strikeout\_Version.pdf).



hexachlorocyclohexane protects the human health designated use, this change is consistent with the requirements of the CWA and EPA's implementing regulation at 40 C.F.R. § 131.11, and is approved.

#### Variances and Compliance Schedules (§ 33-16-02.1-05)

In August 2015, the EPA revised the WQS regulation (40 C.F.R. Part 131).<sup>6</sup> The new EPA WQS rule added 40 C.F.R. § 131.14, which explicitly authorizes the use of WQS variances when the applicable designated uses are not attainable in the near term but may be attainable in the future. The rule also includes additional requirements such as information that a state or authorized tribe must adopt in any WQS variance, including provisions that require protection of the highest attainable condition. States and authorized tribes must submit supporting documentation to the EPA that demonstrates why the WQS variance is needed and justifies the term and interim requirements. WQS variances longer than five years must be reevaluated at least every five years after EPA approval with an opportunity for public input. North Dakota articulates its WQS variance policy at § 33-16-02.1-05. The previous provision was amended to specify that a variance will be granted only after fulfillment of the approved requirements at 40 C.F.R. § 131.14. The revised rule states "A variance will be granted only after fulfillment of the approved requirements at 40 C.F.R. § 131.14, including public participation requirements and environmental protection agency approval." The EPA approves this change which now includes all of the federal requirements at 40 C.F.R. § 131.14.

The EPA's final rule also requires that if states intend to authorize the use of compliance schedules for water quality-based effluent limits in National Pollutant Discharge Elimination System (NPDES) permits, the state must adopt a permit compliance schedule authorizing provision and submit it to the EPA for review and action under CWA § 303. North Dakota adopted a compliance schedule authorizing provision in § 33-16-02.1-05, which states, "A North Dakota pollutant discharge elimination system permit may contain a schedule to return a permittee to compliance with water quality based effluent limits consistent with federal and state regulations. Compliance schedules in North Dakota pollutant discharge elimination system permits are subject to the requirements of § 33-16-01-15 and cannot be issued for new discharges or sources." Today's action by EPA approves the state's intent to authorize compliance schedules where appropriate in NPDES permits as a component of its water quality standards. This action does not apply to the state's compliance schedule implementing regulations, nor does it indicate whether any particular compliance schedule is or is not appropriate. Each compliance schedule authorized by the state through a NPDES permit must be consistent with the requirements of 40 C.F.R. § 122.47 and any more stringent state requirements." The EPA approves this revision which is consistent with the requirements of the CWA and the EPA's implementing regulation at 40 C.F.R. § 131.15.

#### Non-Substantive Changes to Approved Water Quality Standards (§ 33-16-02.1)

The EPA considers non-substantive edits to existing water quality standards to constitute new or revised water quality standards that EPA has the authority and duty to approve or disapprove under CWA § 303(3)(c).<sup>7</sup> While these revisions do not substantively change the meaning or intent of the existing water

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<sup>6</sup> See 80 Fed. Reg. 51020 (August 21, 2015). This notice and supplemental materials are available at <http://www.epa.gov/wqs-tech/final-rulemaking-update-national-water-quality-standards-regulation>.

<sup>7</sup> See EPA's October 2012 *What is a New or Revised Water Quality Standard Under CWA 303(c)(3)? – Frequently Asked*

quality standards, the EPA believes that it is reasonable to treat such non-substantive changes in this manner to ensure public transparency as to which provisions are effective for purposes of the CWA. The EPA approves these non-substantive edits to § 33-16-02.1 that were made to reorganize and clarify the rule revisions, including:

- Revision to N.D. Admin. Code § 33-16-02.1-04 adds definitions for “Nutrients” and “Eutrophication.” These definitions were added to the state’s WQS to clarify terms in other sections of the rules; they do not affect or alter how the WQS apply.
- Revision to N.D. Admin. Code § 33-16-02.1-09(3)(a) changes text for consistency.
- Revision to N.D. Admin. Code § 33-16-02.1-09(3)(b) adds text for clarity and consistency; and moves the criteria for class I streams from § 33-16-02.1-09(3)(b) into Table 1.
- Revision to N.D. Admin. Code § 33-16-02.1-09(3)(c) adds text for clarity and moves the site-specific sulfate standard previously listed in § 33-16-02.1-09(3)(b) into Table 1.
- Revision to N.D. Admin. Code § 33-16-02.1-09(3)(d) through (g) modifies text for consistency and accuracy, and it re-alphabetizes (d) through (g).
- Revision to N.D. Admin. Code § 33-16-02.1-09(3)(e) changes text for consistency and clarity by moving Class III stream criteria for sulfate to Table 1.
- Revision to N.D. § 33-16-02.1-09(3)(g)(1) changes text for consistency and clarifies that the physical and chemical criteria for class I streams shall apply to all classified lakes or reservoirs listed in Appendix II.
- Revision to Admin. Code § 33-16-02.1-09 Table 1 reformats table into rows and columns and adds beneficial uses.
- Revision to Admin. Code § 33-16-02.1-09 Table 2 corrects the Chemical Abstracts Service registry number for PCB-1016 from 12674-11-2 to 126764-11-2, updates the chemical name of 4,6-Dino-o-cresol (4,6-Dinitro-2-methylphenol) to 2-Methyl-4,6-Dinitrophenol, and updates the chemical name of p-Chloro-m-cresol (4-chloro-3-methylphenol) to 3-Methyl-4-Chlorophenol.
- Revision to Admin. Code § 33-16-02.1 Appendix II corrects the county name for Niagara Dam from Grant County to Grand Forks County.

Addition of footnote recognizing the biotic ligand model (BLM) as an appropriate tool for developing site specific limits for copper as well as the water effect ratio method (§ 33-16-02.1-09 Table 2).

North Dakota revised Admin. Code § 33-16-02.1-09 Table 2, by adding footnote 16, which recognizes the biotic ligand model as an option for developing site-specific copper criteria. The BLM has been the EPA’s 304(a) recommended freshwater aquatic life criteria for copper since 2007<sup>8</sup> and reflects the most up-to-date science on copper bioavailability and toxicity with which to develop protective copper criteria. The EPA recommends states and tribes use the BLM rather than previously recommended approaches to develop site-specific aquatic life criteria for copper and is encouraged that North Dakota is considering use of the BLM. The EPA approves this revision which is consistent with the requirements of CWA § 303(c) and 40 C.F.R. Part 131. This approval provides the state with options and flexibility for developing site-specific limits for copper.

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Questions available at <https://www.epa.gov/sites/production/files/2014-11/documents/cwa303faq.pdf>

<sup>8</sup> See *Aquatic Life Ambient Freshwater Quality Criteria – Copper 2007 Revision* (EPA-822-R-07-001), February 2007.

## Implementation of Senate Bill Number 2327 (§ 33-16-02.1) Creation of North Dakota Department of Environmental Quality (NDDEQ).

On April 7, 2017, the Governor of North Dakota signed Senate Bill 2327 into law mandating a process leading to the creation of a new North Dakota Department of Environmental Quality. During the 2018 triennial review, the Environmental Health Section Chief, who is authorized under Section 1 of that bill to adopt rules for the new NDDEQ, adopted both revisions to the Department's current Standards of Quality for Waters of the State, N.D. Admin. Code ch. 33-16-02.1, and the NDDEQ's new Standards of Quality for Waters of the State, N.D. Admin. Code ch. 33.1-16-02.1. The NDDEQ rules are essentially identical to the Department's current rules, with some minor edits to reflect the creation of the new agency and the transfer of water quality standards authority from the Department to NDDEQ. The NDDEQ rules will be effective upon establishment of the NDDEQ, as specified in Section 1 of S.B. 2327. In accordance with 40 C.F.R. § 131.20, the EPA approves the Department's WQS revisions and is approving the DEQ rules, which will be effective when the statutory requirements to formally transfer water quality standards authority is complete.

The EPA notes that its approval of these editorial, non-substantive revisions does not re-open the EPA prior approval of the underlying substantive WQS.

### **2) WATER QUALITY STANDARDS APPROVED SUBJECT TO ESA CONSULTATION**

Revisions in this category are approved for purposes of CWA § 303(c), subject to the results of consultation under Section 7(a)(2) of the ESA. Should the consultation process with the FWS identify information that supports a conclusion that one or more of the revisions in this category are likely to jeopardize the continued existence of any listed endangered or threatened species, or result in the destruction or adverse modification of designated critical habitat of such species, the EPA will, pursuant to CWA § 303(c)(4)(B), take additional action regarding the revision of water quality standards for North Dakota. The discussion below identifies revisions in this category and the basis for the EPA's approval action.

#### General water quality standards (§ 33-16-02.1-08)

North Dakota amended Admin. Code § 33-16-02.1-08(1)(a) by adding a "free from" criterion for nutrients. The state's adoption of a narrative nutrient criterion is driven by its goal to reduce nutrients and protect North Dakota's water resources and designated beneficial uses. The effect of the EPA approving North Dakota's new narrative nutrient criterion is to make it "the applicable water quality standards for purpose of the [CWA]" 40 CFR § 131.21(c). The development of a narrative nutrient criterion is consistent with the EPA guidance for nutrient criteria development and for WQS in general, particularly where used in combination with numeric criteria.<sup>9</sup> The EPA's approval of the criterion is expected to provide beneficial effects to the aquatic ecosystem. The narrative nutrient criterion is based upon the regulatory requirement at 131.11(b)(2): "...In establishing criteria, States should establish narrative criteria or criteria based upon biomonitoring methods where numerical criteria cannot be established or to supplement numerical criteria." The EPA has determined that the revision to

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<sup>9</sup> See WQS Handbook, Second Edition, August 1994 (EPA 823-B-94-005a).

§ 33-16-02.1-08(1)(a) is consistent with the CWA and federal regulations and guidance.<sup>10</sup> This revision is approved by the EPA under CWA § 303(c) subject to ESA consultation.

#### Surface water classifications, mixing zones, and numeric standards (§ 33-16-02.1-09)

North Dakota amended Admin. Code § 33-16-02.1-09(3) by adding § 33-16-02.1-09(3)(f): “Wetlands, isolated ponds, class 4 lakes not already listed in Appendix II, and sloughs and marshes to be protected using the physical and chemical criteria for class III streams, with the exceptions for temperature, dissolved oxygen, and other conditions not attributable to municipal, industrial, domestic and agricultural sources.” It is our understanding, based on discussions with the state, that roughly 99% of the class 4 lakes that are not listed in Appendix II are wetlands, and that this revision was made to provide water quality criteria that will protect these waterbodies. Wetlands help maintain and improve water quality by reducing the level of pollutants such as nutrients, BOD, suspended solids, metals and pathogens from entering adjacent waterbodies. Previously, there were no numeric water quality criteria for wetlands. WQS developed specifically for wetlands can provide the scientific basis for a variety of actions to protect and restore wetlands, such as permitting, monitoring, assessment and reporting, and restoration. This revision provides clarification to the North Dakota’s WQS by ensuring the appropriate criteria are applied to wetlands, and by defining clearly and accurately how the state applies the standards for enforcement actions that involve the discharge of pollutants to wetlands, which has typically involved the illegal discharge of oil and gas brine. The EPA has determined that the revision to § 33-16-02.1-09(3) is consistent with CWA § 303(c) and 40 C.F.R. § 131.11. This revision is approved by the EPA under CWA § 303(c), subject to ESA consultation.

North Dakota amended Admin. Code § 33-16-02.1-09(3)(g)(6) by adding the following provision: “The numeric dissolved oxygen standard of five milligrams per liter (mg/l) as a daily minimum and the maximum temperature of eighty-five degrees Fahrenheit [29.44 degrees Celsius] shall not apply to wetlands and class 4 lakes.” The language was updated to clarify that the lakes and lentic waterbodies not included on the list of waterbodies that are identified in Appendix II have Class III stream criteria applied to them, with the exception of DO and temperature criteria. The EPA has determined that this revision is consistent with CWA § 303(c) and 40 C.F.R. § 131.11. This revision is approved by the EPA under CWA § 303(c), subject to ESA consultation.

#### Aquatic Life Criteria

North Dakota amended the following aquatic life criteria in Admin. Code § 33-16-02.1-09 Table 2 consistent with criteria recommendations issued by the EPA pursuant to CWA § 304(a).<sup>11</sup>:

Parameter	New/Revised	Adopted Criterion (ug/L)	Scientific Basis
Cadmium <sup>12</sup>	New	1.8 (acute); 0.72 (chronic)	NRWQC
Endrin	Revised	0.086 (acute)	NRWQC

<sup>10</sup> See <https://www.epa.gov/sites/production/files/2016-06/documents/wqs-handbook-1994.pdf>

<sup>11</sup> See <https://www.epa.gov/wqc/national-recommended-water-quality-criteria-aquatic-life-criteria-table>

<sup>12</sup> See <https://www.epa.gov/wqc/aquatic-life-criteria-cadmium>



North Dakota amended Admin. Code § 33-16-02.1-09 Table 2 by revising the hardness-dependent criteria for cadmium (CMC and CCC) in footnotes 6 and 15 as follows:

$$\text{CMC} = e^{(1.0166 \cdot 0.9789[\ln(\text{hardness})] - 3.9240 - 3.866)}$$

$$\text{CCC} = e^{(0.7409 \cdot 0.7977[\ln(\text{hardness})] + 4.7190 - 3.909)}$$

The revised aquatic life criteria in Admin. Code § 33-16-02.1-09 Table 2 and the associated hardness-dependent footnotes are consistent with the EPA's NRWQC, the CWA, and 40 C.F.R. § 131.11. Accordingly, these revisions are approved, subject to ESA consultation.

#### Stream Classification (§ 33-16-02.1 Appendix I)

North Dakota revised Admin. Code § 33-16-02.1, Appendix I, Stream Classification, by updating the wording to clarify that all tributaries, minor or intermittently flowing water courses, unnamed creeks, or draws not specifically mentioned are classified as Class III streams. This language was updated to specify that the types of waterbodies that are not identified in Appendix I are classified as Class III streams; it does not affect or alter how the WQS apply. The EPA approves this revision, which is consistent with EPA guidance, current science, and Federal regulations at § 131.11, subject to ESA consultation.

#### Lakes and Reservoir Classification (§ 33-16-02.1 Appendix II)

North Dakota revised Admin. Code § 33-16-02.1, Appendix II, Lake and Reservoir Classification, by updating the wording to clarify that the parameters and criteria designated for Class III streams shall apply to lakes and other lentic waterbodies not listed in Appendix II. The language was updated to clarify that the lakes and lentic waterbodies not included on the list of waterbodies that are identified in Appendix II have Class III stream criteria applied to them, with the exception of dissolved oxygen and temperature criteria. The EPA has determined the revision to Appendix II is consistent with the federal requirements to: (1) designate appropriate water uses to be achieved and protected, and (2) adopt water quality criteria that protect designated uses. See 40 C.F.R. §§ 131.10(a) and 131.11(a)(1). This change will have no impact on the aquatic life community. It is simply being made to establish the most accurate designation for these waterbodies. Accordingly, the revision to Appendix II is approved, subject to ESA consultation.

### **3) PROVISIONS THE EPA IS NOT ACTING ON TODAY**

The EPA is not acting on the following provisions today because the EPA determined they are not WQS requiring EPA review and approval under CWA § 303(c):

#### Ground Water Classifications and Standards (§ 33-16-02.1-10)

Revisions to Admin. Code § 33-16-02.1-10(1) and (2) by updating language for groundwater classifications and standards for classification purposes.