U.S. ENVIRONMENTAL PROTECTION AGENCY – REGION 10

Technical Support Document

for Action on the Water Quality Standards for Approved Surface Waters of the Coeur d'Alene Tribe, Submitted June 4, 2010, and Non-Substantive Revisions Submitted June 10, 2014

June 12, 2014

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I. Introduction

This document provides the basis for the Environmental Protection Agency's (EPA's) decisions under the federal water quality standards (WQS) regulations at 40 CFR 131 Subpart B and Section 303(c) of the Clean Water Act (CWA) to approve or disapprove the new WQS that the Coeur d'Alene Indian Tribe ("Tribe") submitted to EPA on June 4, 2010 and the non-substantive WQS revisions submitted on June 10, 2014.

A. Background

The Tribe received treatment in a manner similar to a state (TAS) status for administering WQS on August 5, 2005, following a U.S. Supreme Court decision in 2001 that affirmed the Tribe's jurisdiction over the areas of Coeur d'Alene Lake and the St. Joe River that lie within the boundaries of the Coeur d'Alene Indian Reservation. The Tribe initiated a 45-day public comment opportunity on its proposed WQS for the Reservation TAS waters on October 14, 2005 and held a public hearing on November 28, 2005. The comment period was extended an additional 45 days and ended January 13, 2006. Comment availability notices were published in the Spokesman Review and the Coeur d'Alene Press and flyers were posted at public locations in libraries and court houses in the cities of Plummer, St. Maries, Worley, Tensed, and Coeur d'Alene.

Public comments were addressed and the WQS were adopted by the Coeur d'Alene Tribal Council on March 18, 2010 by CDA Resolution 84 (2010). The Tribe's submittal included a letter from Eric Van Orden, In House Attorney for the Coeur d'Alene Tribe, certifying that the WQS were adopted in accordance with all applicable laws. In accordance with Section 303(c) of the CWA, the Tribe submitted the WQS to EPA for review and action on June 4, 2010.

On June 10, 2014, the Tribe provided non-substantive revisions to several provisions of the WQS. These revisions provided clarifications or corrected minor errors, but did not change the meaning or intent of the WQS, and were not subject to public comment. The WQS revisions were adopted by the Coeur d'Alene Tribal Council on June 5, 2014 by CDA Resolution 089(2014). The Tribe's submittal of the revised WQS also included a letter from Eric Van Orden, In House Attorney for the Coeur d'Alene Tribe, certifying that the WQS revisions were adopted in accordance with all applicable laws. In accordance with Section 303(c) of the CWA, the Tribe submitted these revisions to EPA for review and action. EPA's actions on the WQS, as revised, are addressed in this document.

On April 18, 2014 the Tribe provided a letter to EPA indicating that the Tribe plans to revise the human health criteria and is, therefore, requesting that EPA not act on the human health criteria. In consideration of this request, at this time, EPA is not taking an action on the human health criteria and associated footnotes B, C, H, I, M, P, S, U, Z, jj, and kk, and on Provisions 4 and 5 and a portion of the introduction in Provision 10 of Section 7. These footnotes and provisions are related only to the human health criteria.

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B. Clean Water Act Requirements for Water Quality Standards

Under Section 303(c) of the CWA and federal implementing regulations at 40 CFR 131.4, states and authorized tribes[1] have the primary responsibility for reviewing, establishing, and revising WQS, which consist of the designated uses of a waterbody or waterbody segment, the water quality criteria necessary to protect those designated uses, and an antidegradation policy. This statutory framework allows states and tribes to adopt appropriate designated uses (as required in 40 CFR 131.10 (a)) and to adopt criteria to protect those designated uses (as required in 40 CFR 131.11 (a)).

Section 303(c)(2)(B) of the CWA requires states and tribes to adopt water quality criteria for toxic pollutants listed pursuant to Section 307(a)(1) for which EPA has published criteria under Section 304(a) where the discharge or presence of these toxics could reasonably be expected to interfere with the designated uses adopted by the state or tribe. In adopting such criteria, states and tribes must establish numeric values based on one of the following: (1) 304(a) guidance; (2) 304(a) guidance modified to reflect site-specific conditions; or (3) Other scientifically defensible methods (40 CFR 131.11 (b)(1)). In addition, states and tribes can establish narrative criteria where numeric criteria cannot be determined or to supplement numeric criteria (see 40 CFR 131.11(b)(2)).

Each state or tribe must follow its own legal procedures for adopting standards (40 CFR 131.5(a)(3)) and submit certification by the 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)).

Section 303(c) of the CWA also requires states and tribes to submit new or revised WQS to EPA for review. EPA is required to review these changes to ensure revisions to WQS are consistent with the CWA. EPA determines whether a provision is a new or revised WQS after considering the following four questions:[2]

> (1) Is it a legally binding provision adopted or established pursuant to state or tribal law?
> (2) Does the provision address designated uses, water quality criteria (narrative or numeric) to protect designated uses, and/or antidegradation requirements for waters of the United States?
> (3) Does the provision express or establish the desired condition (e.g. uses, criteria) or instream level of protection (e.g. antidegradation requirements) for waters of the United States immediately or mandate how it will be expressed or established for such waters in the future?
> (4) Does the provision establish a new WQS or revise an existing WQS?

Furthermore, the federal WQS regulations at 40 CFR 131.21 state, in part, that when EPA disapproves a state's or tribe's WQS, EPA shall specify the changes that are needed to ensure compliance with the requirements of Section 303(c) of the CWA and federal WQS regulations.

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[1] The term "authorized tribe" means a tribe eligible under CWA section 518(e) and 40 CFR 131.8 for treatment in a manner similar to a state for the purpose of administering a water quality standards program. In this document, the term "tribe" refers to "authorized tribe."

[2] See EPA's *What Is A New or Revised Water Quality Standard Under CWA 303(c)(3)? Frequently Asked Questions*, October 2012, at http://water.epa.gov/scitech/swguidance/standards/cwa303faq.cfm.

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C. Summary of EPA Approval and Disapproval Actions

EPA is approving the following WQS provisions under CWA Section 303(c):

- Section 2 – Definitions
- Section 3 – General Conditions, Provisions 1, 2, 3, and 5
- Section 4 – Site-Specific Criteria
- Section 5 – Narrative Criteria
- Section 6 – Antidegradation Policy
- Section 7 – Toxic Substances, Provisions 1, 3, 6, 7, and 8 (except the reference to selenium in Provision 6)
- Section 7 – Toxic Substances, Provisions 10 and 11: Numeric toxics criteria (introductory text to Provision 10 related to the approved aquatic life criteria, 40 aquatic life criteria and 7 associated footnotes, and formulas and input values in Provision 11 for the approved aquatic life criteria)
- Section 8 – Radioactive Substances
- Section 9 – Biological Criteria
- Section 10 – Wildlife Criteria
- Section 11 – Wetlands
- Section 12 – Mixing Zones, Provisions 1 and 2(A) – (D)
- Section 15 – Allowance for Compliance Schedules
- Section 18 – Water Use Classification
- Section 19 – Specific Water Quality Criteria for Use Classifications (except Provisions 1(d), 2(d), the turbidity implementation method in Provisions 1(a) and 4(a)(iv), and the minimum sample requirement in Provision 3)
- Section 20 – General Classifications
- Section 21 – Specific Classifications.

EPA is disapproving the following WQS provisions under CWA Section 303(c):

- Section 7 – Toxic Substances, Section 7, Provisions 10, 11, and 12: Numeric toxics criteria (5 aquatic life criteria and associated footnotes, and formulas and input values in Provisions 11 and 12 for the disapproved aquatic life criteria)
- Section 12 – Mixing Zones, Provision 2(E)
- Section 16 – Short-Term Exceedances
- Section 19 – Specific Water Quality Criteria for Use Classifications [the turbidity implementation method in Provisions 1(a) and 4(a)(iv)].

EPA is not taking an action on the following provisions under CWA Section 303(c):

- Section 1 – Introduction
- Section 3 – General Conditions, Provision 4
- Section 7 – Toxic Substances, Provisions 2 and 9
- Section 7 – Toxic Substances, Provision 10: numeric toxics criteria (7 footnotes)
- Section 13 – Implementation
- Section 14 – Enforcement
- Section 17 – Public Involvement
- Section 19 – Specific Water Quality Criteria for Use Classifications, Provisions 1(d), 2(d), and the minimum sample requirement in Provision 3.

In addition, at this time, EPA is not taking an action on the acute and chronic aquatic life criteria for mercury and associated footnote hh in Section 7(10); the chronic arsenic criterion; the chronic selenium criterion, associated footnote T, and the references to the selenium criterion regarding its expression on a total recoverable basis in Provision 7(6) and the introduction to Provision 7(10); and the human health criteria, associated footnotes, and related provisions in Section 7 (i.e., Provisions 4 and 5 and introductory text in Provision 10). The Tribe's mercury, arsenic, and selenium criteria are the same as Idaho's. EPA is involved in an ongoing Endangered Species Act (ESA) consultation with the U.S. Fish and Wildlife Service on Idaho's aquatic life criteria, including mercury, arsenic, and selenium.[3] The Idaho ESA consultation includes bull trout, which is the only ESA-listed species found in the Reservation TAS waters. EPA will review the Tribe's aquatic life criteria for mercury, chronic arsenic, and chronic selenium upon completion of ESA consultation and will consider the results, along with other relevant information,[4] in its review and approval or disapproval action on these criteria.

On April 18, 2014, the Tribe provided a letter to EPA indicating that the Tribe plans to revise the human health criteria and is, therefore, requesting that EPA not act on the human health criteria. In consideration of this request, EPA is not taking an action on the human health criteria at this time. EPA is also not taking an action on Provisions 4 and 5 of Section 7 and on 12 footnotes to the criteria table because these provisions and footnotes pertain only to the human health criteria. Until the Tribe submits revised human health criteria and EPA reviews and approves them, EPA recommends that the Tribe use the narrative criteria at Section 7, Provision 7(1) for CWA purposes to protect the Tribe's designated human health uses for Reservation TAS waters.

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[3] The NMFS Biological Opinion on Idaho's aquatic life criteria, including mercury, arsenic, and selenium criteria, was completed on May 7, 2014. The Biological Opinion includes a jeopardy determination for listed salmon species and steelhead and their critical habitat for these criteria. EPA will evaluate and act on the Tribe's acute and chronic mercury and chronic arsenic and selenium criteria after ESA consultation is completed to allow consideration of the FWS's determinations relative to the protectiveness of the Tribe's criteria to bull trout.

[4] EPA recently released initial "external peer review" draft revised selenium criteria in May 2014, for public comment pursuant to Section 304(a) of the CWA. The underlying science of the selenium criteria revisions will be considered in EPA's evaluation of the Tribe's aquatic life criterion for selenium.

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II. Introductory Language

In accordance with its CWA authority, 33 U.S.C. §1313(c)(3) and 40 CFR 131, EPA is not taking an approval or disapproval action on Section 1 of the WQS.

Rationale

Section 1 provides an introduction to the WQS language that describes the Tribe's authority to adopt WQS and the extent of the Tribe's jurisdictional waters that will be protected by the WQS, and sets forth the purposes of the WQS. These introductory statements do not establish a legally binding requirement under tribal law nor do they describe a desired ambient condition of a water body to support a particular designated use. Therefore, the introductory statements are not WQS subject to EPA review and approval under Section 303(c) of the CWA and EPA is taking no action to approve or disapprove Section 1.

III. Definitions

Section 2 of the WQS contains definitions for the following 69 terms:

1. *Acute toxicity*
2. *Appropriate reference site or region*
3. *Aquatic species*
4. *Best management practices (BMP)*
5. *Bioaccumulation*
6. *Bioaccumulative chemicals*
7. *Biological assessment*
8. *Biological criteria*
9. *Carcinogen*
10. *Chapter*
11. *Chronic toxicity*
12. *Constructed wetlands*
13. *Created wetlands*
14. *Critical condition*
15. *Cultural water use*
16. *CWA*
17. *Damage to the ecosystem*
18. *Department*
19. *Director*
20. *Designated use*
21. *E. coli*
22. *EPA*
23. *Epilimnion*
24. *Existing uses*
25. *Geometric mean*
26. *Hardness*
27. *Hypolimnion*
28. *Intermittent stream*
29. *Mean detention time*
30. *Metalimnion*
31. *mg/L*
32. *Migration or translocation*
33. *Mixing zone*
34. *Mutagen*
35. *Natural background or Natural conditions*
36. *Near instantaneous and complete mix*
37. *Nonpoint source*
38. *NPDES*
39. *NTU*
40. *ppm*
41. *Permit*
42. *Persistent pollutant*
43. *Person*
44. *pH*
45. *Point source*
46. *Pollutant*
47. *Pollution*
48. *Receiving waters*
49. *Reservation*
50. *Reservation Waters or Coeur d'Alene Reservation Waters*
51. *Reservation TAS Waters or Coeur d'Alene Reservation TAS Waters*
52. *Disputed Waters*

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53. *Reference Aquatic Community*
54. *Stormwater*
55. *Temperature*
56. *Teratogen*
57. *Threatened or endangered species (listed species)*
58. *Toxicity*
59. *Toxicity test*
60. *Toxic pollutant*
61. *Tribal Council*
62. *Tribe*
63. *Turbidity*
64. *ug/L*
65. *Wastes*
66. *Water quality*
67. *Wetland*
68. *Wildlife habitat*
69. *Zone of initial dilution*

EPA Action

In accordance with its CWA authority, 33 U.S.C. §1313(c)(3) and 40 CFR 131, EPA approves the 69 definitions in Section 2 of the WQS, shown above.

Rationale

The definitions explain the terms as they are used in the WQS. The definitions are scientifically defensible, consistent with guidance documents, and/or provide information needed for the application and implementation of the WQS. They are consistent with Section 303(c) of the CWA.

IV. General Conditions

Section 3 describes how the standards are to be applied. Section 3 of the Tribe's WQS consists of the following text:

> *3. GENERAL CONDITIONS*
>
> *The following conditions shall apply to the water quality criteria and classifications set forth herein.*
>
> *(1) All Reservation TAS Waters shall be free from pollutants in concentrations or combinations that do not protect the most sensitive use of the water body, except as provided for under Mixing Zones (section 12).*
>
> *(2) Whenever the natural conditions of Reservation TAS Waters are of a lower quality than the criteria assigned, the Department may determine that the natural conditions shall constitute the water quality criteria, following the procedures set forth in Section 4.*
>
> *(3) At the boundary between waters of different classifications, the more stringent water quality criteria shall prevail. When a distinction cannot be made among surface water, wetlands, groundwater, or sediments, the applicable standards shall depend on which existing or designated use is, or could be, adversely affected. If existing or beneficial uses of more than one resource are affected, the most protective criteria shall apply.*

(4) The Department may revise criteria on an area-wide or waterbody-specific basis as needed to protect aquatic life and human health and other existing and designated uses and to increase the technical accuracy of the criteria being applied. The Department shall formally adopt any revised criteria following public review and comment.

(5) In aquatic habitats where more than one designated use exists, the most stringent use standards will apply.

EPA Action

In accordance with its CWA authority, 33 U.S.C. § 1313(c)(3) and 40 CFR 131, EPA approves the general conditions provisions in Section 3, Provisions 1, 2, 3, and 5 of the WQS. EPA is not taking an approval or disapproval action on Provision 4.

Rationale

Provision 3(1)

Provision 3(1) is a narrative provision that protects the most sensitive use of the Reservation TAS waters from toxic pollutants. Provision 3(a) is consistent with the regulation at 40 CFR 131.11(a)(1), which requires states and tribes to adopt the water quality criteria necessary to protect the most sensitive designated use. It is also consistent with 40 CFR 131.11(b)(2), which allows states and tribes to establish narrative criteria based upon biomonitoring methods where numerical criteria cannot be established or to supplement numerical criteria.

Provision 3(2)

Provision 3(2) is a general statement that water quality criteria may be established based on natural conditions when waters are naturally of lower quality than the criteria specify. This provision is repeated in Section 4 (Site-Specific Criteria), Provision 3 of the WQS. Part V of this document provides EPA's rationale for approving Provision 3(2) and related text in Section 4 of the Tribe's WQS.

Provisions 3(3) and 3(5)

Provision 3(3) applies the more stringent criterion at the boundary between two designated uses or two environmental resources (i.e., water, wetlands, groundwater, or sediment). Provision 3(5) requires the most stringent use standards be applied to waters with more than one designated use. These requirements are consistent with 40 CFR 131.11(a)(1), which requires states and tribes to protect the most sensitive use in waters that have more than one use designation.

Provisions 3(4)

EPA is not taking an action on Provision 3(4) because it is not a water quality standard. Provision 3(4) is a general statement that a criterion may be revised on a site-specific basis at a future date. The Tribe has adopted a provision for developing site-specific criteria and EPA is approving that provision (for additional information on the site specific criteria provision see Part V, below). If the Tribe develops a site-specific criterion, EPA will act on it when the Tribe submits it to EPA for review and action.

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V. Site-Specific Criteria

Section 4 of the WQS allows criteria to be tailored to site-specific conditions and identifies requirements for making site-specific revisions to numeric criteria. Section 4 consists of the following text:

4. SITE-SPECIFIC CRITERIA

(1) The Tribe may revise criteria on reservation TAS waters as needed to protect aquatic life and human health and other existing and designated uses to increase the technical accuracy of the criteria being applied.

(2) The Department will, in its discretion, establish a site-specific water quality criterion that modifies a water quality criterion set out in Section 7 or 19, in regulation, as described in (3) and (4) of this Section.

(3) Whenever the natural condition of the surface reservation TAS waters are demonstrated to be of lower quality than the criteria assigned, the Tribe may determine that the natural conditions shall constitute the water quality criteria,

(a) If the natural condition varies with time, the natural condition will be determined as the natural condition measured during an annual, seasonal, or shorter period of time prior to human caused influence.

(b) The Tribe may, at its discretion determine a natural condition for one or more seasonal or shorter time period to reflect variable ambient conditions.

(c) Historical data or data from an appropriate reference site, that represents natural condition may be used to determine the criterion.

(4) Upon application, or on its own initiative, the Department will, in its discretion, set site-specific criteria if the Department finds that the evidence reasonably demonstrates that the site-specific criterion fully protects designated uses in Section 18 and that:

(a) for reasons specific to a certain site, a criterion in Section 7 or Section 19 is more stringent or less stringent than necessary to ensure full protection of the corresponding use class; or

(b) a criterion would be better expressed in terms different from those in Section 7 or Section 19.

(c) The species or habitats present, or expected to be present under natural conditions, are more sensitive or less sensitive to a substance than indicated by the criterion, and a site-specific criterion is required to prevent adverse effects or to alleviate unnecessarily restrictive general criterion; or

(d) the natural characteristics of the receiving environment would increase or reduce the biological availability or the toxicity of a substance, or otherwise alter the substance, and a site-specific criterion is required to prevent adverse effects or to alleviate an unnecessarily restrictive general criterion.

(5) An applicant seeking a site-specific criterion under this Section shall provide all information that the Department determines is necessary to modify an existing criterion. The Department will, in a timely manner, request and review for completeness, information submitted under this subsection. In all cases, the burden of proof is on the applicant seeking a site-specific criterion.

(6) Any modifications to the criteria in Section 7 or Section 19 will be adopted in regulation.

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(7) The Tribe shall formally adopt any revised criteria following public review and comment.

(8) Revised criteria will be submitted to EPA, after adoption by the Tribe, for review along with any information that will aid EPA to determine the adequacy of the scientific basis of the revised criterion.

EPA Action

In accordance with its CWA authority, 33 U.S.C. § 1313(c)(3) and 40 CFR 131, EPA approves the site-specific criteria provisions in Section 4 of the WQS.

Rationale

Site-Specific Criteria, Provisions 4(1), (2), and (4) – (8)

Site-specific criteria may be adopted by a state or tribe to account for local environmental conditions of a water or water segment. The regulation at 40 CFR 131.11(b)(1) requires states and tribes to adopt numeric water quality criteria that are based on (i) EPA criteria guidance; (ii) EPA criteria guidance modified to reflect site-specific conditions; or (iii) other scientifically defensible methods. Criteria, including site-specific criteria, must be based on sound scientific rationale and must be sufficient to protect the designated uses [40 CFR 131.6(c) and 131.11(a)]. In addition, procedures specified in 40 CFR 131.20 must be followed when adopting site-specific criteria, including public participation and EPA review.

Section 4 of the WQS provides a process for developing site-specific criteria. Section 4 includes provisions that allow the Tribe to adopt site-specific criteria if they protect the designated uses and are scientifically defensible. These provisions meet the requirements of 40 CFR 131.6(c) and 131.11(a). Section 4 also specifies the process for adopting site-specific criteria, including requirements for adopting any site-specific criteria into tribal regulation; conducting public review and comment; and submitting the site-specific criteria and the methodologies to develop the site-specific criteria to EPA for approval action. These procedural requirements are consistent with 40 CFR 131.20, which requires public participation and EPA review and approval action on revised WQS.

Site-Specific Criteria Based on Natural Conditions, Provision 4(3)

Site-specific criteria that may be adopted by a state or tribe to account for local environmental conditions include criteria based on natural conditions. The WQS regulations do not provide specific requirements for establishing such criteria. However, all criteria, including natural conditions-based criteria, must be established based on sound scientific rationale and assure protection of designated uses [40 CFR Part 131.11(a)(1)].

EPA's November 1997 memorandum titled *Establishing Site Specific Aquatic Life Criteria Equal to Natural Background*[5] recognizes that naturally occurring concentrations of pollutants in a water body

[5] Tudor Davies. *Establishing Site Specific Aquatic Life Criteria Equal to Natural Background*. Memorandum to Water Management Division Directors, Regions 1-10; State and Tribal Water Quality Management Program Directors. November 5, 1997.

may exceed the national criteria published under Section 304(a) of the CWA. This memorandum articulates that states and tribes may establish site-specific numeric aquatic life water quality criteria by setting the criteria value equal to the natural background. Natural background is defined as the background water quality concentration due *only* to non-anthropogenic sources (i.e., non-manmade sources). In addition, the memorandum states that the natural background concentration "does not apply to human health uses," and explains that where the natural background concentration exceeds the state-adopted human health criterion, at a minimum, the state or tribe should re-evaluate the human health use designation. Therefore, in cases where the natural condition exceeds the Tribe's numeric human health criteria, the Tribe should evaluate whether the natural level would protect human uses.

In general, EPA expects that as a part of the development of water quality criteria based on natural conditions, a state or tribe demonstrate that any adjustment to the standards accurately reflects the natural condition. This demonstration and rationale must be submitted to EPA along with any site-specific criteria based on natural background. As explained in the EPA 1997 memorandum, WQS need to address three key elements when establishing site-specific standards equal to the background conditions:

(1) a definition of natural background consistent with the above;
(2) a provision that site specific criteria may be set equal to natural background;
(3) a procedure for determining natural background, or alternatively, a reference in the WQS to another document describing the binding procedure that will be used.

If the natural condition of a water body is found to be of lower quality than the criteria specify, Provision 4(3) allows for a site-specific criterion to be set equal to natural conditions. Further, the Tribe's WQS at Section 2 define natural background as "…surface water quality that would be present without human-caused pollution." These elements are consistent with items (1) and (2) above as contained in the EPA 1997 memorandum.

The Tribe's regulations specify that a natural background criterion will be established consistent with the site-specific criteria procedures. These procedures include public review and comment and submission of each criterion to EPA for review and action under CWA 303(c) authority. Although the WQS do not contain a procedure or a reference to a binding procedure that will be used for determining natural background, Provisions 4(3)(a), (b), and (c) provide general conditions to be considered when determining natural background. In addition, EPA expects the Tribe to define a procedure for determining natural background as part of the development of any site-specific criterion based on natural background.

VI. Narrative Criteria

Section 5 of the WQS includes six narrative criteria that apply to Reservation TAS waters. Section 5 consists of the following text:

5. NARRATIVE CRITERIA

All Reservation TAS Waters, including those within designated mixing zones, shall be free from substances attributable to point source discharges, non-point sources, or instream activities in accordance with the following:

(1) Floating Solids, Oil and Grease: All waters shall be free from visible oils, scum, foam, grease, and other floating materials and suspended substances of a persistent nature resulting from anthropogenic causes.

(2) Color: True color-producing materials resulting from anthropogenic causes shall not create an aesthetically undesirable condition; nor should color inhibit photosynthesis or otherwise impair the existing and designated uses of the water.

(3) Odor and Taste: Water contaminants from anthropogenic causes shall be limited to concentrations that will not impart unpalatable flavor to fish, or result in offensive odor or taste arising from the water, or otherwise interfere with the existing and designated uses of the water.

(4) Nuisance Conditions: Nutrients or other substances from anthropogenic causes shall not be present in concentrations which will produce objectionable algal densities or nuisance aquatic vegetation, result in a dominance of nuisance species, or otherwise cause nuisance conditions.

(5) Turbidity: Turbidity shall not be at a level to impair designated uses or aquatic biota.

(6) Bottom Deposits: All Reservation TAS Waters shall be free from anthropogenic contaminants that may settle and have a deleterious effect on the aquatic biota or that will significantly alter the physical and chemical properties of the water or the bottom sediments.

EPA Action

In accordance with its CWA authority, 33 U.S.C. § 1313(c)(3) and 40 CFR 131, EPA approves the narrative criteria provisions in Section 5 of the WQS.

Rationale

The regulations at 40 CFR 131.11(a) require states and tribes to adopt water quality criteria that contain sufficient parameters or constituents to protect designated uses. EPA believes that an effective WQS program can include both numeric criteria and narrative criteria. Narrative WQS are statements that describe the desired water quality goal. The narrative criteria in the Tribe's WQS are consistent with EPA's recommendations in the WQS Handbook[6] (3-24) and with the regulations at 40 CFR 131.11.

VII. Antidegradation Policy

Section 6 of the WQS includes an antidegradation policy. Section 6 consists of the following text:

[6] EPA, 1994. *Water Quality Standards Handbook: Second Edition*, EPA-823-B-94-005a, August 1994.

6. ANTIDEGRADATION POLICY

(1) Existing uses and the level of water quality necessary to protect the existing uses shall be maintained and protected. Where designated uses of the water body are impaired, there shall be no measurable lowering of water quality with respect to the pollutant or pollutants which are causing or contributing to the impairment.

(2) Where the quality of the waters exceeds levels necessary to support propagation of fish and wildlife and recreation in and on the water, that quality shall be maintained and protected unless the Tribe finds, after the Tribe's intergovernmental coordination and public participation provisions have been met, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. In allowing such degradation or lowering of water quality, the Tribe shall assure the degradation will continue to fully protect existing uses and will not adversely affect threatened and endangered species or public health as determined by the Department. Further, the Tribe shall assure that there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective, and reasonable best management practices for nonpoint source control.

(3) Outstanding resource waters. Waters meeting one or more of the following criteria shall be considered for outstanding resource water designation:
(a) Outstanding national or tribal resource;
(b) Documented critical habitat for populations of threatened or endangered species;
(c) Waters of exceptional recreational, ceremonial, cultural, or ecological significance; or
(d) Waters supporting priority species as determined by the Tribe.

(4) Where waters constitute an outstanding resource water, the water quality and uses shall be maintained and protected and pollutants that will reduce the existing quality thereof shall not be allowed to enter such waters. To accomplish this the Department may require water quality controls, maintenance of natural flow regimes, protection of instream habitats, and pursuit of land use practices protective of the watershed.

(5) In those cases where potential water quality impairments associated with thermal discharge are involved, the Antidegradation Policy and implementing methods shall be consistent with Section 316 of the Clean Water Act, as amended.

EPA Action

In accordance with its CWA authority, 33 U.S.C. § 1313(c)(3) and 40 CFR 131, EPA approves the antidegradation policy in Section 6 of the WQS.

Rationale

EPA's water quality standards regulation at 40 CFR 131.12(a) requires states and authorized tribes to adopt an antidegradation policy and to identify methods for implementing that policy. Both the policy and the implementation methods must be consistent with 40 CFR 131.12. In summary, the state or tribe's policy must provide protection for existing uses, hereafter referred to as "Tier 1" (40 CFR131.12(a)(1)); the policy must require the maintenance and protection of high quality waters ("Tier 2") unless the state or tribe finds "that allowing lower water quality is necessary to accommodate

important economic or social development in the area in which the waters are located," a process hereby referred to as "Tier 2 review" (40 CFR 131.12(a)(2)); and the policy must provide for the maintenance and protection of water quality in Outstanding National Resource Waters (ONRWs), identified by the state or tribe, hereby referred to as "Tier 3" (40 CFR 131.12(a)(3)).

While the antidegradation policy must be adopted in a binding form, the antidegradation implementation methods may be either binding in regulation or in guidance outside of regulation (68 FR 58775 (October 10, 2003)). Because the Tribe has identified antidegradation implementation methods in guidance rather than regulation, EPA is not acting on the implementation methods in accordance with CWA section 303(c)(3). EPA did, however, review the Tribe's methods to inform EPA's judgment regarding whether the Tribe's antidegradation policy is consistent with 40 CFR 131.12, and to determine if the methods themselves are consistent with 40 CFR 131.12.

The first sentence of Section 6(1) of the Tribe's antidegradation policy is approved because it provides for the protection of existing uses consistent with 40 CFR 131.12(a)(1), which states, "Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected."

The Tribe explains in its antidegradation implementation methods that the second sentence at section 6(1) of the antidegradation policy, which addresses the protection of water quality in impaired waters, shall be implemented to provide for attainment of criteria, rather than to simply prevent further lowering of water quality (implementation methods section 6.3.2). This interpretation recognizes that where uses are impaired in a waterbody, the minimum goal continues to be attainment of the impaired uses and criteria, and is consistent with the Tribe's water quality standards as a whole, which include designated uses and criteria that are to be met independent of the antidegradation policy. EPA's approval of the second sentence at section 6(1) of the antidegradation policy in based on a determination that the Tribe's interpretation in its antidegradation implementation methods is consistent with 40 CFR Part 131.

Section 6(2) of the Tribe's antidegradation policy is approved because it provides for the protection of high quality waters consistent with 40 CFR 131.12(a)(2), which provides in part, "Where the quality of the waters exceed levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality shall be maintained and protected unless the State finds, after full satisfaction of the intergovernmental coordination and public participation provisions of the State's continuing planning process, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located." The Tribe explains in its antidegradation implementation methods that the phrase at Section 6(2) of the Tribe's antidegradation policy "to support propagation of fish and wildlife and recreation in and on the water," which omits "shellfish," shall be implemented as being fully consistent with the Clean Water Act's Section 101(a)(2) goal uses (implementation methods section 5.2.2). The Clean Water Act's Section 101(a)(2) goal uses, and 40 CFR 131.12(a)(2), refer to "fish, shellfish, and wildlife and recreation in and on the water." In addition to being consistent with this main component of 40 CFR 131.12(a)(2), Section 6(2) of the Tribe's antidegradation policy is also consistent with the additional conditions at 40 CFR 131.12(a)(2) that are to be met when allowing a lowering of water quality, i.e., assuring that existing uses will be protected and assuring that the highest statutory and regulatory requirements for all new and existing

point sources and all cost-effective and reasonable best management practices for nonpoint source control will be achieved.

Sections 6(3) and 6(4) of the Tribe's antidegradation policy are approved because they specify characteristics that qualify waters as candidates for "outstanding resource water" designation, and specify that the water quality of outstanding resource waters shall be maintained and protected, respectively, consistent with the federal policy for Outstanding National Resource Waters at 40 CFR 131.12(a)(3). The federal Outstanding National Resource Water policy provides, "Where high quality waters constitute an outstanding National resource, such as waters of National and State parks and wildlife refuges and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected." Section 6(4) of the Tribe's antidegradation policy contains language that addresses implementation to ensure that the water quality in outstanding resource waters is maintained and protected (EPA notes that the Tribe uses the terms "outstanding resource waters" and "Outstanding Tribal Resource Water" when referring to the federal ONRW level of protection in its antidegradation policy and antidegradation implementation methods, respectively).

Section 6(5) of the Tribe's antidegradation policy is approved because it is consistent with 40 CFR 131.12(a)(4), which provides, "In those cases where potential water quality impairment associated with a thermal discharge is involved, the antidegradation policy and implementing method shall be consistent with section 316 of the Act."

EPA Review of the Tribe's Antidegradation Implementation Methods

EPA reviewed the Tribe's antidegradation implementation methods for consistency with 40 CFR 131.12 in the following areas:

- Applicability, both with regard to the activities and waters covered by the methods as a whole, and with regard to when a particular Tier of antidegradation is applicable
- A Tier 1 method for implementing existing use protection
- Methods to implement the various components of Tier 2 (including a method for identifying where Tier 2 applies, a method for determining if lowering of water quality is necessary, a method for determining if the activity that would lower water quality would provide important social or economic development, a method for conducting public participation and intergovernmental review, a method for assuring that the highest statutory and regulatory requirements for point sources and cost-effective and reasonable BMPs for nonpoint source control are achieved, assurance that the water quality will be adequate to protect existing uses, and assurance that water quality will not be lowered below applicable water quality criteria)
- Methods to implement Tier 3 (including a method for designating ONRWs and a method for ensuring that the water quality of ONRWs will be maintained and protected).

EPA has concluded that the Tribe's antidegradation implementation methods address each area identified above and do so in a way that is consistent with 40 CFR 131.12.[7] EPA also notes that

[7] As interpreted by EPA in the following documents: Water Quality Standards Regulation, Final Rule, 48 FR 51400, 51403, Nov. 8, 1983; Proposed Water Quality Guidance for Great Lakes System, 58 FR 20802, 20902-20906, April 16, 1993; Memorandum from Tudor T. Davies, Director EPA Office of Science and Technology to EPA Water Management Division Directors, Regions I-X, Subject: Interpretation of Federal Antidegradation Regulatory Requirement, February 22, 1994; 63

Section 6.2.3, "Determination of Significant Degradation," of the Tribe's antidegradation implementation methods is consistent with Court rulings on the subject of allowing de minimis degradation without a full Tier 2 review.[8]

VIII. Toxic Substances

Section 7 of the WQS provides narrative and numeric criteria for toxic pollutants for protection of aquatic life.

A. Toxic Substances: Narrative Provisions

Provisions 1 through 3 and 6 through 9 of Section 7 consist of the following text:

> *7. TOXIC SUBSTANCES*
>
> *(1) Toxic substances shall not be introduced into Reservation TAS Waters in concentrations which have the potential either singularly or cumulatively to adversely affect existing and designated water uses, cause acute or chronic toxicity to the most sensitive biota dependent upon those waters, or adversely affect public health, as determined by the Department, except as allowed for under Mixing Zones.*
>
> *(2) The Department shall employ or require chemical testing, acute and/or chronic toxicity testing, and biological assessments, as appropriate, to evaluate compliance with subsection (1) of this section. Where necessary the Department shall establish controls to ensure that aquatic communities and the existing and designated beneficial uses of waters are being fully protected.*
>
> *(3) Criteria for toxic, and other substances not listed shall be determined with consideration of USEPA Quality Criteria for Water found at, EPA-822-H-04-001 December 2004 and other relevant information as appropriate.*
>
> *(6) Criteria for metals shall be applied as dissolved values. Except lead and selenium which are represented as total recoverable.*
>
> *(7) The criteria in the following table shall be applied to all Reservation TAS Waters for the protection of aquatic life and human health.*

FR 36,785-87; Water Quality Standards Handbook: Second Edition, Section 4, EPA-823-B-94-005a, August 1994; Great Lakes System: Supplementary Information Document (SID), EPA-820-B-95-001, March 1995, pp. 205-213; Water Quality Standards Regulation, Advance Notice of Proposed Rulemaking, 63 FR 36742, 36779-36787, July 7, 1998; Tier 2 Antidegradation Reviews and Significance Thresholds, Ephraim S. King, Director, EPA, Office of Science and Technology, to Water Management Division Directors Regions 1-10, EPA, August 10, 2005; Denise Keehner, Director EPA's Standards and Health Protection Division to Derek Smithee, Oklahoma Water Resources Board, September 5, 2008; Antidegradation Requirements for High Quality Waters and Reissuance of NPDES Permits that Do Not Authorize New or Increased Discharges, Ellen Gilinsky, Senior Policy Advisor in EPA's Office of Water, to EPA Region 10 Office of Water and Watersheds, July 7, 2011.

[8] See *Ohio Valley Environmental Coalition v. Horinko*, 279 F. Supp. 2d 732, 769 (W.Va. 2003) and *Kentucky Waterways Alliance v. Johnson*, 540 F.3d 466, 483 (6th Cir. 2008).

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(8) Criteria Maximum Concentration and Criterion Continuous Concentration
The Criteria Maximum Concentration (CMC) is an estimate of the highest concentration of a material in surface water to which an aquatic community can be exposed briefly without resulting in an unacceptable effect. The Criterion Continuous Concentration (CCC) is an estimate of the highest concentration of a material in surface water to which an aquatic community can be exposed indefinitely without resulting in an unacceptable effect. The CMC and CCC are just two of the six parts of an aquatic life criterion; the other four parts are the acute averaging period, chronic averaging period, acute frequency of allowed exceedence, and chronic frequency of allowed exceedence. Because 304(a) aquatic life criteria are national guidance, they are intended to be protective of the vast majority of the aquatic communities in the United States.

(9) Contaminants Without Numeric Criteria (Blanks)
EPA has not calculated criteria for contaminants with blanks. However, permit authorities should address these contaminants in NPDES permit actions using the Tribe's existing narrative criteria for toxics.

At the request of the Tribe, EPA is not taking an approval or disapproval action on Provisions 4 and 5, which are associated with the human health criteria (see Part I, above).

1. **Section 7, Provisions 1, 3, 6, 7, and 8**

EPA Action

In accordance with its CWA authority, 33 U.S.C. § 1313(c)(3) and 40 CFR 131, EPA approves Provisions 7(1), 7(3), 7(6), 7(7), and 7(8) of the WQS. However, EPA is not taking an action on the reference to selenium in Provision 7(6).

Rationale

Section 7, Provision 1

Criteria are defined as elements of state and tribal WQS expressed as constituent concentrations or levels or as narrative statements that represent a quality of water that supports a particular use. Criteria must be based on sound scientific rationale [40 CFR Part 131.11(a)(1)]. Federal WQS regulations require states and tribes to establish narrative criteria where numeric criteria cannot be established or to supplement numeric criteria [40 CFR 131.11(b)(2)]. Narrative criteria should include sufficient detail to clearly identify the desired water quality goal.

Provision 7(1) consists of a narrative statement that Reservation TAS waters must be "free from" toxic pollutants at levels that impair uses or cause toxicity to biota or affect human health. This narrative criterion protects all uses of the Reservation TAS waters from impairment due to toxic pollutants, including pollutants for which no numeric criteria have been established and toxicity that may result from the cumulative effects of multiple pollutants. This narrative toxics criterion supplements the numeric toxics criteria [Provision 7(10)]. The narrative criterion in Provision 7(1) meets the requirements found in 40 CFR 131.11.

Section 7, Provision 3

Provision 7(3) provides requirements for establishing numeric criteria for toxic chemicals and other substances. Provision 7(3) states that new criteria are to be established according to USEPA Quality Criteria for Water (EPA-822-H-04-001, December 2004) and "other relevant information as appropriate," which would encompass information needed to develop numeric water quality criteria on a site-specific basis or on another scientifically defensible basis. Provision 7(3) is consistent with 40 CFR 131.11(b)(1), which specifies procedures that states and tribes should use to establish criteria, including: "(i) 304(a) Guidance; or (ii) 304(a) Guidance modified to reflect site-specific conditions; or (iii) Other scientifically defensible methods…"

EPA notes that some of its 304(a) criteria recommendations have been updated since the 2004 document was released. Information on EPA's most current 304(a) criteria recommendations can be found on the EPA website at: http://water.epa.gov/scitech/swguidance/standards/criteria/current/index.cfm.

Section 7, Provision 6

Provision 7(6) states that the criteria for metals represent dissolved values, except the criteria for lead and selenium, which are represented on a total recoverable basis. The Office of Water's current policy states: "It is now the policy of the Office of Water that the use of dissolved metal to set and measure compliance with WQS is the recommended approach, because dissolved metal more closely approximates the bioavailable fraction of the metal in the water column than does total recoverable…" The policy also states that "…EPA will also approve a state risk management decision to adopt standards based on total recoverable metal, if those standards are otherwise approvable." (See *Office of Water Policy and Technical Guidance on Interpretation and Implementation of Aquatic Life Metals Criteria*, October 1, 1993, page 3). EPA believes that in making risk management decisions, states and tribes may want to consider sediment, food chain effects, and other fate-related issues and decide to adopt total recoverable criteria. The Tribe's expression of metals criteria is consistent with EPA's policy.

EPA is not taking an action on the form of the selenium criterion specified in Provision 7(6) because EPA is not taking an action on the selenium criterion value, as discussed above in Part I.C.

Section 7, Provision 7

Provision 7(7) requires that numeric toxics criteria adopted in Provision 7(10) apply to all Reservation TAS waters. Provision 7(7) is consistent with federal regulations at 40 CFR 131.11(a)(1), which requires states and tribes to adopt criteria that protect the designated uses.

Section 7, Provision 8

Provision 7(8) includes definitions for the terms "criterion maximum concentration" (CMC) and "criterion continuous concentration" (CCC); defines criteria to include a duration and frequency of exceedance; and refers to the protectiveness of EPA's 304(a) criteria recommendations. EPA's 304(a) criteria include acute and chronic averaging periods of 1 hour and 96 hours respectively, and a frequency of exceedance of once every three years for both the acute and chronic criteria, as provided in

EPA's aquatic life methodology.[9] EPA's duration and frequency recommendations are incorporated into the WQS by reference to EPA 304(a) criteria.[10] This provision is consistent with federal requirements at 40 CFR 131.11(a)(1) and EPA guidance.

EPA recommends that the Tribe adopt specific duration and frequency requirements for the acute and chronic criteria, rather than relying on the incorporation of duration and frequency components of criteria by reference, during the next triennial review.

2. Section 7, Provisions 2 and 9

EPA Action

In accordance with its CWA authority, 33 U.S.C. §1313(c)(3) and 40 CFR 131, EPA is not taking an approval or disapproval action on Section 7, Provisions 2 and 9 of the WQS.

Rationale

Provision 7(2)

This provision describes the monitoring that should be used to assess compliance with the Tribe's narrative toxics standard in provision 7(1) and requires the Department to protect existing and beneficial uses if necessary. This provision is not a water quality standard because it does not express the desired condition of the water body or instream level of protection. Instead, this provision relates to the Department's authority to develop information by requiring or conducting studies, and to take necessary actions to protect existing designated uses. Therefore, EPA is not taking an approval or disapproval action on this provision.

Provision 7(9)

Provision 7(9) states that permitting authorities should use the Tribe's toxic narrative criteria when establishing conditions in NPDES permits if numeric criteria have not been established by the Tribe in its WQS criteria table. This provision is an NPDES implementation provision rather than a water quality standard. The NPDES regulation at 40 CFR 22.44(d)(1) requires NPDES permits to include limitations to control all pollutants which have the reasonable potential to cause or contribute to an excursion above any water quality standard, including narrative criteria for water quality. Because this is an implementation provision and not a water quality standard, EPA is taking is not taking an approval or disapproval action on this provision.

B. Toxic Substances: Introduction to Numeric Criteria Table

Provision 7(10) includes the numeric water quality criteria for toxic chemicals for protection of aquatic life. The introduction to Provision 7(10) consists of the following text:

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[9] EPA. 1985. *Guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses* (EPA-600/3-84-099).
Located at the following website: http://water.epa.gov/scitech/swguidance/standards/criteria/aqlife/upload/85guidelines.pdf

[10] The Tribe confirmed in an email message from Scott Fields on 5/29/2014 that the duration and frequency components of the Tribe's numeric criteria are the same as EPA's 304(a) criteria guidance.

(10) WATER QUALITY CRITERIA FOR TOXIC POLLUTANTS

The concentration for each compound listed in this table is a criterion for aquatic life or human health protection. Selecting values for regulatory purposes will depend on the most sensitive beneficial use to be protected and the level of protection necessary for aquatic life and human health as specified within this table. All concentrations, except asbestos, are micrograms per liter (µg/L). All values are expressed as dissolved except lead and selenium which are expressed as total recoverable.

Numeric Criteria for Toxic Substances for TAS waters designated for Aquatic Life, Recreation and Cultural or Domestic Water Supply Use.

a. Columns A1, A2, and B2 of the following table apply to TAS waters designated for aquatic life use.
b. Column B2 of the following table applies to TAS waters designated for recreation and cultural use.
c. Column B1 of the following table applies to TAS waters designated for domestic water supply use

EPA Action

In accordance with its CWA authority, 33 U.S.C. § 1313(c)(3) and 40 CFR 131, EPA approves the introductory text in Provision 7(10) that is associated with the aquatic life criteria that EPA is approving. EPA is not taking an approval or disapproval action on the text associated with the human health criteria at the request of the Tribe (see Part I).

EPA approves the following text:

The concentration for each compound listed in this table is a criterion for aquatic life ... protection. Selecting values for regulatory purposes will depend on the most sensitive beneficial use to be protected and the level of protection necessary for aquatic life ... as specified within this table. All concentrations ... are micrograms per liter (µg/L). All values are expressed as dissolved except lead ... which [is] *expressed as total recoverable.*

Numeric Criteria for Toxic Substances for TAS waters designated for Aquatic Life ... or Domestic Water Supply Use.

a. Columns A1, A2 ... of the following table apply to TAS waters designated for aquatic life use.

Rationale

The introductory text states that the most sensitive use must be protected where more than one use applies. This is consistent with 40 CFR 131.11(a)(1), which states: "For waters with multiple use designations, the criteria shall support the most sensitive use." The introduction also specifies that the criteria will protect the aquatic life use. This is consistent with Sections 101(a)(2) and 303(c)(2)(A)of the CWA and regulatory requirements at 40 CFR 131.6 and 131.10, which require the designation of the aquatic life use for navigable waters and the adoption of criteria to protect that use. The introduction also specifies which metals criteria are expressed as total recoverable and which are expressed as dissolved metal. EPA's rationale for approving the expression of the metals criteria is discussed in

detail in Part VIII.A.1 of this document. EPA is not taking an action on the reference to selenium because EPA is not taking an action on the selenium criterion, as described in Part I.C.

C. Toxic Substances: Aquatic Life Criteria

Provisions 7(10) through 7(12) include the numeric toxics criteria for aquatic life, the formulas used to calculate aquatic life criteria when applicable, and information related to the criteria, their development, and the uses to which they apply.

1. Aquatic Life Criteria and Associated Footnotes for 24 Pollutants

EPA Action

In accordance with its CWA authority, 33 U.S.C. § 1313(c)(3) and 40 CFR 131, EPA approves 40 aquatic life criteria and associated footnotes, which contain the equations and conversion factors necessary to derive criteria, and other relevant information related to the expression of the criteria. Specifically, EPA approves the following criteria and footnotes D, E, F, N, Q, Y, and ii:

Pollutant	**CMC (µg/L)** **A1**	**CCC (µg/L)** **A2**
Arsenic	340 D	[No action taken; see Part I.C.]
Cadmium	[See Part VIII.C.4 for EPA's action on this criterion]	0.25 D,E
Chlorine	19	11
Chromium (III)	570 D,E	74 D,E
Chromium (VI)	16 D	11 D
Lead	82 E	3.2 E
Nickel	470 D,E	52 D,E
Silver	3.2 D,E	[No criterion adopted]
Zinc	120 D,E	120 D,E
Cyanide	22 Q	5.2 Q
Pentachlorophenol	19 F	15 F
Aldrin	3.0	[No criterion adopted]
gamma-BHC (Lindane)	0.95	[No criterion adopted]
Chlordane	2.4	0.0043
4,4'-DDT	1.1 ii	0.001 ii
Dieldrin	0.24	0.056
alpha-Endosulfan	0.22 Y	0.056 Y

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Pollutant	**CMC (µg/L)** **A1**	**CCC (µg/L)** **A2**
beta-Endosulfan	0.22 Y	0.056 Y
Endrin	0.086 K	0.036 K
Heptachlor	0.52	0.0038
Heptachlor Epoxide	0.52	0.0038
Polychlorinated Biphenyls (PCBs)	[No criterion adopted]	0.014 N
Toxaphene	0.73	0.0002

Note: The values for dissolved metals that are shown on this table are calculated using a hardness of 100.

Footnotes:

D *Freshwater criteria for metals are expressed in terms of the dissolved metal in the water column. The recommended water quality criteria value was calculated by using the previous 304(a) aquatic life criteria expressed in terms of total recoverable metal, and multiplying it by a conversion factor (CF). The term "Conversion Factor" (CF) represents the recommended conversion factor for converting a metal criterion expressed as the total recoverable fraction in the water column to a criterion expressed as the dissolved fraction in the water column See "Office of Water Policy and Technical Guidance on Interpretation and Implementation of Aquatic Life Metals Criteria", October 1, 1993, by Martha G. Prothro, Acting Assistant Administrator for Water, available from the Water Resource center, USEPA, 401 M St., SW, mail code RC4100, Washington, DC 20460; and 40CFR131.36(b)(1). Conversion Factors applied in the table can be found in section 11 of this chapter.*

E *The freshwater criterion for this metal is expressed as a function of hardness (mg/L) in the water column. The value given here corresponds to a hardness of 100 mg/L. Criteria values for other hardness may be calculated from the following: CMC (dissolved) = exp{m_A [ln(hardness)]+ b_A} (CF), or CCC (dissolved) = exp{m_C [ln (hardness)]+ b_C} (CF) and the parameters specified in section 11 of this chapter - Parameters for Calculating Freshwater Dissolved Metals Criteria That Are Hardness-Dependent. Lead is expressed at Total Lead using the equation CMC (total) = exp{m_A [ln(hardness)]+ b_A} , or CCC (total) = exp{m_C [ln (hardness)]+ b_C} and the parameters specified in section 11 of this chapter. Hardness is based on the ambient values found at the time of sampling; no low end hardness cap is used.*

F *Freshwater aquatic life values for pentachlorophenol are expressed as a function of pH, and are calculated as follows: CMC = exp(1.005(pH)-4.869); CCC = exp(1.005(pH)-5.134). Values displayed in table correspond to a pH of 7.8.*

N *This criterion applies to total PCBs (e.g., the sum of all congener or all isomer or homolog or Aroclor analyses).*

Q *This recommended water quality criterion is expressed as weak acid dissociable µg free cyanide (as CN)/L.*

Y *This value was derived from data for endosulfan and is most appropriately applied to the sum of alpha-endosulfan and beta-endosulfan.*

ii *This criterion applies to DDT and its metabolites (i.e., the total concentration of DDT and its metabolites should not exceed this value).*

(11) Calculation of Dissolved Metals Criteria
The 304(a) criteria for metals, shown as dissolved metals, are calculated in one of two ways. For freshwater metals criteria that are hardness-dependent, the dissolved metal criteria were calculated using a hardness of 100 mg/l as CaCO3 for illustrative purposes only. Freshwater metals' criteria that are not hardness-dependent are calculated by multiplying the total recoverable criteria before rounding by the appropriate conversion factors. The final dissolved metals' criteria in the table are rounded to two significant figures. Information regarding the calculation of hardness dependent conversion factors are included in the footnotes. Actual hardness values found at the time of sampling shall be used in hardness-dependent calculations. High end hardness is capped at 400mg/L and is not capped at the low end.

Conversion Factors for Dissolved Metals

Metal	Conversion Factor freshwater CMC	Conversion Factor freshwater CCC
Arsenic	1.000	[No action taken; see Part I.C.]
Cadmium	[See Part VIII.C.4 for EPA's action for this parameter]	1.101672-[(ln hardness)(0.041838)]
Chromium III	0.316	0.860
Chromium VI	0.982	0.962
Nickel	0.998	0.997
Silver	0.85	[No criterion adopted]
Zinc	0.978	0.986

Parameters for Calculating Freshwater Dissolved Metals Criteria That Are Hardness-Dependent

Chemical	m_A	b_A	m_C	b_C	Freshwater Conversion Factors (CF)	
					CMC	CCC
Cadmium			0.7409	-4.719		1.101672-[(ln hardness)(0.041838)]
Chromium III	0.8190	3.7256	0.8190	0.6848	0.316	0.860
Lead (Total)	1.273	-1.460	1.273	-4.705		
Nickel	0.8460	2.255	0.8460	0.0584	0.998	0.997

Chemical	m_A	b_A	m_C	b_C	Freshwater Conversion Factors (CF)	
					CMC	CCC
Silver	1.72	-6.59	--	--	0.85	--
Zinc	0.8473	0.884	0.8473	0.884	0.978	0.986

Hardness-dependent metals criteria may be calculated from the following:
CMC (dissolved) = $\exp\{m_A [\ln(hardness)] + b_A\}$ (CF); CCC (dissolved) = $\exp\{m_C [\ln(hardness)] + b_C\}$ (CF)
Total Lead: CMC = $\exp\{m_A [\ln(hardness)] + b_A\}$; CCC = $\exp\{m_C [\ln(hardness)] + b_C\}$

Rationale

The Tribe's WQS include numeric criteria for the 25 CWA Section 307(a)(1) priority toxic pollutants and two non-priority pollutants (i.e., ammonia and chlorine) for which EPA has published fresh water aquatic life 304(a) criteria recommendations. These criteria are contained in provisions 7(10) and 7(11) of the Tribe's WQS.

EPA approves the 40 criteria shown above, because the criteria are consistent with current EPA 304(a) criteria recommendations. EPA also approves the footnotes associated with the aquatic life criteria as shown above (i.e., footnotes D, E, F, N, Q, Y and ii),[11] because these footnotes either provide information and requirements necessary to develop appropriate criteria values or clarify the expression of the criteria. These footnotes are consistent with EPA 304(a) criteria recommendations [40 CFR 131.11(b)(1)(i)]. In its final 304(a) recommendations for each of the above criteria, EPA provides an extensive technical justification as to how its recommended aquatic life criteria adequately protect aquatic life uses.

Provision 7(11) includes two tables necessary for the development of metals criteria. The table titled *Conversion Factors for Dissolved Metals* provides factors used to convert total recoverable metals criteria to dissolved criteria, and the table titled *Parameters for Calculating Freshwater Dissolved Metals Criteria that are Hardness Dependent* provides values and equations needed to calculate hardness-dependent metals criteria. The values and equations provided in these tables are consistent with EPA 304(a) criteria recommendations and therefore EPA approves Provision 7(11) as it applies to the approved water quality criteria.

Provision 7(11) also specifies that a low end hardness cap does not apply for hardness-based metals criteria equations and that hardness is capped at 400 mg/L as CaCO3. EPA recommends the use of ambient hardness data to calculate criteria for hardness-dependent metals without using a low end cap[12] because the toxicity of hardness-dependent metals increases as hardness decreases, and use of a low end hardness cap may result in metals criteria that are not protective of aquatic life. The requirement for no

[11] Footnote E provides the hardness-based equations for metals. The ambient hardness of the specific water body being analyzed should be used to calculate the metals criteria. Footnote F provides the pH-based equations for developing pentachlorophenol criteria. The ambient pH of the specific water body being analyzed should be used to calculate the pentachlorophenol criteria.
[12] *National recommended Water Quality Criteria: 2002*. EPA-822-R-02-047. U.S. EPA Office of Water, Washington, D.C. November 2002.

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low-end hardness cap is consistent with EPA 304(a) criteria recommendations and is protective of the aquatic life use. The use of a high end cap is also consistent with EPA recommendations.[13]

2. Footnotes A, G, K, O, V, aa, and bb of the Toxics Criteria Table

EPA Action

In accordance with its CWA authority, 33 U.S.C. §1313(c)(3) and 40 CFR 131, EPA is not taking an approval or disapproval action on footnotes A, G, K, O, V, aa, and bb to the toxics criteria table in Section 7, Provision 10 of the WQS. These footnotes are:

A *This recommended water quality criterion was derived from data for arsenic (III), but is applied here to total arsenic, which might imply that arsenic (III) and arsenic (V) are equally toxic to aquatic life and that their toxicities are additive. In the arsenic criteria document (EPA 440/5-84-033, January 1985), Species Mean Acute Values are given for both arsenic (III) and arsenic (V) for five species and the ratios of the SMAVs for each species range from 0.6 to 1.7. Chronic values are available for both arsenic (III) and arsenic (V) for one species; for the fathead minnow, the chronic value for arsenic (V) is 0.29 times the chronic value for arsenic (III). No data are known to be available concerning whether the toxicities of the forms of arsenic to aquatic organisms are additive.*

G *This Criterion is based on 304(a) aquatic life criterion issued in 1980, and was issued in one of the following documents: Aldrin/Dieldrin (EPA 440/5-80-019), Chlordane (EPA 440/5-80-027), DDT (EPA 440/5-80-038), Endosulfan (EPA 440/5-80-046), Endrin (EPA 440/5-80-047), Heptachlor (EPA 440/5-80-052), Hexachlorocyclohexane (EPA 440/5-80-054), Silver (EPA 440/5-80-071). The Minimum Data Requirements and derivation procedures were different in the 1980 Guidelines than in the 1985 Guidelines. For example, a "CMC" derived using the 1980 Guidelines was derived to be used as an instantaneous maximum. If assessment is to be done using an averaging period, the values given should be divided by 2 to obtain a value that is more comparable to a CMC derived using the 1985 Guidelines.*

K *This recommended criterion is based on a 304(a) aquatic life criterion that was issued in the* 1995 Updates: Water Quality Criteria Documents for the Protection of Aquatic Life in Ambient Water, *(EPA-820-B-96-001, September 1996). This value was derived using the GLI Guidelines (60FR15393-15399, March 23, 1995; 40CFR132 Appendix A); the difference between the 1985 Guidelines and the GLI Guidelines are explained on page iv of the 1995 Updates.*

O *The derivation of the CCC for this pollutant (Endrin) did not consider exposure through the diet, which is probably important for aquatic life occupying upper trophic levels.*

V *This value was derived from data for heptachlor and the criteria document provides insufficient data to estimate the relative toxicities of heptachlor and heptachlor epoxide.*

aa *This criterion is based on a 304(a) aquatic life criterion issued in 1980 or 1986, and was issued in one of the following documents: Aldrin/Dieldrin (EPA 440/5-80-019), Chlordane (EPA 440/5-80-027), DDT (EPA 440/5-80-038), Endrin (EPA 440/5-80-047), Heptachlor (EPA 440/5-80-052),*

[13] Ibid.

Polychlorinated biphenyls (EPA 440/5-80-068), Toxaphene (EPA 440/5-86-006). This CCC is currently based on the Final Residue Value (FRV) procedure. Since the publication of the Great Lakes Aquatic Life Criteria Guidelines in 1995 (60FR15393-15399, March 23, 1995), the Agency no longer uses the Final Residue Value procedure for deriving CCCs for new or revised 304(a) aquatic life criteria. Therefore, the Agency anticipates that future revisions of this CCC will not be based on the FRV procedure.

*bb This water quality criterion is based on a 304(a) aquatic life criterion that was derived using the 1985 Guidelines (*Guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses, *PB85-227049, January 1985) and was issued in one of the following criteria documents: Arsenic (EPA 440/5-84-033), Cadmium (EPA-822-R-01-001), Chromium (EPA 440/5-84-029), Copper (EPA 440/5-84-031), Cyanide (EPA 440/5- 84-028), Lead (EPA 440/5-84-027), Nickel (EPA 440/5-86-004), Pentachlorophenol (EPA 440/5-86-009), Toxaphene, (EPA 440/5-86-006), Zinc (EPA 440/5-87- 003).*

Rationale

Footnotes A, G, K, O, V, aa, and bb explain the source of criteria in the toxics criteria table, but they do not provide information about the criteria values or the interpretation of the criteria. EPA is not taking action on these footnotes because they do not establish a legally binding requirement under tribal law nor do they describe a desired ambient condition of a water body to support a particular designated use. Therefore they are not considered WQS and are not subject to EPA review and action under Section 303(c) of the CWA.

3. Aquatic Life Criteria for Ammonia

EPA Action

In accordance with its CWA authority, 33 U.S.C. § 1313(c)(3) and 40 CFR 131, EPA disapproves the ammonia criteria at Provision 7(12) and the entry for ammonia in the criteria table in Provision 7(10).

Rationale

The ammonia criteria specified in Provision 7(12) of the WQS are consistent with an older version of EPA's 304(a) criteria recommendations for ammonia.[14] EPA published revised 304(a) draft criteria recommendations and final criteria recommendations in 2009 and 2013, respectively.[15] In updating the criteria recommendation, EPA conducted an extensive literature review that incorporated toxicity data from 69 studies. The toxicity data includes new data on freshwater mussels and gill-bearing snails which are both more sensitive to ammonia than fish. Because mussels and snails are more sensitive to ammonia, the 2013 criteria recommendations are more stringent than the 1999 criteria recommendations (where fish were found to be the most sensitive species to ammonia toxicity).

[14] *1999 Update of Ambient Water Quality Criteria for Ammonia* (EPA-822-R-99-014). U.S. Environmental Protection Agency, December 1999.

[15] *Aquatic Life Ambient Water Quality Criteria for Ammonia – Freshwater, 2013* (EPA 822-R-13-001). U.S. Environmental Protection Agency, April 2013.

Freshwater mussels are widely distributed throughout Idaho (*Freshwater Mussels of the Pacific Northwest*, Ethan Nedeau, Allan K. Smith, Jen Stone, U.S. Fish and Wildlife Service). Additionally, on March 4, 2013 the Tribe provided EPA information indicating that snails are found in Reservation TAS waters, particularly in the wetland fringe areas of the lake, and fresh water mussels are present in the St. Joe River and Coeur d'Alene Lake.[16] Given the wide distribution of freshwater mussels in Idaho, the Tribe's observation that snails and mussels occur in the vicinity of the reservation, and toxicity data showing that freshwater snails and mussels are particularly sensitive to ammonia, there is not a sound scientific rationale demonstrating that the Tribe's ammonia criteria protect the designated aquatic life uses. Therefore, the criteria are inconsistent with CWA Section 303(c) and 40 CFR 131.11.

In addition, concerns have been raised about the protectiveness of the 1999 ammonia criteria for listed threatened and endangered aquatic species in other Region 10 ESA consultations. In light of this and EPA's more recent ammonia toxicity evaluations, the Tribe's ammonia criteria may not be protective of the aquatic life use of the Reservation TAS waters.

Remedy to Address EPA's Disapproval

To address this disapproval, the Tribe must adopt ammonia criteria that are based on a sound scientific rationale and protect the Tribe's aquatic life use. There are several means by which the Tribe may potentially accomplish this objective. They include:

- Revise the ammonia criteria to be consistent with EPA's *Aquatic Life Ambient Water Quality Criteria for Ammonia – Freshwater, 2013* (EPA 822-R-13-001).

- Revise the ammonia criteria to ensure protection of the Tribe's designated aquatic life uses. Also supply a sound scientific rationale to explain why the alternative ammonia criteria are protective of the Tribe's designated aquatic life uses, taking into account any data on ammonia toxicity to freshwater molluscs.

EPA recommends that the Tribe consider the new 304(a) criteria recommendations for ammonia during the next triennial review.

4. Aquatic Life Criterion for Acute Cadmium

EPA Action

In accordance with its CWA authority, 33 U.S.C. § 1313(c)(3) and 40 CFR 131, EPA disapproves the acute cadmium criterion, including the criterion value and references to footnotes provided in the criteria table in Provision 7(10) and the parameters for the hardness-based criteria calculation and conversion factors found in the tables included in Provision 7(11).

Rationale

The acute cadmium criterion adopted by the Tribe is consistent with EPA's 2001 304(a) acute criterion recommendation. In 2006, the USGS developed acute and chronic cadmium criteria for the State of

[16] Scott Fields, March 3, 2013 [Personal communication]. Plummer, ID: Water Resources Program, Coeur d'Alene Tribe.

Idaho.[17] The Idaho-specific criteria were developed using toxicity data that were not available when EPA's 2001 criteria were developed. The new toxicity data reviewed by the USGS included data specific to Idaho aquatic life species. The USGS developed the criteria using EPA's methodology from the 1985 *Guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses* (hereafter referred to as the 1985 Guidelines).

The Idaho-specific acute criterion is more stringent than EPA's 2001 acute criterion recommendation. When developing the acute criterion, it was found that some important Idaho species were very sensitive to cadmium toxicity and would not be protected using the general methodology presented in the 1985 Guidelines. In such cases, the 1985 Guidelines recommend that the criterion be lowered to ensure protection of locally important species. In this case, the species requiring additional protection include rainbow trout, cutthroat trout, and bull trout. Consistent with EPA's recommendation in the 1985 Guidelines, the acute criterion was lowered to ensure protection of these species.

The Tribe's aquatic life use designation specifically protects bull trout and cutthroat trout. Given that the Idaho-specific acute criterion was developed to ensure the protection of bull trout and cutthroat trout, and the Idaho-specific acute criterion is lower than EPA's 2001 acute criterion recommendation adopted by the Tribe, there is not a sound scientific rationale demonstrating that the Tribe's submitted acute criterion protects the designated aquatic life uses. Therefore, the acute criterion is inconsistent with CWA Section 303(c) and 40 CFR 131.11.

Remedy to Address EPA's Disapproval

To address this disapproval, the Tribe must adopt an acute cadmium criterion that is based on a sound scientific rationale and protects the Tribe's aquatic life use. There are several means by which the Tribe may potentially accomplish this objective. They include:

- Revise the acute cadmium criterion to be consistent with the criterion developed by USGS for Idaho, as described in *Cadmium Risks to Freshwater Life: Derivation and Validation of Low-Effect Criteria Values using Laboratory and Field Studies* (Scientific Investigations Report 2006–5245, Version 1.2).
- Revise the acute cadmium criterion to ensure protection of the Tribe's designated aquatic life uses. Also supply a sound scientific rationale to explain why the alternative acute cadmium criterion is protective of the Tribe's designated aquatic life uses, including bull trout and other salmonids.

5. Aquatic Life Criteria for Copper

EPA Action

In accordance with its CWA authority, 33 U.S.C. § 1313(c)(3) and 40 CFR 131, EPA disapproves the acute and chronic copper criteria, including the copper criteria values provided in the criteria table in

[17] Mebane, Christopher A. 2006 (2010 rev). *Cadmium Risks to Freshwater Life: Derivation and Validation of Low-Effect Criteria Values using Laboratory and Field Studies.* Prepared in cooperation with the Idaho Department of Environmental Quality. U.S. Geological Survey Scientific Investigations Report 2006 5245, Version 1.2, September 2010.

Provision 7(10) and related footnotes and the parameters for the hardness-based criteria calculation and conversion factors found in the tables included in Provision 7(11).

Rationale

The copper criteria values specified in Provision 7(11) of the WQS are consistent with an older version of EPA's 304(a) criteria recommendations for copper[18] that related the toxic effect concentration of copper to water hardness. That recommendation was superseded by revised 304(a) criteria recommendations for copper published by EPA in 2007.[19] The revised 304(a) recommendation uses the biotic ligand model (BLM) in the criteria derivation process.

Studies have shown that hardness itself is not the most accurate determinant of copper toxicity. Rather than use hardness as a surrogate, it is more accurate to directly consider the suite of water quality variables (pH, alkalinity, and a number of specific ion concentrations such as calcium, sodium, etc.) that affect the toxicity of copper and that often correlate with hardness in natural waters (and in the lab water used in conducting the toxicity tests that underlie the criteria).

There are many natural waters where hardness does not correlate well with other water quality variables in regards to copper toxicity. Additionally, hardness may not correlate well with other water quality variables in waterbodies influenced by discharges from treatment processes, storm water runoff, agricultural runoff and other factors that create ambient water chemistry that may be different from a natural condition (or from water chemistry used in conducting the toxicity tests which underlie the hardness-dependent criteria). Thus the hardness-dependent copper criterion is potentially under-protective or over-protective depending on the site-specific ambient water chemistry.

EPA's current BLM copper criteria recommendation is a metal bioavailability model that uses a suite of water quality variables (e.g., pH, alkalinity, specific ion concentrations) to develop site-specific water quality criteria. The BLM currently reflects the best available science. Copper toxicity is greatest in waters with low dissolved organic carbon (DOC), pH, and hardness levels, and the older hardness-based criteria calculations are likely to overestimate the criteria values and result in under-protective criteria in these conditions. The Reservation TAS waters are characterized by low DOC and hardness levels, and low pH levels occur in the hypolimnion during seasonal stratification.[20,21] Therefore, the hardness-based copper criteria are likely to be under-protective in the Reservation TAS waters.

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[18] The criteria adopted by the Tribe are consistent with EPA's 1995 304(a) criteria recommendations for copper multiplied by a conversion factor to express the criteria in terms of the dissolved concentration in the water column. A conversion factor (CF) represents the recommended factor for converting a metal criterion expressed as the total recoverable fraction in the water column to a criterion expressed as the dissolved fraction in the water column. EPA's recommended conversion factors are contained in *Derivation of Conversion Factors for the Calculation of Dissolved Freshwater Aquatic Life Criteria for Metals*, Charles Stephan, 3/11/95.

[19] *Aquatic Life Ambient Freshwater Quality Criteria – Copper, 2007 Revision* (EPA 822-R-07-001). U.S. Environmental Protection Agency, February 2007.

[20] James S. Kuwabara, Brent R. Topping, Paul F. Woods, James L. Carter, and Stephen W. Hager. 2006. Interactive effects of dissolved zinc and orthophosphate on phytoplankton from Coeur d'Alene Lake, Idaho. Scientific Investigations Report 2006-5091. U.S. Geological Survey, Reston, Virginia.

[21] IDEQ and Coeur d'Alene Tribe. 2012. Coeur d'Alene Lake Monitoring Program, 2009 Report. Coeur d'Alene Tribe, Plummer Idaho and Idaho Department of Environmental Quality, Coeur d'Alene, ID.

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In addition, concerns have been raised about the protectiveness of the hardness-based copper criteria for listed threatened and endangered aquatic species in other Region 10 ESA consultations but similar concerns have not been raised about the 2007 BLM copper criteria recommendations. In light of this, and given the greater accuracy of the BLM compared to the older hardness-based 304(a) criteria recommendation and the chemical characteristics of the Reservation TAS waters, there is not a sound scientific rationale demonstrating that the Tribe's submitted copper criteria protect the designated aquatic life uses. Therefore, the criteria are inconsistent with CWA Section 303(c) and 40 CFR 131.11.

Remedy to Address EPA's Disapproval

To address this disapproval, the Tribe must adopt copper criteria that are based on a sound scientific rationale and protect the Tribe's aquatic life use. There are several means by which the Tribe may potentially accomplish this objective. They include:

- Revise the copper criteria to be consistent with EPA's *Aquatic Life Ambient Freshwater Quality Criteria – Copper, 2007 Revision* (EPA-822-R-07-001).

- Revise the copper criteria to ensure protection of the Tribe's designated aquatic life uses. Also supply a sound scientific rationale to explain why the alternative copper criteria are protective of the Tribe's designated aquatic life uses, including bull trout and other salmonids.

IX. Radioactive Substances

Section 8 contains criteria for radioactive substances to protect the Tribe's human health uses. Section 8 consists of the following text:

> *8. RADIOACTIVE SUBSTANCES*
>
> *(1) Radioisotope concentrations in all Reservation TAS Waters shall not exceed concentrations which result in a significant hazard to humans.*
>
> *(2) For the protection of human health concentrations of radioactive materials for all Reservation TAS Waters shall not exceed the following:*
> *(a) Gross Alpha Particle Activity - 15 pCi/L*
> *(b) Gross Beta Particle Activity - 50 pCi/L*
> *(c) Tritium - 20,000 pCi/L*
> *(d) Strontium 90 - 8 pCi/L*
> *(e) Radium 226/Radium 228 - 3 pCi/L*

EPA Action

In accordance with its CWA authority, 33 U.S.C. § 1313(c)(3) and 40 CFR part 131, EPA approves the radioactive substances criteria in Section 8 of the WQS.

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Rationale

Section 8(1) of the WQS specifies that radioisotope concentrations should not result in significant hazard to humans and Section 8(2) specifies the numeric criteria for radioactive materials that apply to the Reservation TAS waters for the protection of human health (i.e., the domestic water supply and recreation and cultural uses). The radioactive materials are not included in the priority pollutants list established by EPA (Appendix A to 40 CFR Part 423) under Section 307(a)(1) of the CWA and EPA has not published 304(a) criteria recommendations for radioactive substances; however, a state or tribe may adopt numeric or narrative criteria to protect the designated uses of a water body from, among other things, any pollutant of concern, even if it is not included in the priority pollutants list.

The criteria for gross alpha particle activity, gross beta particle activity, the sum of radium 226 and radium 228 (expressed as "radium 226/radium 228" in the WQS), strontium 90, and tritium are consistent with or more protective than the drinking water maximum contaminant levels (MCLs) for these pollutants as established in EPA's National Primary Drinking Water Regulations (NPDWR) [40 CFR 141.66]. EPA approves the narrative criterion in Section 8(1) of the WQS and the numeric criteria for radioactive materials in Section 8(2) as consistent with CWA Section 303(c) and 40 CFR 131.11.

EPA would also like to inform the Coeur d'Alene Tribe of updated science that may be used for calculating radionuclide criteria. EPA has published the Preliminary Remediation Goals Calculator (http://epa-prgs.ornl.gov/radionuclides/), which can be modified and adapted to calculate human health ambient water quality criteria. The calculator uses updated cancer risk coefficients that are published in Federal Guidance Report No. 13 (EPA 402-R-99-001) and scientifically supportable bioaccumulation factors. EPA recommends that the Tribe consider this option for calculating radionuclide criteria during the next triennial review. EPA is available to provide assistance to the Tribe in calculating human health ambient water quality criteria for individual radionuclides for both water plus organism and organism only criteria.

EPA notes that some of these materials may be "pollutants" under the CWA, while some may not. EPA's regulations define "pollutant" to include radioactive materials except those regulated under the Atomic Energy Act of 1954, as amended [see 40 CFR 122.2 and *Train v. Colorado Public Interest Research Group, Inc.*, 426 U.S. 1 (1976)]. Therefore, when developing a NPDES permit or TMDL, it will be necessary for EPA (or possibly the Tribe at some point in the future if it receives TAS for NPDES or 303(d)) to establish that a particular radioactive material is a "pollutant" before limiting it in a NPDES permit or establishing a TMDL under Section 303(d) of the CWA for a water body that is not meeting the criteria.

X. Biological Criteria

Section 9 of the WQS contains narrative criteria to protect the integrity of aquatic communities in the Reservation TAS waters. Section 9 consists of the following text:

9. BIOLOGICAL CRITERIA
(1) Reservation TAS Waters shall be of sufficient quality to support aquatic biota without detrimental changes in the resident aquatic communities.

(2) Reservation TAS Waters shall be free from substances, whether attributable to point source discharges, nonpoint sources, or instream activities, in concentrations or combinations which would impair the structure or limit the function of the resident aquatic community as it naturally occurs.

(3) The structure and function of the aquatic community shall be measured by biological assessment methods approved by the Department.

(4) Determination of impairment or limitation of the resident aquatic community shall be based on a comparison with the aquatic community found at an appropriate reference site or region.

EPA Action

In accordance with its CWA authority, 33 U.S.C. § 1313(c)(3) and 40 CFR 131, EPA approves the biological criteria (biocriteria) in Section 9 of the WQS.

Rationale

The primary statutory basis for Tribes to develop biocriteria is found in Sections 101(a) and 303(c)(2)(B) of the CWA. Section 101(a) of the CWA establishes, as an objective of the CWA, the restoration and maintenance of the biological integrity of the Nation's waters. Section 303(c)(2)(B) of the CWA provides that when numeric criteria are not available, states and tribes shall adopt criteria based on biological monitoring or assessment methods; and biocriteria can be used to meet this requirement.[22] The narrative biocriteria are consistent with federal requirements at 40 CFR 131.11, the CWA, and EPA implementation guidance in the 1994 WQS Handbook.

XI. Wildlife Criteria

Section 10 of the WQS contains a narrative criterion to protect wildlife that use the Reservation TAS waters. Section 10 consists of the following text:

10. WILDLIFE CRITERIA
Reservation TAS Waters shall be of sufficient quality to protect and support all life stages of resident and/or migratory wildlife species which live in, on, or drink from Reservation TAS Waters.

EPA Action

In accordance with its CWA authority, 33 U.S.C. § 1313(c)(3) and 40 CFR 131, EPA approves the narrative wildlife criterion in Section 10 of the WQS.

[22] EPA, 1994. *Water Quality Standards Handbook: Second Edition*, EPA-823-B-94-005a, August 1994. pp. 3-26 to 3-28.

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Rationale

The Tribe's wildlife criterion is a narrative statement intended to protect and support terrestrial and avian species that rely on the Reservation TAS waters. Many wildlife species that are heavily dependent on the aquatic food web reflect the health of aquatic systems. In the case of toxic chemicals, predators such as otter, mink, eagles, and ospreys are useful as integrative indicators of the status or health of the ecosystem. For these reasons, EPA supports states and tribes including narrative criteria to protect wildlife in their WQS. The tribes narrative criterion is consistent with CWA Section 101(a)(2), which 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 ... be achieved." The wildlife criterion is also consistent with 40 CFR 131.11(b)(2), which directs states and tribes to establish narrative criteria where numeric criteria cannot be established.

XII. Wetlands

Section 11 of the WQS contains narrative criteria for the protection of wetlands and extends provisions found in other sections of the WQS to wetlands. Section 11 consists of the following text:

11. WETLANDS

(1) All wetlands which are considered Reservation TAS Waters, and which are not constructed wetlands, shall be subject to the Narrative Criteria (section 5), Antidegradation (section 6), and Narrative Toxic Substances Criterion (section 7(1)) provisions within this chapter.

(2) Water quality in wetlands which are considered Reservation TAS Waters shall be maintained at naturally occurring levels, within the natural range of variation for the individual wetland.

(3) Physical and biological characteristics shall be maintained and protected by:
(a) Maintaining hydrological conditions, including hydroperiod, hydrodynamics, and natural water temperature variations;
(b) Maintaining the natural hydrophytic vegetation; and
(c) Maintaining substrate characteristics necessary to support existing and designated uses.

(4) Wetlands shall not be used in lieu of stormwater treatment, except as specified by number 7, below. Stormwater shall be treated before discharge to a wetland.

(5) Point and nonpoint sources of pollution shall not cause destruction or impairment of wetlands except where authorized under section 404 of the CWA.

(6) Wetlands shall not be used as repositories or treatment systems for wastes from human sources, except as specified by number 7, below.

(7) Wetlands intentionally created from non-wetland sites for the sole purpose of wastewater or stormwater treatment (constructed wetlands) are not considered "Reservation TAS Waters" and are not subject to the provisions of this Section.

EPA Action

In accordance with its CWA authority, 33 U.S.C. § 1313(c)(3) and 40 CFR 131, EPA approves the narrative wetlands provisions in Section 11 of the WQS.

Rationale

The CWA requires states and tribes to develop WQS for "navigable waters," or "waters of the U.S." Wetlands are included in the definition of "waters of the U.S." (40 CFR 122.2, 230.3 and 232.2). The WQS regulation requires states and tribes to adopt criteria that may include general statements (narrative) and specific numeric values (40 CFR 131.11 (a)(l)). EPA guidance on WQS for wetlands states, "Narrative criteria are particularly important in wetlands, since many wetland impacts cannot be fully addressed by numeric criteria." [23] Section 11 of the Tribe's WQS applies the narrative criteria (Section 5), antidegradation policy (Section 6), and the narrative toxic substances criteria [Provision 7(1)] to all wetlands within the Reservation TAS waters. The numeric criteria adopted in Provision 7(10) also apply to wetlands. Constructed wetlands are not subject to the Tribe's adopted wetlands criteria provisions according to Provision 11(7).

Section 11 also includes narrative criteria that provide for maintaining the natural quality of the waters of wetlands; protecting the natural physical and biological characteristics of wetlands; prohibiting the use of wetlands for storm water treatment; limiting pollution inputs; and prohibiting the use of wetlands to hold or treat wastes. The narrative wetlands criteria are consistent with 40 CFR 131.11(b)(2), which directs states and tribes to establish narrative criteria where numeric criteria cannot be established, or to supplement the numeric criteria, and with EPA guidance for wetlands criteria. The narrative criteria in Section 11 provide additional protections to wetlands, beyond those provided for the Reservation TAS waters in the remainder of the WQS, that are protective of the designated uses established in WQS Sections 18, 20, and 21.

XIII. Mixing Zones

Section 12 of the WQS specifies requirements to allow mixing zones in NPDES permits for discharges to Reservation TAS waters. Section 12 consists of the following text:

> *12. MIXING ZONES*
> *(1) General Conditions*
>
> *(a) The Department may allow a designated portion of a receiving water to serve as a zone of dilution for wastewaters and receiving waters to mix thoroughly and this zone will be defined as a mixing zone.*
>
> *(b) Mixing zones may be granted for whole effluent or on a pollutant by pollutant basis.*

[23] EPA 1990. *National Guidance: Water Quality Standards for Wetlands* (EPA 440/S-90-011). Office of Water Regulations and Standards, Washington, DC.

(c) The allowable size, shape, and location of a mixing zone shall be established in certifications under Section 401 of the CWA, or orders, as appropriate. In determining the location, surface area, and volume of a mixing zone, the Department or EPA may use appropriate mixing zone guidelines (such as EPA /505/2-90-001) to assess the biological, physical, and chemical character of receiving waters, and effluent, and the most appropriate placement of the outfall, to protect instream water quality, public health, and other designated uses.

(d) The Department may, as necessary, require mixing zone monitoring studies and/or bioassays and biosurveys as appropriate to be conducted to evaluate water quality or biological status within and outside of the mixing zone boundary.

(e) The Department may require revision, revocation or denial of permits authorizing mixing zones upon expiration of the permit, or prior to expiration if information suggests that the nature and impacts of the mixing zone are different than the conditions used to determine mixing zone criteria.

(f) No mixing zone shall be granted unless the supporting information clearly indicates the mixing zone would not have a reasonable potential to cause a loss of or impair recovery of aquatic life, wildlife, or sensitive or important habitat; create a barrier to migration of species; or substantially interfere with the existing or designated uses of the water body as a whole; result in damage to the ecosystem; or adversely affect threatened and endangered species or public health as determined by the Department.

(g) No Mixing zone shall be granted unless the supporting information clearly indicates that it would not cause lethality to organisms passing through the mixing zone.

(h) Mixing zones will not be granted for discharges to outstanding resource waters, wetlands, or ephemeral or intermittent streams.

(i) In TAS waters having a mean detention time greater than 15 days, mixing zones shall not be allowed unless it can be demonstrated to the satisfaction of the Department that:
(A) other siting, technological, and managerial options that would avoid the need for a lake mixing zone are not reasonably achievable;
(B) overriding considerations of the public interest and the Tribe will be served; and,
(C) all technological and managerial methods available for pollution reduction and removal that are economically achievable would be implemented prior to the discharge. Such methods may include, but not be limited to, advanced waste treatment techniques.

(j) The Department shall consider prohibiting mixing zones under the following circumstances:
(A) where discharges could create or foster conditions in sediments within and outside of the mixing zone that have the reasonable potential to cause damage to the ecosystem;
(B) for known or suspected carcinogens, mutagens, teratogens, or bioaccumulative or persistent pollutants;
(C) where discharges could cause an exceedance of the chronic criteria outside of the mixing zone boundary;
(D) where aquatic life could be attracted to the plume and harmed;
(E) where the mixing zone could impact drinking water intakes, recreation sites, cultural areas, and biologically important areas such as fish spawning/nursery areas; and,

(F) where the discharge could adversely impact threatened and endangered species.

(k) Mixing zones shall not be used for, or considered as, a substitute for waste treatment. The applicant shall show, to the satisfaction of the Department, that all reasonable current technology for wastewater treatment, pollution control, and waste reduction have been fully applied before a mixing zone is granted.

(l) Except as specified in "Narrative Water Quality Criteria"(section 4) water quality standards may be exceeded within the mixing zone as provided for in a discharge permit or order. Determination of the dilution available and size of mixing zones will consider the following:
(A) critical conditions;
(B) mixing characteristics of the receiving water;
(C) characteristics of the effluent; and,
(D) impacts to use classifications of the receiving water.

(m) Mixing zones shall be as small as feasible, and shall minimize the adverse effects on the indigenous biological community, especially when species are present that warrant special protection for their cultural significance, economic importance, ecological uniqueness, or for other similar reasons as determined by the Department.

(n) Where mixing zones are adjacent or overlapping, the total size of all mixing zones shall not exceed the size allowed for one mixing zone.

(2) Critical Design Flows

Mixing zone specifications and water quality-based effluent limits shall be based on the following critical design flows:
(A) chronic criteria: the 7Q10 flow
(B) acute criteria: 1Q10 flow or at the point of discharge
(C) human health criteria - carcinogens: harmonic mean flow
(D) health criteria - non-carcinogens: the 30Q5 flow
(E) ammonia – 30B4 (in accordance with EPA-822-R-99-014 Dec 1999)

EPA Action

In accordance with its CWA authority, 33 U.S.C. §1313(c)(3) and 40 CFR 131, EPA approves provisions 12(1) and 12(2)(A) through 12(2)(D) and disapproves provision 12(2)(E) (i.e., the 30B4 flow for ammonia).

Rationale

Mixing zones are areas where instantaneous or rapid and complete mixing of discharges with receiving waters does not occur, and pollutant concentrations are allowed to exceed otherwise applicable water quality criteria. The federal WQS regulation at 40 CFR 131.13 provides that states and tribes have the discretionary authority to include mixing zone policies in their WQS. When mixing zone policies are included, they are subject to EPA review and approval or disapproval pursuant to Section 303(c) of the CWA. EPA's allowance of mixing zones is based on a premise that surface water quality criteria can be

exceeded under limited circumstances without causing unacceptable toxicity and impairment of a water's uses.

EPA's WQS regulation does not specify requirements for mixing zones; however, like water quality criteria adopted by states and tribes in accordance with 40 CFR 131.11, mixing zones are to be based on sound scientific rationale and contain sufficient parameters to protect designated uses. Guidance documents address aspects of mixing zones that EPA considers necessary to ensure consistency with the CWA (see the *Water Quality Standards Handbook: Second Edition*, EPA-823-B-94-005a, August 1994; *Technical Support Document for Water Quality-based Toxics Control*, EPA/505/2-90-001, March 1991; and EPA's *Advance Notice of Proposed Rulemaking*, 63 Fed. Reg. 36787, July 7, 1998). Key aspects of EPA's guidance to ensure that mixing zones, where authorized, are consistent with use protection include location considerations to protect critical resource areas; size considerations; and stipulations on in-zone quality that include provisions to protect aquatic life and human health.

Mixing Zone Provision 12(1)

The general conditions provided in provision 12(1) of the Tribe's mixing zone policy are consistent with EPA's guidance for applying mixing zones in a way that protects uses. The mixing zone policy contains conditions that:

- Cite to the use of appropriate guidance such as EPA's *Technical Support Document for Water Quality-based Toxics Control* for determining the allowable size, shape and configuration of a mixing zone, and for the appropriate placement of the outfall.
- Protects existing and designated uses, public health, sensitive habitat, and threatened and endangered species.
- Specifies when mixing zones are not allowed (i.e., in outstanding resource waters, ephemeral or intermittent streams, and wetlands). It should also be noted that Section 5 of the WQS requires narrative criteria to be met within any designated mixing zone, which means that mixing zones are not allowed for the narrative criteria in Section 5.
- Specifies when the Department should consider not authorizing mixing zones (e.g., for known or suspected carcinogens, mutagens, teratogens, etc.).
- Prohibits lethality to passing organisms.
- Requires the applicant to demonstrate that all reasonable current technology for wastewater treatment, pollution control, and waste reduction is being applied before a mixing zone is granted.
- Requires mixing zones to be as small as feasible.

The conditions in the mixing zone policy are consistent with EPA's framework for establishing mixing zones that do not impede progress towards the CWA goals. EPA approves provision 12(1) based on a determination that it contains parameters that are protective of designated uses consistent with 40 CFR 131.11, and it contains provisions protective of existing uses consistent with 40 CFR 131.12(a)(1).

Provision 12(j)(C) states that the Department shall consider prohibiting mixing zones where discharges could cause an exceedance of the chronic criteria outside of the mixing zone boundary. The Tribe has provided the clarification that no mixing zone will be allowed that could cause an exceedance of the

chronic criteria outside of the mixing zone boundary. EPA recommends that the Tribe revise the provision to be consistent with this clarification during the next triennial review.

Mixing Zone Provision 12(2)

Provision 12(2) provides the critical design flows to be used in determining mixing zones and implementing ambient water quality criteria. These receiving water flow conditions are a starting point for conducting a mixing zone analysis and determining the volume of flow available for dilution of effluent pollutant concentrations.

EPA's regulation at 40 CFR 131.13 provides that states and tribes may adopt design flows for the application of water quality criteria. The flow values contained in provision 12(2)(A) through 12(2)(D) are consistent with, or as protective as, EPA hydrological-based recommendations for steady-state analysis for toxic pollutants (see EPA's *Water Quality Standards Handbook*, page 5-11, and EPA's *Technical Support Document for Water Quality-based Toxics Control*). As explained in *Revisions to the Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health (2000)*, 65 FR 66450, November 3, 2000, EPA now generally recommends use of the long term harmonic mean flow[24] for non-carcinogens, rather than the 30Q5[25] low flow previously recommended. Based on the discussion in the Federal Register notice cited above, EPA believes 30Q5 low flow to be as protective as the long term harmonic mean flow.

EPA is disapproving Provision 12(2)(E), which specifies the flow value of 30B4[26] for ammonia, because EPA is disapproving the associated ammonia criteria (see Part VIII.C.3 for EPA's disapproval action). The flow value is not relevant in the absence of the criteria.

Remedy to Address EPA's Disapproval

To address the disapproval of Provision 12(2)(E), the Tribe should adopt design flow values for acute and chronic ammonia criteria. The flow value must be based on a sound scientific rationale and protect the Tribe's aquatic life use. Both the acute and chronic design flow values should be designed to maintain the level of protection intended by the criteria. For example, if the Tribe adopts EPA's most recent 304(a) criteria recommendations for ammonia, then EPA recommends the 1B3[27] or the 1Q10[28] flow value for the acute criterion and the 30B3 or the 30Q10 flow value for the chronic criterion.[29]

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[24] The harmonic mean flow is the long term mean flow value calculated by dividing the number of daily flows analyzed by the sum of the reciprocals of those daily flows.
[25] The 30Q5 is a hydrologically based flow value and it is the 30 day low flow with an average recurrence frequency of once in five years.
[26] The 30B4 is a biologically based flow value and is the lowest 30 day flow based on a four year return interval.
[27] The 1B3 is a biologically base flow is the lowest one-day flow based on a 3 year return interval.
[28] The 1Q10 is a hydrologically based flow and is the lowest one day flow with an average recurrence frequency of one in ten years.
[29] A detailed discussion of the recommended flow values for ammonia can be found in 64 FR 71976.

XIV. Implementation

In accordance with its CWA authority, 33 U.S.C. §1313(c)(3) and 40 CFR 131, EPA is not taking an approval or disapproval action on Section 13 of the WQS.

Rationale

Section 13 includes procedures for implementing the WQS and ensuring that they are met. This section provides requirements for discharges and activities to meet the WQS, permits to implement the WQS, application of best management practices, prevention of storm water pollution, and sample collection methods. These implementation requirements do not describe a desired ambient condition of a water body to support a particular designated use. Therefore, the implementation requirements are not WQS subject to EPA review and approval under Section 303(c) of the CWA and EPA is taking no action to approve or disapprove Section 13.

XV. Enforcement

In accordance with its CWA authority, 33 U.S.C. §1313(c)(3) and 40 CFR 131, EPA is not taking an approval or disapproval action on Section 14 of the WQS.

Rationale

Section 14 provides authority to the Coeur d'Alene Tribe's Lake Management Department to enforce the Tribe's WQS. This enforcement statement does not describe a desired ambient condition of a water body to support a particular designated use. Therefore, the enforcement statement is not a water quality standard subject to EPA review and approval under Section 303(c) of the CWA and EPA is taking no action to approve or disapprove Section 14.

XVI. Allowance for Compliance Schedules

Section 15 specifies requirements for allowing compliance schedules for NPDES permits for discharges to Reservation TAS waters. Section 15 consists of the following text:

> *15. ALLOWANCE FOR COMPLIANCE SCHEDULES*
>
> *(1) NPDES permits issued under federal or tribal authority, and orders and directives of the Department issued under tribal authority for existing discharges or activities may include a schedule for achieving compliance with water quality criteria contained in this chapter. Such schedules of compliance shall be developed to ensure final compliance with all water quality criteria in the shortest practicable time, but not to exceed five years. Decisions regarding whether to issue schedules of compliance will be made on a case-by-case basis by the permitting agency and must be approved by the Department. Schedules of compliance may not be issued for new discharges or activities. Schedules of compliance may be issued to allow for:*
> *(a) construction of necessary treatment capability;*
> *(b) implementation of necessary best management practices;*

(c) implementation of additional best management practices for sources determined not to meet water quality criteria following implementation of an initial set of best management practices; and, (d) completion of necessary water quality studies.

(2) For the period of time during which compliance with water quality criteria is deferred, interim limitations and/or other conditions may be formally established, based on the best professional judgment of the permitting agency and the Department.

(3) Prior to establishing a schedule of compliance, the permitting agency shall require the permittee to evaluate the possibility of achieving water quality criteria via non-construction changes (e.g. facility operation, pollution prevention).

EPA Action

In accordance with its CWA authority, 33 U.S.C. § 1313(c)(3) and 40 CFR 131, EPA approves the Tribe's language in Section 15 authorizing use of compliance schedules pursuant to 40 CFR 122.47.

Rationale

A compliance schedule refers to an enforceable sequence of interim requirements in a National Pollutant Discharge Elimination System (NPDES) permit that leads to compliance with water quality based-effluent limitations[30] contained in an NPDES permit in accordance with the CWA. Compliance schedules provide a method by which dischargers are given a limited time period to comply with its NPDES permit limits, generally due to technological or financial inability to comply immediately. A compliance schedule may only be included in a NPDES permit if a state or tribe has clearly indicated in its WQS or implementing regulations that it intends to allow them.

The current WQS regulation at 40 CFR 131.13 allows states and tribes to adopt policies in their standards affecting the application and implementation of standards. Although these policies are areas of tribal discretion, EPA retains authority to review and approve or disapprove such policies. The regulation at 40 CFR 131.13 currently refers only to mixing zones, low flows, and variances. However, in response to an appeal of a NPDES permit, the EPA Administrator interpreted Section 301(b)(1)(C) of the CWA to mean that a permitting authority may issue a compliance schedule for water quality-based

[30] A water quality based effluent limit is an effluent limitation that is derived from, and complies with, a state or tribe's water quality criteria.

effluent limits in NPDES permits if the state or tribe has an authorizing provision allowing such compliance schedules in their WQS.[31,32]

EPA believes the adopted compliance schedule provision is sufficient to protect designated uses, and meets the intent of CWA 301(b)(1)(C). Additionally, the requirements in the compliance schedule provision are consistent with federal regulations at 40 CFR 122.47, which requires compliance "as soon as possible." In the Tribe's next triennial review, EPA recommends that the Tribe expand this provision to clarify that compliance schedules apply to water quality-based effluent limits in addition to water quality criteria.

XVII. Short-Term Exceedances

Section 16 includes five provisions that allow for short-term exceedances of the Tribe's adopted numeric and narrative water quality criteria under specific conditions. Section 16 contains the following text:

> *16. SHORT-TERM EXCEEDANCES*
>
> *(1) The criteria established in these standards may be exceeded for a specific water body on a short-term basis in order to respond to emergencies, to accommodate essential activities, or to otherwise protect the public health and welfare, even though such activities may result in a temporary reduction of water quality conditions below those criteria established by this regulation. Such exceedances shall be issued in writing by the Director, subject to such terms and conditions as he/she may prescribe.*
>
> *(2) Short-term exceedances shall not exceed a thirty day period and shall be kept as short as feasible.*
>
> *(3) In no case will any degradation of water quality or aquatic habitat be allowed if this degradation could interfere with, or becomes injurious to, existing water uses or causes long-term harm to the environment or cultural resources. No short-term exceedance may be issued where it could adversely impact threatened or endangered species or their critical habitat.*
>
> *(4) A request for a short-term exceedance shall be made, in writing, to the Department. Such requests shall be made at least thirty days prior to the start of the activity impacting water quality, unless the exceedance is in response to an emergency requiring immediate attention in which case notification shall be provided within twenty-four hours of the response decision.*

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[31] In *In the Matter of Star-Kist Caribe, Inc.* (April 16, 1990), the EPA Administrator (in an appeal of an EPA-issued NPDES permit) interpreted CWA section 301(b)(1)(C) to mean that: 1) after July 1, 1977, permits must require immediate compliance with (*i.e.,* may not contain compliance schedules) effluent limitation based on water quality standards adopted before July 1, 1977, and 2) compliance schedules are allowed for effluent limitations based on standards adopted after that date *only* if the state has clearly indicated in its water quality standards or implementing regulations that it intends to allow them (i.e., the state's or tribe's WQS or implementing regulations must contain a provision authorizing the use of permit-based compliance schedules). The latter requirement ensures that a permit including a compliance schedule still meets WQS pursuant to CWA 301(b)(1)(C).

[32] On September 4, 2013 EPA published a federal register notice titled *Water Quality Standards Regulatory Clarifications.* In this notice, EPA proposed to add a new regulatory provision at 40 CFR 131.15 to be consistent with the decision of the EPA Administrator in *In the Matter of Star-kist Caribe, Inc.* (see pages 54536-54537).

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(5) Aquatic application of all pesticides shall require a short-term exceedance be granted prior to application. These applications shall include, at a minimum, the following conditions:
(a) Such pesticide application shall be in accordance with all federal, tribal and local regulations; and,
(b) Such application shall be in accordance with label provisions promulgated by EPA under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended (7 U.S.C. 136, et seq.); and,
(c) Such application shall not result in conditions injurious to indigenous aquatic biota, wildlife, humans, cultural resources, or other existing or designated uses of the water body; and,
(d) Public notice, including identification of the pesticide, applicator, location where the pesticide will be applied, proposed timing and method of application, and any water use restrictions shall be provided by the applicator; and,
(e) The Department shall be notified at least three business days prior to pesticide application; and,
(f) Any additional conditions required by the Department.

(6) In the event of any fish kills or other harm to indigenous aquatic dependent resources, the Department shall be notified within three hours.

EPA Action

In accordance with its CWA authority, 33 U.S.C. § 1313(c)(3) and 40 CFR 131, EPA disapproves the short-term exceedances policy in Section 16 of the WQS.

Rationale

The short-term exceedances policy in Section 16 allows the Tribe the discretion to authorize exceedances of its WQS. This policy has the effect of allowing variances from WQS to be granted without the safeguards essential to be consistent with the requirements of Section 303 of the CWA and 40 CFR Part 131. EPA interprets its regulations to allow states and tribes to include variances in their WQS.[33] Variances need to satisfy the same substantive and procedural requirements as are mandated in 40 CFR 131.10(g) for removing a designated use.[34] However, the short-term exceedances provision does not require that at least one of the factors for removing a use at 40 CFR 131.10(g) has been satisfied. In addition, the provision does not include other required elements: 1) It does not ensure that a waiver from meeting criteria is reviewed at a minimum of once every three years consistent with 40 CFR 131.20 and is allowed to continue only if the conditions for granting a variance still apply; 2) It does not require a demonstration that reasonable further progress is being made towards meeting the standards; 3) The policy does not require individual applications of the short-term exceedances provision, as a revision to WQS, to be submitted to EPA for review and action consistent with 40 CFR 131.20 and 131.21; and 4) There may not be sufficient notice and opportunity for public comment on the application of the short-term exceedances provision to a particular discharge, at least in the context of general permits.

[33] See EPA's Advance Notice of Proposed Rulemaking, 63 Fed. Reg. 36759 (July 7, 1998).
[34] See EPA's *Water Quality Standards Handbook: Second Edition*, EPA-823-B-94-006, August 1994, and 63 FR 36742 (July 7, 1998).

Remedy to Address EPA's Disapproval

To address this disapproval, the Tribe should remove the short-term exceedances provision from the WQS.

XVIII. Public Involvement

In accordance with its CWA authority, 33 U.S.C. §1313(c)(3) and 40 CFR 131, EPA is not taking an approval or disapproval action on Section 17 of the WQS.

Rationale

Section 17 provides the Tribe's public involvement procedures related to WQS adoption and subsequent future revision. These public involvement procedures do not describe a desired ambient condition of a water body to support a particular designated use. Therefore, the public involvement procedures are not WQS subject to EPA review and approval under Section 303(c) of the CWA and EPA is taking no action to approve or disapprove Section 17.

XIX. Water Use Classifications

The Tribe has established its designated surface water uses for Reservation waters in Section 18, which consists of the following text:

> *18. WATER USE CLASSIFICATION*
>
> *Water quality standards regulations require the Tribe to specify appropriate water uses to be achieved and protected. Section 131.10 of 40 CFR requires that Tribes take into consideration the use and value of water for public water supplies; protection and propagation of fish, shellfish, and wildlife, recreation in and on the water, agricultural, industrial, and other purposes including navigation. The Tribe must also take into consideration the water quality standards of downstream waters, and ensure that its water quality standards provide for the attainment and maintenance of the water quality standards of downstream waters.*
>
> *The designated uses for which Reservation TAS Waters are to be protected include, but are not limited to, the following:*
>
> *(1) Domestic Water Supply. Surface waters which are suitable or intended to become suitable for drinking water supplies.*
>
> *(2) Agricultural Water Supply. Surface waters which are suitable or intended to become suitable for the irrigation of crops or as drinking water for livestock.*
>
> *(3) Recreational and Cultural Water Uses. Surface waters which are suitable or intended to become suitable for prolonged intimate contact by humans or for activities where the ingestion of small quantities of water is likely to occur. Such waters include, but are not restricted to, those used for swimming, wading, fishing, boating, or for ceremonial or cultural purposes.*

(4) Aquatic Life Uses
(a) Bull Trout and Cutthroat Trout. Surface waters used for, or naturally suitable as habitat for bull trout and cutthroat trout.

EPA Action

In accordance with its CWA authority, 33 U.S.C. § 1313(c)(3) and 40 CFR 131, EPA approves the water use classifications in Section 18 of the WQS.

Rationale

Section 18 establishes and describes the designated uses that are to be protected in Reservation TAS waters. Minimum requirements for state and tribally adopted WQS (40 CFR 131.6) include use designations consistent with the provisions of CWA Sections 101(a)(2) and 303(c)(2). CWA Sections 101(a)(2) and 303(c)(2) both specify the uses of recreation in and on the water and propagation of fish and wildlife. CWA Section 303(c)(2) and 40 CFR 131.10(a) also require consideration of additional uses, including public water supply, agricultural purposes, and others. The uses provided in WQS Section 18 include a recreational and cultural use, an aquatic life use, and additional uses (i.e., domestic water supply and agricultural water supply), and are consistent with Sections 101(a)(2) and 303(c)(2) of the Clean Water Act and regulatory requirements at 40 CFR 131.6 and 131.10(a).

40 CFR 131.10(b) requires consideration to be given to downstream waters when water uses are established for a state's or tribe's waters. The WQS of the state or tribe must ensure that the WQS of downstream waters are attained. Section 18 of the Tribe's WQS includes this requirement and is consistent with 40 CFR 131.10(b).

XX. Specific Water Quality Criteria for Use Classifications

Section 19 provides specific water quality criteria to protect the use classifications adopted in Section 18 of the WQS. Provisions 19(1) - (4) specify criteria for the domestic water supply use, the agricultural water supply use, recreational and cultural water uses, and aquatic life uses, specifically for bull trout and cutthroat trout.

A. Domestic Water Supply

Provision 19(1) consists of the following text:

(1) Domestic Water Supply. Waters designated for domestic water supply are subject to the following criteria:

(a) Turbidity. Turbidity shall not exceed 1 NTU (Nephelometric turbidity unit) over natural background levels when the natural background turbidity is 10 NTU or less, or have more than a 10 percent increase in turbidity when the natural background level is more than 10 NTU. Natural background turbidity for implementing this criteria is to represent the 90th percentile value of the annual average turbidity.

> *(b) pH. pH shall be within the range of 6.5 to 8.5, with a human caused variation within this range of less than 0.5 units over any 24 hour period.*
> *(c) Alkalinity. Alkalinity should generally be maintained within the range of 50 to 120 mg/L. Variations outside this range are to be avoided where practical alternatives exist.*
> *(d) Bacterial Waste. Livestock, pet, and human sewage are not allowed to drain or be discharged into Reservation TAS Waters unless controlled or treated with best management practices or waste treatment technology appropriate and approved by the Tribe or the U.S. Environmental Protection Agency.*
> *(e) Total Dissolved Solids. Total dissolved solids shall not exceed 500mg/L*

Section 18(1) defines the domestic water supply use as "surface waters which are suitable or intended to become suitable for drinking water supplies." This definition indicates that the criteria in Section 19(1) are intended to protect the Reservation TAS waters for use as source water in a domestic water treatment plant.

EPA Action

In accordance with its CWA authority, 33 U.S.C. § 1313(c)(3) and 40 CFR 131, EPA approves the water quality criteria for the domestic water supply use, Provisions 19(1)(b), (c) and (e). EPA partially approves and partially disapproves the turbidity criteria in Provision 19(1)(a). EPA is not taking an approval or disapproval action on provision 19(1)(d).

Rationale

The Tribe's numeric criteria for the protection of the domestic water supply use are consistent with 40 CFR 131.11(b) and the bacterial waste statement in Subsection 19(1)(d).

Paragraph 19(1)(a), Turbidity

The NPDWR provides turbidity limits in finished drinking water of 0.3 to 1 NTU, depending on the filtration procedure used by the treatment plant, with excursions allowed up to a maximum of 5 NTU for less than 5% of samples [40 CFR 141.73 and 40 CFR 141.173]. Turbidity limits are imposed because suspended particles in drinking water decrease the effectiveness of chlorination procedures used to disinfect the water and can also result in an increase in chlorination byproducts. The NPDWR turbidity limits promote effective drinking water treatment.

The turbidity criteria limit anthropogenic turbidity increases, requiring turbidity levels to remain close to natural levels. The turbidity criteria provide for a suitable water supply for treatment and, therefore, protect the waters designated for use as domestic water supply.

The Tribe adopted a definition of 'natural background' as "surface water quality that would be present without human-caused pollution" in Section 2, which EPA is approving. However, the turbidity criterion states: "Natural background turbidity for implementing this criteria is to represent the 90th percentile value of the annual average turbidity." This statement refers to ambient conditions and conflicts with the general definition of natural background. EPA is disapproving this statement in the turbidity criteria as it conflicts with the general definition for natural background, and because EPA does not believe that it is a scientifically defensible approach to determining natural background.

Paragraph 19(1)(b), pH

The pH range of 6.5 to 8.5 adopted by the Tribe is consistent with the National Secondary Drinking Water Regulations (NSDWR), which provide a secondary MCL for pH of 6.5 to 8.5. The Tribe's pH criteria limit anthropogenic pH fluctuations, requiring pH levels to remain close to natural levels. The pH criteria are consistent with a suitable water supply for treatment and, therefore, protect the waters designated for use as domestic water supply.

Paragraph 19(1)(c), Alkalinity

Alkalinity is a measure of the water's pH buffering capacity, its capacity to neutralize acids. The dominant compounds in water that contribute to alkalinity include bicarbonates, carbonates, and hydroxides. According to EPA's Gold Book (EPA 440/5-86-001, 1986), alkalinity levels below 400 mg/L are not detrimental to human health. The Tribe's numeric range of 50 to 120 mg/L for alkalinity is more stringent than EPA's 304(a) recommendation for the protection of human health and supports the domestic water supply use.

Paragraph 19(1)(d), Bacterial Waste

EPA is not taking an approval or disapproval action on this provision because this provision does not describe the desired condition of a waterbody and, therefore, it is not a WQS.

Paragraph 19(1)(e), Total Dissolved Solids

The total dissolved solids maximum value of 500 mg/L is consistent with the NSDWR (40 CFR 143.3) in accordance with the Safe Drinking Water Act. This criterion is the same as the secondary MCL for total dissolved solids. Use of the secondary drinking water standard for total dissolved solids will protect the domestic water supply use.

Remedy to Address EPA's Disapproval of the Turbidity Implementation Statement

To address this disapproval, the Tribe should delete the implementation statement from the turbidity criterion.

B. Agricultural Water Supply

Provision 19(2) consists of the following text:

> *(2) Agricultural Water Supply. Waters designated for agricultural water supply are subject to the following criteria:*
>
> *(a) Electrical Conductivity. Electrical conductivity is not to exceed an arithmetic mean of 700 microsiemens per centimeter during periods when the surface water is used as an agricultural water supply, based on a minimum of three samples.*
> *(b) Total Suspended Solids. The concentration of total suspended solids is not to exceed an arithmetic mean of 75 mg/L during periods when the surface water is used as an agricultural water supply, based on a minimum of three samples.*

> *(c) pH. pH shall be within the range of 6.5 to 8.5, with a human caused variation within this range of less than 0.5 units over any 24-hour period.*
> *(d) Bacterial Waste. Livestock, pet, and human sewage are not allowed to drain or be discharged into Reservation TAS Waters unless controlled or treated with best management practices or waste treatment technology appropriate and approved by the Tribe or the U.S. Environmental Protection Agency.*

WQS Section 18(2) defines the agricultural water supply use as "surface waters which are suitable or intended to become suitable for the irrigation of crops or as drinking water for livestock."

EPA Action

In accordance with its CWA authority, 33 U.S.C. § 1313(c)(3) and 40 CFR 131, EPA approves the water quality criteria for the agricultural water supply use in Provisions 19(2)(a), (b), and (c). EPA is not taking an approval or disapproval action on Provision 19(2)(d).

Rationale

The Tribe's numeric criteria for the protection of the agricultural water supply use are consistent with 40 CFR 131.11(b), with the exception of the bacterial waste statement in Subsection 19(2)(d), which is not considered a water quality standard.

Paragraph 19(2)(a), Electrical Conductivity

Electrical conductivity reflects the salinity of water, and salinity levels in irrigation water must be low enough to support plant growth. According to Ayers and Westcot (1985),[35] electrical conductivity less than 700 microSiemens per centimeter allows unrestricted use of water for irrigation. This value applies under "normal field conditions prevailing in most irrigated areas in the arid and semi-arid regions of the world" (footnotes to Table 1, Ayers and Westcot, 1985). According to USGS (2013), "The climate of the Coeur d'Alene Lake drainage area is mild and arid during summer, and is cold and wet during winter."[36] Based on this information, the conductivity criterion of 700 microSiemens per centimeter would protect the use of Reservation TAS waters for agricultural water supply.

Paragraph 19(2)(b), Total Suspended Solids

A total suspended solids (TSS) value of 75 mg/L falls in the middle of the range (50 - 100 mg/L) for slight to moderate water use restrictions related to clogging of drip irrigation systems, according to Ayers and Westcot (1985). TSS in waters at the criterion level is generally not expected to create difficulties with irrigation equipment overall. The criterion is expected to protect the use of waters for agricultural purposes.

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[35] Ayers, R.S. and D.W. Westcot. 1985. *Water quality for agriculture*. California Regional Water Quality Control Board, Sacramento, California. FAO Irrigation and Drainage Paper 29 Rev. 1.
URL: http://www.fao.org/docrep/003/t0234e/t0234e00.htm

[36] USGS 2013. *Water Budgets for Coeur d'Alene Lake, Idaho, Water Years 2000–2005*. U.S. Department of the Interior | U.S. Geological Survey.
URL: http://pubs.usgs.gov/sir/2009/5184/section2.html. Page last modified 1/10/2013; accessed 10/23/2013.

Paragraph 19(2)(c), pH

A pH range of 6.5 to 8.5 corresponds with EPA's national recommendation for protection of fresh water uses. The limit on human-caused variations to 0.5 unit is reasonable given the potential for pH changes to impact ammonia toxicity and the availability of metals. The criterion is expected to protect the use of waters for agricultural purposes.

Paragraph 19(2)(d), Bacterial Waste

EPA is not taking an approval or disapproval action on this provision because it does not describe the desired condition of a waterbody and, therefore, it is not a WQS.

C. Recreational and Cultural Uses

Provision 19(3) consists of the following text:

> *(3) Recreational, and Cultural Water Uses.*
>
> *Waters designated for recreational and cultural use shall not contain concentrations of E. coli bacteria exceeding a 30-day geometric mean of 126 per colonies/100 ml, based on a minimum of 5 samples, and a single sample maximum of 235 colonies/100ml.*

EPA Action

In accordance with its CWA authority, 33 U.S.C. § 1313(c)(3) and 40 CFR 131, EPA approves the following text of the water quality criteria for specific use classifications in Section 19(3):

> *(3) Recreational, and Cultural Water Uses.*
>
> *(a) Waters designated for recreational and cultural use shall not contain concentrations of E. coli bacteria exceeding a 30-day geometric mean of 126 per colonies/100 ml ... and a single sample maximum of 235 colonies/100ml.*

EPA is not taking an approval or disapproval action on the following language at Section 19(3)(a) of the WQS: "...based on a minimum of 5 samples..."

Rationale

Microbiological Criteria

The criteria provide allowable limits for the magnitude of *E. coli* levels and requirements for the duration of the averaging period and the frequency of exceedance of the criteria. The criteria for magnitude include a geometric mean of 126 colonies per 100 mL and a maximum value of 235 colonies per 100 mL for any individual measurement. A 30-day duration applies to the geometric mean, and no exceedance is allowed for the geometric mean and the single sample maximum level (i.e., the allowed frequency of exceedance is zero).

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EPA's recreational water quality criteria recommendations[37] are based on levels of the indicator bacteria *E. coli* and enterococci, which are indicators for the presence of pathogens in fecal pollution that can cause acute gastrointestinal illness. *E. coli* and enterococci are the bacteria that most accurately predict acute gastrointestinal illness in fresh waters. The Tribe's use of *E. coli* as the indicator species is a scientifically sound approach to protecting recreational and cultural uses of the Reservation TAS waters.

The Tribe's geometric mean of 126 colonies per 100 mL is sufficiently protective of recreational and cultural uses of the waters. The single sample maximum criterion is also protective of the recreational and cultural uses of the Reservation TAS waters. It serves to identify spikes in bacterial densities, which is the purpose of the STV discussed in EPA's 2012 *Recreational Water Quality Criteria*.

The Tribe's numeric criteria for the protection of the recreational and cultural uses, as approved, are consistent with 40 CFR 131.11(b)(1)(i) and with EPA's recommendations in the 2012 *Recreational Water Quality Criteria*.

Minimum Number of Samples Statement

The requirement for a minimum of five samples does not describe the desired condition of the water body. This requirement is related to assessment and implementation procedures and is not a WQS. The Tribe has indicated that the intention of the requirement for at least 5 samples is to ensure collection of sufficient samples to support a robust evaluation of bacterial densities, not to limit the criteria for the geometric mean to situations where at least 5 samples are available. The Tribe has adopted sampling procedures that reflect this intention, as follows: If any single sample approaches or exceeds the criterion, four additional samples will be collected within the 30-day period to ensure that five samples are available for evaluation. When fewer than five samples are available for a given 30-day period, the criterion will apply to the geometric mean criterion of all available samples.[38]

Because the requirement for a minimum of five samples is not a water quality standard subject to EPA review and approval under Section 303(c) of the CWA, EPA is taking no action to approve or disapprove this requirement. EPA recommends the Tribe review EPA's 2012 *Recreational Water Quality Criteria* during the next triennial review.

D. Aquatic Life Uses

Provisions 19(1), 19(2), and 19(4) consist of the following text:

> *(4) Aquatic Life Uses. Waters designated for specific aquatic life uses are subject to the following criteria.*
>
> *(a) Bull Trout and Cutthroat Trout.*
>
> *(i) pH. pH shall be within the range of 6.5 to 8.5, with a human caused variation within this range of less than 0.5 units over any 24-hour period.*

[37] EPA. 2012. *Recreational Water Quality Criteria* (EPA 820-F-12-058). Office of Water, Washington, DC.
[38] Kinzo Mihara, December 18, 2013 [Email message]. Coeur d'Alene, ID: Howard Funke & Associates.

(ii) Dissolved Oxygen. Dissolved oxygen (DO) shall exceed 8.0 mg/L at all times. From June 1 to September 30 DO criteria shall be determined by natural conditions at the time of stratification. In the event natural conditions are less than 8mg/L at the time of stratification the natural condition found at that time (for that time period only) will become the standard, pursuant to Section 4.

(A) Natural Conditions for DO and Temperature. When TAS waters stratify (usually in June) the average whole water column DO content and temperature at the time of stratification shall be considered the natural condition (for DO and temperature only), pursuant to Section 4.
(B) In TAS waters greater than 15 meters this standard applies to the bottom (deepest) 80 percent of the water column present below the metalimnion. In TAS waters less than 15 meters and greater than 8 meters this standard applies to only the bottom 50 percent of the water column present below the metalimnion. TAS waters exhibiting total water column depths less than 8 meters are not expected to maintain a stable stratified condition and are therefore exempt from this standard.

(iii) Temperature. From June 1, through September 30, the 7-day average of the daily maximum temperatures within the hypolimnion is not to exceed 16°C.

In thermally stratified TAS waters the hypolimnetic temperature shall be determined by natural conditions as defined in Section 19 (4), (a), (ii), (A) and pursuant to Section 4 of these standards. In TAS waters greater than 15 meters this standard applies to the bottom 80 percent of the lake water column present below the metalimnion. In TAS waters less than 15 meters and greater than 8 meters this standard applies to only the bottom 50 percent of the water column present below the metalimnion. TAS waters exhibiting total water column depths less than 8 meters are not expected to maintain a stable stratified condition and are therefore exempt from this standard.

(iv) Turbidity. Turbidity shall not exceed 5 NTU over natural background levels when the natural background turbidity is 50 NTU or less, or have more than a 10 percent increase in turbidity when the natural background level is more than 50 NTU. Natural background turbidity for implementing this criteria is to represent the 90th percentile value of the annual average turbidity.

Provision 19(4) consists of four standards that protect aquatic life, specifically bull trout and cutthroat trout. WQS Section 18(4)(a) defines the aquatic life use for bull trout and cutthroat trout as "Surface waters used for, or naturally suitable as habitat for bull trout and cutthroat trout." The Reservation TAS waters are used by adult and subadult bull trout, but suitable bull trout spawning habitats are not found within or near the Reservation TAS waters.

EPA Action

In accordance with its CWA authority, 33 U.S.C. § 1313(c)(3) and 40 CFR 131, EPA approves the water quality criteria for aquatic life use in Provisions 19(4)(a)(i), (ii), and (iii). EPA partially approves and partially disapproves the turbidity criteria in Provision 19(4)(a)(iv).

Rationale

The Tribe's numeric and narrative criteria for the protection of the aquatic life use (specifically, use by bull trout and cutthroat trout) are consistent with 40 CFR 131.11(b), with the exception of the turbidity implementation statements in Subsection 19(4)(a)(iv).

Paragraph 19(4)(a)(i), pH

Provision 19(4)(a)(i) specifies a pH criterion for the protection of bull trout and cutthroat trout. The pH criterion states that the pH shall be within a range of 6.5 to 8.5 with a human caused variation within the above range of less than 0.5 units over any 24-hour period. This pH range is consistent with EPA's 304(a) criteria recommendation (*National Recommended Water Quality Criteria* 2004, EPA 822-Z-99-001). The limit on human-caused variations is reasonable given the potential for pH changes to change ammonia toxicity and the availability of metals. Therefore, the pH criterion is consistent with 40 CFR 131.11(b)(1)(i) and is expected to protect the aquatic life use of the waters.

Paragraph 19(4)(a)(ii), Dissolved Oxygen

Provision 19(4)(a)(ii) presents dissolved oxygen (DO) criteria for protection of bull trout and cutthroat trout. This provision states that the DO level shall exceed 8.0 mg/L at all times. The EPA Gold Book[39] includes recommended dissolved oxygen criteria for various taxonomic and life stage classifications. The recommended one day minimum dissolved oxygen criterion is 8.0 mg/L for early life stages of cold water fish. This criterion was developed under the assumption that the waters contain a population of one or more species in the family Salmonidae. The dissolved oxygen criterion of 8.0 mg/L is consistent with EPA's guidance for cold waters protective of early life stages of salmonids[40] The criterion would also be protective of the less sensitive adult and subadult salmonids, including bull trout and cutthroat trout, that are found in the Reservation TAS waters.

Provision 19(4)(a)(ii) includes a narrative criterion that would prohibit further degradation in the lower hypolimnion throughout the seasonal summer stratification in the event that the DO criterion of 8 mg/L is not met at the onset of lake stratification. From June 1 to September 30, the time period during which the lake is typically stratified, the DO criterion for the lower hypolimnion would be set at the ambient DO level found at the time of stratification pursuant to Section 4, and no further decrease of DO would be permitted for the remainder of the stratification period. Section 4 of the WQS specifies a process for developing site-specific criteria, which includes a public review process prior to the Tribe's formal adoption and submittal to EPA for CWA review and approval of any site-specific criterion. Therefore, to the extent the Tribe would adopt a different DO criterion for the lower hypolimnion during stratification, that criterion would be submitted to EPA as a site-specific criterion. This process is consistent with requirements of the CWA. EPA's approval rationale for Section 4 is described in Part V of this decision document.

[39] U.S. Environmental Protection Agency. 1986. *Quality Criteria for Water*. U.S. EPA Report 4405-86-001.
[40] Ibid.

Paragraph 19(4)(a)(iii), Temperature

Provision 19(4)(a)(iii) establishes temperature criteria for protection of bull trout and cutthroat trout, both salmonid species. This provision states that the seven day average of the daily maximum temperatures is not to exceed 16°C in the lake's hypolimnion from June 1 to September 30, which approximates the period during which the lake becomes stratified.

The Tribe's temperature criteria correspond with the criteria recommendation in EPA Region 10's 2003 temperature guidance for salmon and trout "core" juvenile rearing[41] (i.e., 16°C as the 7 day average daily maximum temperature). This criterion is recommended to "(1) safely protect juvenile salmon and trout from lethal temperatures; (2) provide upper optimal conditions for juvenile growth under limited food during the period of summer maximum temperatures and optimal temperatures for other times of the growth season; (3) avoid temperatures where juvenile salmon and trout are at a competitive disadvantage with other fish; (4) protect against temperature-induced elevated disease rates; and (5) provide temperatures that studies show juvenile salmon and trout prefer and are found in high densities..."[42] EPA Region 10 guidance recommends this temperature criterion for waters where adult and subadult bull trout foraging and migration occurs during the period of summer maximum temperatures.

Provision 19(4)(a)(iii) also includes a narrative criterion that would prohibit further degradation in the lower hypolimnion throughout the summer in the event that the temperature criterion of 16°C is not met at the onset of lake stratification. The temperature criterion in the lower hypolimnion would be determined by the ambient water temperature at the time of stratification, if the water is warmer than 16°C at that time, pursuant to Section 4. No further increase in temperature would be permitted for the remainder of the seasonal stratification period. Section 4 of the WQS specifies a process for developing site-specific criteria, which includes a public review process prior to the Tribe's formal adoption and submittal to EPA for CWA review and approval of any site-specific criterion. Therefore, to the extent the Tribe would adopt a different temperature criterion for the lower hypolimnion during stratification, that criterion would be submitted to EPA as a site-specific criterion. This process is consistent with requirements of the CWA. EPA's approval rationale for Section 4 is described in Part V of this decision document.

Paragraph 19(4)(a)(iv), Turbidity

Provision 19(4)(a)(iv) presents turbidity criteria for the protection of bull trout and cutthroat trout. The turbidity criteria limit anthropogenic turbidity contributions to a 10% increase over natural background levels. When the natural background turbidity is 50 nephelometric turbidity units (NTU) or less, anthropogenic turbidity increases are limited to 5 NTU.

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[41] EPA. 1986. *Quality Criteria for Water*. U.S. EPA Report 4405-86-001. Office of Water Regulations and Standards. Washington, DC.
[42] Ibid., page 26

EPA's recommended 304(a) criterion for turbidity is a narrative that states, "Settleable and suspended solids should not reduce the depth of the compensation point for photosynthetic activity by more than 10 percent from the seasonally established norm for aquatic life."[43]

Turbidity varies naturally in response to a variety of factors such as storm water runoff and changing stream flow rates and productivity levels, and aquatic species have adapted to variations in turbidity. Tolerance to brief periods of high sediment levels or turbidity is a trait essential to survival in an environment where runoff events and floods can result in dramatic increases in turbidity.[44,45] Short term exposures to high turbidity and suspended solids levels (100,000 mg/L) have been demonstrated to have no lasting effect on aquatic species (Wallen, 1951). In addition, salmonid strategies for coping with turbid waters include using off-channel, clean-water refugia and temporary holding at clean water tributary mouths.

The Tribe's turbidity criteria are based on the increase of turbidity over natural background. In evaluating the protectiveness of Alaska's turbidity criteria for salmonids, Lloyd (1987)[46] assessed the impacts of turbidity increases of 25 and 5 NTU over naturally occurring background in clear water streams. Based on a review of existing data, it was determined that a "moderate" level of protection roughly translates into turbidity increases of up to 23 NTUs above natural conditions for the protection of fish and wildlife. A "high" level of protection is roughly translated into values ranging up to 7 NTUs above background. These data indicate that the Tribe's turbidity criterion of 5 NTU over natural background would provide a high level of protection for salmonids. The Tribe's turbidity criterion allowing up to a 10% increase in turbidity when natural background turbidity is more than 50 NTU would provide moderate protection until 230 NTU based on Lloyd (1987) (as a 10% increase over a natural background of 230 NTU equals 23 NTU). A "high" level of protection would be provided by the criteria at a natural background up to 70 NTU. Ambient turbidity levels in the Reservation TAS waters are typically in the range of less than 1 to 24 NTU.[47] A 10 percent increase in turbidity at the high end of the range would be less than 7 NTU and would be protective of salmonids.

Provision 19(4)(a)(iv) also includes an implementation statement for determining natural background turbidity. The Tribe adopted a definition of 'natural background' as "surface water quality that would be present without human-caused pollution" in Section 2, which EPA is approving. However, the turbidity criterion states: "Natural background turbidity for implementing this criteria is to represent the 90th percentile value of the annual average turbidity." This statement refers to ambient conditions and conflicts with the general definition of natural background. EPA is disapproving this statement in the

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[43] EPA. 1986. *Quality Criteria for Water*. U.S. EPA Report 4405-86-001. Office of Water Regulations and Standards. Washington, DC.

[44] Rowe, M., D. Essig, and B. Jessup. 2003. *Guide to Selection of Sediment Targets for Use in Idaho TMDLs*. Idaho Department of Environmental Quality, Boise, ID. June 2003. 46 pp. plus appendices.

[45] Gammon, J.R. 1970. *The effect of inorganic sediment on stream biota*. U.S. Environmental Protection Agency, Water Pollution Control Research Series 18050 DWC 12/70, Washington, D.C.

[46] Lloyd, D.S. 1987. *Turbidity as a water quality standard for salmonid habitats in Alaska*. North American Journal of Fisheries Management 7:34-45.

[47] Scott Fields, February 13, 2014 [Personal communication]. Plummer, ID: Water Resources Program, Coeur d'Alene Tribe.

turbidity criteria as it conflicts with the general definition for natural background and because EPA does not believe that it is a scientifically defensible approach to determining natural background.

Remedy to Address EPA's Disapproval

To address this disapproval, the Tribe should delete the implementation statement from the turbidity criterion.

XXI. General Classifications and Specific Classifications

The Tribe has adopted general water use classifications that apply to all of the Reservation TAS waters in Section 20 of the WQS. Specific water use classifications are adopted in Section 21. Sections 20 and 21 consist of the following text:

> *20. GENERAL CLASSIFICATIONS*
>
> *All Reservation TAS Waters shall be designated, at a minimum, for the protection of Bull Trout and Cutthroat Trout and for recreational and cultural uses, unless a Use Attainability Analysis has first been performed in accordance with water quality standards regulations at 40 CFR 131.10(g). All surface waters not specifically classified in Section 21 shall be designated for aquatic life uses and for recreational and cultural uses. Unclassified Reservation TAS Waters must be of sufficient quality to ensure that downstream uses are fully protected. All Reservation TAS Waters shall be designated for the uses of industrial water supply, aesthetics, and wildlife habitat. Water quality criteria for those uses will be generally satisfied by implementation of the General Conditions in Section 3, and the Narrative Criteria in Section 5.*
>
> *21. SPECIFIC CLASSIFICATIONS*
>
> *Specific classifications for Reservation TAS Waters:*

Water Body Name	***Class***
Lake Coeur d'Alene	*1,3,4a*
St. Joe River	*1,2,3,4a*
Use Classification Key:	
Domestic Water Supply	*1*
Agricultural Water Supply	*2*
Recreational and Cultural Use	*3*
Aquatic Life Uses	*4*
	4a: Bull Trout and Cutthroat Trout

EPA Action

In accordance with its CWA authority, 33 U.S.C. § 1313(c)(3) and 40 CFR 131, EPA approves the general use classifications for Reservation TAS waters in Section 20 and the specific use classifications for Reservation TAS waters in Section 21 of the WQS.

Rationale

The Tribe's WQS must specify the appropriate designated uses to be achieved and protected in Reservation TAS waters. The WQS must take into consideration the use and value of the water for the propagation and protection of fish, shellfish, and wildlife; for recreation in and on the waters; and other uses [CWA Sections 101(a)(2) and 303(c)(2) and 40 CFR 131.6(a)]. The Tribe's designated uses are identified in Section 18, and they are applied to the Reservation TAS waters in Sections 20 and 21.

Section 20 provides general use classifications for all Reservation TAS waters and for Reservation TAS waters that are not specifically classified in Section 21. The designated uses for surface waters not specifically classified in Section 21 include protection of aquatic life and recreational and cultural uses. Uses established in Section 20 for all Reservation TAS waters include bull trout and cutthroat trout (a subcategory of aquatic life) as well as industrial water supply, aesthetics, and wildlife habitat. The use classifications in Section 20 reflect the existing uses of the water and are consistent with EPA guidance and requirements for the adoption of designated uses [40 CFR 131.10].

Section 21 of the Tribe's WQS identifies specific uses for Reservation TAS waters. All of the Reservation TAS waters are designated for use as domestic water supply, recreational and cultural use, and aquatic life use (specifically, use by bull trout and cutthroat trout). The Reservation TAS waters within St. Joe River are additionally designated for use as agricultural water supply. These use designations also reflect existing uses and are consistent with EPA guidance and requirements for the adoption of designated uses [40 CFR 131.10].

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APPENDIX A

Water Quality Standards for Approved Surface Waters of the Coeur d'Alene Tribe

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WATER QUALITY STANDARDS FOR APPROVED SURFACE WATERS OF THE COEUR D'ALENE TRIBE

2010

Prepared for: The United State's Environment Protection Agency (Region 10)

Prepared by: The Coeur d'Alene Tribe's Lake Management Department

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WATER QUALITY STANDARDS FOR APPROVED SURFACE WATERS OF THE COEUR D'ALENE TRIBE

1. INTRODUCTION

(1) Aware of the terms of the Executive Orders of 1867 and 1873, federal recognition in the Federal Register, December 29, 1988 and the Tribal Constitution and By-Laws, ratified June 5, 1947 as amended, all of which provide that the Coeur d'Alene Indian Reservation shall be reserved by the United States for the purpose of establishing an independent exclusive political and economic community for the Coeur d'Alene Tribe and its members; the Coeur d'Alene Tribe hereby establishes these water quality standards covering those surface waters of Coeur d'Alene Lake and the St. Joe River within the exterior boundaries of the 1894 Coeur d'Alene Reservation. (Referred to herein as "Reservation TAS Waters"). These standards shall provide a mechanism for managing and regulating the quality and use of said waters by establishing the water quality goals for specific waterbodies, and providing a legal basis for regulatory controls.

(2) These standards have been adopted pursuant to Sections 303 and 518 of the Clean Water Act and Chapter 42 of the Coeur d'Alene Tribal Code. These standards shall serve to protect the public health and welfare, enhance the quality of waters of the Coeur d'Alene Tribe, and serve the purposes of the Clean Water Act.

(3) The purposes of these water quality standards are to restore, maintain and protect the chemical, physical, biological, and cultural integrity of Coeur d'Alene Reservation TAS Waters; to promote the health, social welfare, and economic well-being of the Coeur d'Alene Tribe, its people, and all the residents of the Coeur d'Alene Reservation; to achieve a level of water quality that provides for all cultural uses of the water, the protection and propagation of fish and wildlife, for recreation in and on the water, and all existing and designated uses of the water; to promote the holistic watershed approach to management of Reservation TAS Waters of the Coeur d'Alene Tribe; to provide for the protection of threatened and endangered species and to provide necessary guidance for the protection and/or maintenance of water quality throughout Reservation TAS waters.

(4) These standards are designed to establish the uses for which the Reservation TAS Waters shall be protected, to prescribe water quality standards (narrative and numeric) to sustain the designated uses, and to protect existing water quality.

(5) The water use and quality criteria set forth herein are established in conformance with water uses of Coeur d'Alene Reservation TAS Waters and in consideration of the natural water quality potential and limitations of the same.

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2. DEFINITIONS

The following definitions are intended to facilitate the use of this chapter.

"Acute toxicity" refers to a stimulus severe enough to rapidly induce an effect; in aquatic toxicity tests, an effect observed in 96-hours or less is typically considered acute. When referring to aquatic toxicology or human health, an acute effect is not always measured in terms of lethality.

"Appropriate reference site or region" means a site on the same waterbody or within the same basin or eco-region that has similar habitat conditions and which is expected to represent the water quality and biological community attainable in the absence of human caused disturbances within the area(s) of concern.

"Aquatic species" means any plant or animal, which lives at least part of their life cycle in water.

"Best management practices (BMP)" means physical, structural, and/or managerial practices that, when used singularly or in combination, prevent or reduce pollution.

"Bioaccumulation" means the process by which a compound is taken up by and accumulates in an aquatic organism, from water, food, and sediments.

"Bioaccumulative chemicals" are any chemical that accumulates in aquatic organisms by a human health bioaccumulation factor greater than 1000 and has the potential upon entering surface waters to cause adverse effects, either by itself or in a form of its toxic transformation product, as a result of that accumulation.

"Biological assessment" is an evaluation of the biological condition of a water body using surveys of aquatic community structure, function, diversity, presence or absence, or other direct measurements of resident biota in surface waters.

"Biological criteria" means numerical values or narrative expressions that describe the biological integrity or aquatic communities inhabiting waters of a given designated aquatic life use. Biological criteria serve as an index of aquatic community health.

"Carcinogen" means any substance or agent that produces or tends to produce cancer in humans. For implementation of this chapter, the term carcinogen will apply to substances on the EPA lists of A (known human), B (probable human), and C (possible human) carcinogens.

"Chapter" means the *Water Quality Standards for Approved Surface Waters of the Coeur d'Alene Tribe* as set forth within this regulation.

"Chronic toxicity" means an adverse effect to an organism caused by a fairly long-term exposure (when compared to the life span of the organism) to a pollutant. These effects include changes in

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feeding, growth, metabolism, reproduction, and genetic mutations. Short-term test methods for detecting chronic toxicity may be used.

"Constructed wetlands" means those wetlands intentionally created from non-wetland sites for the primary purpose of wastewater or stormwater treatment.

"Created wetlands" means those wetlands intentionally created from non-wetland sites to produce or replace natural wetland habitat.

"Critical condition" is when the physical, chemical, and biological characteristics of the receiving water environment interact with the effluent to produce the greatest potential adverse impact on aquatic biota and existing or characteristic water uses. For steady-state discharges to riverine systems the critical condition may be assumed to be equal to the 7Q10 flow event unless determined otherwise by the department.

"Cultural water use" means those water uses necessary to support and maintain the way of life of the Coeur d'Alene People including, but not limited to: use for sufficient flow for fish survival, and wildlife needs, and preservation of habitat for berries, roots, medicines and other vegetation significant to the values of the Coeur d'Alene People. Cultural water uses also include ceremonial activities involving Native American spiritual and cultural practices which may involve intimate contact with water and consumption of water. This shall include uses of a waterbody to fulfill cultural, traditional, spiritual, or religious needs of the Coeur d'Alene Tribe, as approved by the Coeur d'Alene Tribe.

"CWA" means the federal Clean Water Act (33 USC 1251 et seq.), as amended.

"Damage to the ecosystem" means any demonstrated or predicted stress to aquatic or terrestrial organisms or communities of organisms which the Department concludes may interfere with the health or survival success or natural structure and functioning of such populations. This stress may be due to alteration in habitat or changes in water temperature, chemistry, or turbidity, or other causes. In making a determination regarding ecosystem damage, the Department shall consider the cumulative effects of pollutants or incremental changes in habitat that may create stress over the long term.

"Department" means the Coeur d'Alene Tribe's Lake Management Department

.

"Director" means the Director of the Coeur d'Alene Tribe's Lake Management Department.

"Designated use" means a use that is specified in water quality standards as a goal for a waterbody segment, whether or not it is currently being attained.

"E. coli": Escherichia coli means that portion of the coliform bacteria group, which is present in the intestinal tract, and feces of warm-blooded animals. E. coli is used as a direct indicator of human or animal caused fecal contamination in water. Presence of significant levels of E. coli in the water has been linked to gastroenteristis in humans.

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"EPA" means the United States Environmental Protection Agency.

"Epilimnion" means the top-most layer in a thermally stratified lake, occurring above the deeper hypolimnion.

"Existing uses" means all uses actually attained in the water body on or after November 28, 1975, whether or not they are explicitly stated as designated uses in the water quality standards or presently exist.

"Geometric mean" means either the nth root of a product of n factors, or the antilogarithm of the arithmetic mean of the logarithms of the individual sample values.

"Hardness" means a measure of the calcium and magnesium salts present in water. For the purpose of this chapter, hardness is measured in milligrams per liter and expressed as calcium carbonate ($CaCO_3$).

"Hypolimnion" means the lowest, (usually coldest) layer of a stratified lake and lies below the metalimnion and epilimnion.

"Intermittent stream" means a waterway, which flows only at certain times of the year or does not flow continuously.

"Mean detention time" means the time obtained by dividing a reservoir's mean annual minimum total storage by the thirty-day ten-year low-flow from the reservoir.

"Metalimnion" means the middle layer of a stratified lake it lies below the epilimnion and above the hypolimnion. The metalimnion is usually characterized by showing a rapid temperature drop (1 degree C/1 meter in depth change) with increasing depth.
"mg/L" means milligrams per liter.

"Migration or translocation" means any natural movement of an organism or community of organisms from one locality to another locality.

"Mixing Zone" means that portion of water body adjacent to a point source discharge where mixing results in the dilution of the effluent with the receiving water. Water quality numeric criteria may be exceeded in a mixing zone as conditioned and provided for in section 12.

"Mutagen" means substances or chemicals with the ability to increase the frequency or extent of a significant and basic alteration in an organism's chromosomes or genetic material as determined according to the United States Environmental Protection Agency Guidelines for Mutagenicity Risk Assessment, 51 Fed. Reg. 34006 (1986)

"Natural background" or "Natural conditions" means surface water quality that would be present without human-caused pollution. When assessing natural background conditions in the

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headwaters of a disturbed watershed it may be necessary to use the natural background conditions of a neighboring or similar watershed as a reference condition.

"Near Instantaneous and Complete Mix" means no more than a 10 percent difference in bank-to-bank concentrations within a longitudinal distance not greater than 2 stream/river widths.

"Nonpoint source" means pollution that enters any waters from any dispersed land-based or water-based activities, including but not limited to, atmospheric deposition, surface water runoff from agricultural lands, urban areas or forest lands; subsurface or underground sources; or discharges from boats or marine vessels not otherwise regulated under the National Pollutant Discharge Elimination System program.

"NPDES" means National Pollutant Discharge Elimination System, the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under sections 307, 402, 318, and 405 of the CWA.

"NTU" means as nephelometric turbidity units (NTU) and measured with a calibrated turbidimeter.

"ppm" means parts per million.

"Permit" means a document issued pursuant to tribal code or federal laws (such as NPDES, CWA, Section 401; CWA, Section 404) specifying the waste treatment and control requirements and waste discharge conditions.

"Persistent pollutant" means a pollutant which is slow to or does not decay, degrade, transform, volatilize, hydrolyze, or photolyze. A chemical with a half-life greater than two months in the water column, sediment and biota.

"Person" means any individual or group or combination thereof acting as a unit, however associated; any organization of any kind, whether organized for profit or not, and regardless of the form in which it does business, whether as a sole proprietorship, partnership, joint venture, trust, unincorporated association, corporation, government, including any part, subdivision, or agency of any of the foregoing, or otherwise; and any combination of individuals or organizations in whatever form, and the plural as well as the singular number.

"pH" means the negative logarithm of the hydrogen ion concentration.

"Point source" means any discernible, confined and discrete conveyance, including, but not limited to, any pipe, ditch, channel, sewer, tunnel, conduit, well, discrete fissure, container, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged.

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"Pollutant" includes dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials (except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. 2011 et seq.)), heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water.

"Pollution" includes such contamination, or other alteration of the physical, chemical or biological properties, of any waters of the Tribe, including change in temperature, taste, color, turbidity, or odor of the waters, or such discharge of any liquid, gaseous, solid, radioactive, or other substance into any waters of the Tribe as will or is likely to create a nuisance or impair any beneficial use of such waters.

"Receiving waters" means any watercourse or water body that receives treated or untreated wastewater.

"Reservation" means all lands within the exterior boundaries of the Coeur d'Alene Reservation.

"Reservation Waters" or "Coeur d'Alene Reservation Waters" includes lakes, rivers, ponds, streams (including intermittent and ephemeral streams), wetlands, and all other surface waters and water courses within the exterior boundaries of the 1894 Coeur d'Alene Reservation. These waters are portrayed in Map Attachments 1 through 4 hereto and referred to therein as "Reservation Waters."

"Reservation TAS Waters" or "Coeur d'Alene Reservation TAS Waters" means waters that are a distinct yet connected sub-set of the "Reservation Waters" and for which EPA has expressly approved the *Water Quality Standards for Approved Surface Waters of the Coeur d'Alene Tribe* under section 303 of the CWA and affirmed the Tribes authority to set water quality standards under section 518(e) of the CWA. These waters are portrayed in Map Attachments 1 through 4 hereto and referred to therein as "Reservation TAS Waters." EPA's approval of the Tribe's water quality standards and confirmation of the Tribe's authority to regulate water quality on these waters does not in any way release the Coeur d'Alene Tribe's claim to sole authority to regulate all Coeur d'Alene Reservation Waters and all Disputed Waters.

"Disputed Waters" means all navigable waters within the exterior boundaries of the 1873 Coeur d'Alene Reservation over which the Coeur d'Alene Tribe maintains claims to jurisdiction, including, but not limited to, the Coeur d'Alene River downstream from Cataldo, including the lateral lakes, the southern half of the Spokane River to the Washington State border, and Coeur d'Alene Lake, to the extent not addressed by the decision in *Idaho v. United States*, 121 S.Ct. 2135 (2001). A portion of these waters are portrayed in Map Attachments 1 through 4 hereto and referred to therein as "Disputed Waters."

"Reference aquatic community" means aquatic life expected to exist in a particular habitat when water quality standards for a specific eco-region, basin, or water body are met. This shall be established by accepted biomonitoring techniques and comparison with aquatic communities occurring in appropriate reference sites within the eco-region.

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"Stormwater" means that portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a stormwater drainage system into a defined surface waterbody, or a constructed infiltration facility.

"Temperature" means water temperature expressed in degrees Celsius (° C).

"Teratogen" means substances or chemicals with the ability to cause developmental malformations and monstrosities, as determined according to the United States Environmental Protection Agency Guidelines for Health Assessment of Suspect Developmental Toxicants, 51 Fed. Reg. 34028 (1986),

"Threatened or endangered species (listed species)" means any species of fish, wildlife, or plant which has been determined to be endangered or threatened under section 4 of the Endangered Species Act. Listed species are found in 50 CFR 17.11.-17.12.

"Toxicity" means acute or chronic toxicity.

"Toxicity test" means a test using selected organisms to determine the acute or chronic effects of a chemical pollutant or whole effluent.

"Toxic pollutant" means those pollutants, or combinations of pollutants, which after discharge and upon exposure, ingestion, inhalation or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will, on the basis of information available to EPA or the Department, cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions (including malfunctions in reproduction) or physical deformations, in such organisms or their offspring.

"Tribal Council" means the governing body of the Coeur d'Alene Tribe which has been empowered to act for and on behalf of the Coeur d'Alene Tribe pursuant to the revised Constitution and By-Laws, adopted by the Coeur d'Alene Tribe by referendum November 10, 1984, and approved by the Secretary of the Interior, Bureau of Indian Affairs, December 21, 1984.

"Tribe" means the Coeur d'Alene Tribe.

"Turbidity" means the clarity of water expressed as nephelometric turbidity units (NTU) and measured with a calibrated turbidimeter.

"ug/L" means micrograms per liter.

"Wastes" include sewage, industrial wastes, and all other liquid, gaseous, solid, radioactive, or other substances which will or may cause pollution or tend to cause pollution of any water body.

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"Water quality" means the chemical, physical, biological, and cultural characteristics of a waterbody.

"Wetland" means any area that is inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

"Wildlife habitat" means the waters of the Tribe used by, or that directly or indirectly provide food support to, fish, other aquatic life, and wildlife for any life history stage or activity.

"Zone of initial dilution" means the region of initial mixing surrounding or adjacent to the outfall pipe or diffuser port, in which dilution is caused by the momentum and buoyancy of the discharge.

3. GENERAL CONDITIONS

The following conditions shall apply to the water quality criteria and classifications set forth herein.

(1) All Reservation TAS Waters shall be free from pollutants in concentrations or combinations that do not protect the most sensitive use of the water body, except as provided for under Mixing Zones (section 12).

(2) Whenever the natural conditions of Reservation TAS Waters are of a lower quality than the criteria assigned, the Department may determine that the natural conditions shall constitute the water quality criteria, following the procedures set forth in Section 4.

(3) At the boundary between waters of different classifications, the more stringent water quality criteria shall prevail. When a distinction cannot be made among surface water, wetlands, groundwater, or sediments, the applicable standards shall depend on which existing or designated use is, or could be, adversely affected. If existing or beneficial uses of more than one resource are affected, the most protective criteria shall apply.

(4) The Department may revise criteria on an area-wide or waterbody-specific basis as needed to protect aquatic life and human health and other existing and designated uses and to increase the technical accuracy of the criteria being applied. The Department shall formally adopt any revised criteria following public review and comment.

(5) In aquatic habitats where more than one designated use exists, the most stringent use standards will apply.

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4. SITE-SPECIFIC CRITERIA

(1) The Tribe may revise criteria on reservation TAS waters as needed to protect aquatic life and human health and other existing and designated uses to increase the technical accuracy of the criteria being applied.

(2) The Department will, in its discretion, establish a site-specific water quality criterion that modifies a water quality criterion set out in Section 7 or 19, in regulation, as described in (3) and (4) of this section.

(3) Whenever the natural condition of the surface reservation TAS waters are demonstrated to be of lower quality than the criteria assigned, the Tribe may determine that the natural conditions shall constitute the water quality criteria,

(a) If the natural condition varies with time, the natural condition will be determined as the natural condition measured during an annual, seasonal, or shorter period of time prior to human caused influence.

(b) The Tribe may, at its discretion determine a natural condition for one or more seasonal or shorter time period to reflect variable ambient conditions.

(c) Historical data or data from an appropriate reference site, that represents natural condition may be used to determine the criterion.

(4) Upon application, or on its own initiative, the Department will, in its discretion, set site-specific criteria if the Department finds that the evidence reasonably demonstrates that the site-specific criterion fully protects designated uses in section 18 and that:

(a) for reasons specific to a certain site, a criterion in Section 7 or Section 19 is more stringent or less stringent than necessary to ensure full protection of the corresponding use class; or

(b) a criterion would be better expressed in terms different from those in Section 7 or Section 19.

(c) The species or habitats present, or expected to be present under natural conditions, are more sensitive or less sensitive to a substance than indicated by the criterion, and a site-specific criterion is required to prevent adverse effects or to alleviate unnecessarily restrictive general criterion; or

(d) the natural characteristics of the receiving environment would increase or reduce the biological availability or the toxicity of a substance, or otherwise alter the substance, and a site-specific criterion is required to prevent adverse effects or to alleviate an unnecessarily restrictive general criterion.

(5) An applicant seeking a site-specific criterion under this section shall provide all information that the Department determines is necessary to modify an existing criterion. The Department will, in a timely manner, request and review for completeness, information submitted under this subsection. In all cases, the burden of proof is on the applicant seeking a site-specific criterion.

(6) Any modifications to the criteria in Section 7 or Section 19 will be adopted in regulation.

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(7) The Tribe shall formally adopt any revised criteria following public review and comment.

(8) Revised criteria will be submitted to EPA, after adoption by the Tribe, for review along with any information that will aid EPA to determine the adequacy of the scientific basis of the revised criterion.

5. NARRATIVE CRITERIA

All Reservation TAS Waters, including those within designated mixing zones, shall be free from substances attributable to point source discharges, non-point sources, or instream activities in accordance with the following:

(1) Floating Solids, Oil and Grease: All waters shall be free from visible oils, scum, foam, grease, and other floating materials and suspended substances of a persistent nature resulting from anthropogenic causes.

(2) Color: True color-producing materials resulting from anthropogenic causes shall not create an aesthetically undesirable condition; nor should color inhibit photosynthesis or otherwise impair the existing and designated uses of the water.

(3) Odor and Taste: Water contaminants from anthropogenic causes shall be limited to concentrations that will not impart unpalatable flavor to fish, or result in offensive odor or taste arising from the water, or otherwise interfere with the existing and designated uses of the water.

(4) Nuisance Conditions: Nutrients or other substances from anthropogenic causes shall not be present in concentrations which will produce objectionable algal densities or nuisance aquatic vegetation, result in a dominance of nuisance species, or otherwise cause nuisance conditions.

(5) Turbidity: Turbidity shall not be at a level to impair designated uses or aquatic biota.

(6) Bottom Deposits: All Reservation TAS Waters shall be free from anthropogenic contaminants that may settle and have a deleterious effect on the aquatic biota or that will significantly alter the physical and chemical properties of the water or the bottom sediments.

6. ANTIDEGRADATION POLICY

(1) Existing uses and the level of water quality necessary to protect the existing uses shall be maintained and protected. Where designated uses of the water body are impaired, there shall be no measurable lowering of water quality with respect to the pollutant or pollutants which are causing or contributing to the impairment.

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(2) Where the quality of the waters exceeds levels necessary to support propagation of fish and wildlife and recreation in and on the water, that quality shall be maintained and protected unless the Tribe finds, after the Tribe's intergovernmental coordination and public participation provisions have been met, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. In allowing such degradation or lowering of water quality, the Tribe shall assure the degradation will continue to fully protect existing uses and will not adversely affect threatened and endangered species or public health as determined by the Department. Further, the Tribe shall assure that there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective, and reasonable best management practices for nonpoint source control.

(3) Outstanding resource waters. Waters meeting one or more of the following criteria shall be considered for outstanding resource water designation:

(a) Outstanding national or tribal resource;
(b) Documented critical habitat for populations of threatened or endangered species;
(c) Waters of exceptional recreational, ceremonial, cultural, or ecological significance; or
(d) Waters supporting priority species as determined by the Tribe.

(4) Where waters constitute an outstanding resource water, the water quality and uses shall be maintained and protected and pollutants that will reduce the existing quality thereof shall not be allowed to enter such waters. To accomplish this the Department may require water quality controls, maintenance of natural flow regimes, protection of instream habitats, and pursuit of land use practices protective of the watershed.

(5) In those cases where potential water quality impairments associated with thermal discharge are involved, the Antidegradation Policy and implementing methods shall be consistent with Section 316 of the Clean Water Act, as amended.

7. TOXIC SUBSTANCES

(1) Toxic substances shall not be introduced into Reservation TAS Waters in concentrations which have the potential either singularly or cumulatively to adversely affect existing and designated water uses, cause acute or chronic toxicity to the most sensitive biota dependent upon those waters, or adversely affect public health, as determined by the Department, except as allowed for under Mixing Zones.

(2) The Department shall employ or require chemical testing, acute and/or chronic toxicity testing, and biological assessments, as appropriate, to evaluate compliance with subsection (1) of this section. Where necessary the Department shall establish controls to ensure that aquatic communities and the existing and designated beneficial uses of waters are being fully protected.

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(3) Criteria for toxic, and other substances not listed shall be determined with consideration of *USEPA Quality Criteria for Water* found at, EPA-822-H-04-001 December 2004 and other relevant information as appropriate.

(4) Risk-based criteria for carcinogenic substances shall be applied such that the upper-bound excess cancer risk is less than or equal to one in one million, which means the probability of one excess cancer per one million people exposed.

(5) The aquatic organism consumption rate utilized in determining the human health criteria shall be EPA's current recommended rate of 17.5 g/day as provided in 63 F.R. 43756.

(6) Criteria for metals shall be applied as dissolved values. Except lead and selenium which are represented as total recoverable.

(7) The criteria in the following table shall be applied to all Reservation TAS Waters for the protection of aquatic life and human health.

(8) Criteria Maximum Concentration and Criterion Continuous Concentration
The Criteria Maximum Concentration (CMC) is an estimate of the highest concentration of a material in surface water to which an aquatic community can be exposed briefly without resulting in an unacceptable effect. The Criterion Continuous Concentration (CCC) is an estimate of the highest concentration of a material in surface water to which an aquatic community can be exposed indefinitely without resulting in an unacceptable effect. The CMC and CCC are just two of the six parts of an aquatic life criterion; the other four parts are the acute averaging period, chronic averaging period, acute frequency of allowed exceedence, and chronic frequency of allowed exceedence. Because 304(a) aquatic life criteria are national guidance, they are intended to be protective of the vast majority of the aquatic communities in the United States.

(9) Contaminants Without Numeric Criteria (Blanks)
EPA has not calculated criteria for contaminants with blanks. However, permit authorities should address these contaminants in NPDES permit actions using the Tribe's existing narrative criteria for toxics.

(10) WATER QUALITY CRITERIA FOR TOXIC POLLUTANTS

The concentration for each compound listed in this table is a criterion for aquatic life or human health protection. Selecting values for regulatory purposes will depend on the most sensitive beneficial use to be protected and the level of protection necessary for aquatic life and human health as specified within this table. All concentrations, except asbestos, are micrograms per liter (µg/L). All values are expressed as dissolved except lead and selenium which are expressed as total recoverable.

Numeric Criteria for Toxic Substances for TAS waters designated for Aquatic Life, Recreation and Cultural or Domestic Water Supply Use.

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a. Columns A1, A2, and B2 of the following table apply to TAS waters designated for aquatic life use.
b. Column B2 of the following table applies to TAS waters designated for recreation and cultural use.
c. Column B1 of the following table applies to TAS waters designated for domestic water supply use

					Human Health For Consumption of:		
Priority Pollutant		**CAS Number**	**CMC (µg/L) A1**	**CCC (µg/L) A2**	**Water + Organism (µg/L) B1**	**Organism Only (µg/L) B2**	**FR Cite/ Source**
1	Ammonia	7664417	FRESHWATER CRITERIA ARE pH, Temperature and Life-stage DEPENDENT – see section 12 of this chapter				EPA822-R-99-014
2	Antimony	7440360			5.6 B	640 B	65FR66443
3	Arsenic	7440382	340 A,D,K	150 A,D,K	0.018 C,M,S	0.14 C,M,S	65FR31682 57FR60848
4	Beryllium	7440417			Z		65FR31682
5	Cadmium	7440439	2.0 D,E,K,bb	0.25 D,E,K,bb	Z		EPA-822-R-01-001 65FR31682
6	Chlorine	7782505	19	11			Gold Book
7	Chromium (III)	16065831	570 D,E,K	74 D,E,K	Z Total		EPA820/B-96-001 65FR31682
8	Chromium (VI)	18540299	16 D,K	11 D,K	Z Total		65FR31682
9	Copper	7440508	13 D,E,K,cc	9.0 D,E,K,cc	1,300 U		65FR31682

					Human Health For Consumption of:		
Priority Pollutant		CAS Number	CMC (µg/L) A1	CCC (µg/L) A2	Water + Organism (µg/L) B1	Organism Only (µg/L) B2	FR Cite/ Source
10	Lead	7439921	82 E	3.2 E			65FR31682
11	Mercury	7439976	1.4 D,K,	0.012hh	0.05	0.051	57FR60848 62FR42160 65FR31682
12	Nickel	7440020	470 D,E,K	52 D,E,K	610 B	4,600 B	65FR31682
13	Selenium	7782492		5.0 T	170 Z	4200	65FR31682 65FR66443
14	Silver	7440224	3.2 D,E,G				65FR31682
15	Thallium	7440280			0.24	0.47	68FR75510
16	Zinc	7440666	120 D,E,K	120 D,E,K	7,400 U	26,000 U	65FR31682 65FR66443
17	Cyanide	57125	22 K,Q	5.2 K,Q	140 jj	140 jj	EPA820/B-96-001 57FR60848 68FR75510
18	Asbestos	1332214			7 million fibers/L I		57FR60848
19	2,3,7,8-TCDD (Dioxin)	1746016			5.0E-9 C	5.1E-9 C	65FR66443
20	Acrolein	107028			190	290	65FR66443
21	Acrylonitrile	107131			0.051 B,C	0.25 B,C	65FR66443

					Human Health For Consumption of:		
Priority Pollutant		CAS Number	CMC (µg/L) A1	CCC (µg/L) A2	Water + Organism (µg/L) B1	Organism Only (µg/L) B2	FR Cite/ Source
22	Benzene	71432			2.2 B,C	51 B,C	IRIS 01/19/00 &65FR66443
23	Bromoform	75252			4.3 B,C	140 B,C	65FR66443
24	Carbon Tetrachloride	56235			0.23 B,C	1.6 B,C	65FR66443
25	Chlorobenzene	108907			130 Z,U,	1,600 U	68FR75510
26	Chlorodibromomethane	124481			0.40 B,C	13 B,C	65FR66443
27	Chloroethane	75003					
28	2-Chloroethylvinyl Ether	110758					
29	Chloroform	67663			5.7 C,P	470 C,P	62FR42160
30	Dichlorobromomethane	75274			0.55 B,C	17 B,C	65FR66443
31	1,1-Dichloroethane	75343					
32	1,2-Dichloroethane	107062			0.38 B,C	37 B,C	65FR66443
33	1,1-Dichloroethylene	75354			330	7,100	68FR75510
34	1,2-Dichloropropane	78875			0.50 B,C	15 B,C	65FR66443
35	1,3-Dichloropropene	542756			0.34 c	21 c	68FR75510
36	Ethylbenzene	100414			530	2,100	68FR75510
37	Methyl Bromide	74839			47 B	1,500 B	65FR66443
38	Methyl Chloride	74873					65FR31682

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					Human Health For Consumption of:		
Priority Pollutant		CAS Number	CMC (µg/L) A1	CCC (µg/L) A2	Water + Organism (µg/L) B1	Organism Only (µg/L) B2	FR Cite/ Source
39	Methylene Chloride	75092			4.6 B,C	590 B,C	65FR66443
40	1,1,2,2-Tetrachloroethane	79345			0.17 B,C	4.0 B,C	65FR66443
41	Tetrachloroethylene	127184			0.69 C	3.3 C	65FR66443
42	Toluene	108883			1,300 Z	15,000	68FR75510
43	1,2-Trans-Dichloroethylene	156605			140 Z	10,000	68FR75510
44	1,1,1-Trichloroethane	71556			Z		65FR31682
45	1,1,2-Trichloroethane	79005			0.59 B,C	16 B,C	65FR66443
46	Trichloroethylene	79016			2.5 C	30 C	65FR66443
47	Vinyl Chloride	75014			0.025 C,kk	2.4 C,kk	68FR75510
48	2-Chlorophenol	95578			81 B,U	150 B,U	65FR66443
49	2,4-Dichlorophenol	120832			77 B,U	290 B,U	65FR66443
50	2,4-Dimethylphenol	105679			380 B	850 B,U	65FR66443
51	2-Methyl-4,6-Dinitrophenol	534521			13	280	65FR66443
52	2,4-Dinitrophenol	51285			69 B	5,300 B	65FR66443
53	2-Nitrophenol	88755					
54	4-Nitrophenol	100027					

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					Human Health For Consumption of:		
Priority Pollutant		CAS Number	CMC (µg/L) A1	CCC (µg/L) A2	Water + Organism (µg/L) B1	Organism Only (µg/L) B2	FR Cite/ Source
55	3-Methyl-4-Chlorophenol	59507			U	U	
56	Pentachlorophenol	87865	19 F,K	15 F,K	0.27 B,C	3.0 B,C,H	65FR31682 65FR66443
57	Phenol	108952			21,000 B,U	1,700,000 B,U	65FR66443
58	2,4,6-Trichlorophenol	88062			1.4 B,C	2.4 B,C,U	65FR66443
59	Acenaphthene	83329			670 B,U	990 B,U	65FR66443
60	Acenaphthylene	208968					
61	Anthracene	120127			8,300 B	40,000 B	65FR66443
62	Benzidine	92875			0.000086 B,C	0.00020 B,C	65FR66443
63	Benzo(a)Anthracene	56553			0.0038 B,C	0.018 B,C	65FR66443
64	Benzo(a)Pyrene	50328			0.0038 B,C	0.018 B,C	65FR66443
65	Benzo(b)Fluoranthene	205992			0.0038 B,C	0.018 B,C	65FR66443
66	Benzo(ghi)Perylene	191242					
67	Benzo(k)Fluoranthene	207089			0.0038 B,C	0.018 B,C	65FR66443
68	Bis(2-Chloroethoxy)Methane	111911					

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					Human Health For Consumption of:		
Priority Pollutant		CAS Number	CMC (µg/L) A1	CCC (µg/L) A2	Water + Organism (µg/L) B1	Organism Only (µg/L) B2	FR Cite/ Source
69	Bis(2-Chloroethyl)Ether	111444			0.030 B,C	0.53 B,C	65FR66443
70	Bis(2-Chloroisopropyl)Ether	108601			1,400 B	65,000 B	65FR66443
71	Bis(2-Ethylhexyl)Phthalate[X]	117817			1.2 B,C	2.2 B,C	65FR66443
72	4-Bromophenyl Phenyl Ether	101553					
73	Butylbenzyl Phthalate[W]	85687			1,500 B	1,900 B	65FR66443
74	2-Chloronaphthalene	91587			1,000 B	1,600 B	65FR66443
75	4-Chlorophenyl Phenyl Ether	7005723					
76	Chrysene	218019			0.0038 B,C	0.018 B,C	65FR66443
77	Dibenzo(a,h)Anthracene	53703			0.0038 B,C	0.018 B,C	65FR66443
78	1,2-Dichlorobenzene	95501			420	1,300	68FR75510
79	1,3-Dichlorobenzene	541731			320	960	65FR66443
80	1,4-Dichlorobenzene	106467			63	190	68FR75510
81	3,3'-Dichlorobenzidine	91941			0.021 B,C	0.028 B,C	65FR66443
82	Diethyl Phthalate[W]	84662			17,000 B	44,000 B	65FR66443
83	Dimethyl Phthalate[W]	131113			270,000	1,100,000	65FR66443

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					Human Health For Consumption of:		
Priority Pollutant		CAS Number	CMC (µg/L) A1	CCC (µg/L) A2	Water + Organism (µg/L) B1	Organism Only (µg/L) B2	FR Cite/ Source
84	Di-n-Butyl Phthalate[W]	84742			2,000 B	4,500 B	65FR66443
85	2,4-Dinitrotoluene	121142			0.11 C	3.4 C	65FR66443
86	2,6-Dinitrotoluene	606202					
87	Di-n-Octyl Phthalate	117840					
88	1,2-Diphenylhydrazine	122667			0.036 B,C	0.20 B,C	65FR66443
89	Fluoranthene	206440			130 B	140 B	65FR66443
90	Fluorene	86737			1,100 B	5,300 B	65FR66443
91	Hexachlorobenzene	118741			0.00028 B,C	0.00029 B,C	65FR66443
92	Hexachlorobutadiene	87683			0.44 B,C	18 B,C	65FR66443
93	Hexachlorocyclopentadiene	77474			40 U	1,100 U	68FR75510
94	Hexachloroethane	67721			1.4 B,C	3.3 B,C	65FR66443
95	Ideno(1,2,3-cd)Pyrene	193395			0.0038 B,C	0.018 B,C	65FR66443
96	Isophorone	78591			35 B,C	960 B,C	65FR66443
97	Naphthalene	91203					
98	Nitrobenzene	98953			17 B	690 B,H,U	65FR66443
99	N-Nitrosodimethylamine	62759			0.00069 B,C	3.0 B,C	65FR66443

					Human Health For Consumption of:		
Priority Pollutant		CAS Number	CMC (µg/L) A1	CCC (µg/L) A2	Water + Organism (µg/L) B1	Organism Only (µg/L) B2	FR Cite/ Source
100	N-Nitrosodi-n-Propylamine	621647			0.0050 B,C	0.51 B,C	65FR66443
101	N-Nitrosodiphenylamine	86306			3.3 B,C	6.0 B,C	65FR66443
102	Phenanthrene	85018					
103	Pyrene	129000			830 B	4,000 B	65FR66443
104	1,2,4-Trichlorobenzene	120821			35	70	68FR75510
105	Aldrin	309002	3.0 G		0.000049 B,C	0.000050 B,C	65FR31682 65FR66443
106	alpha-BHC	319846			0.0026 B,C	0.0049 B,C	65FR66443
107	beta-BHC	319857			0.0091 B,C	0.017 B,C	65FR66443
108	gamma-BHC (Lindane)	58899	0.95 K		0.98	1.8	65FR31682 68FR75510
109	delta-BHC	319868					
110	Chlordane	57749	2.4 G	0.0043 G,aa	0.00080 B,C	0.00081 B,C	65FR31682 65FR66443
111	4,4'-DDT	50293	1.1 G,ii	0.001 G,aa,ii	0.00022 B,C	0.00022 B,C	65FR31682 65FR66443

					Human Health For Consumption of:		
Priority Pollutant		CAS Number	CMC (µg/L) A1	CCC (µg/L) A2	Water + Organism (µg/L) B1	Organism Only (µg/L) B2	FR Cite/ Source
112	4,4'-DDE	72559			0.00022 B,C	0.00022 B,C	65FR66443
113	4,4'-DDD	72548			0.00031 B,C	0.00031 B,C	65FR66443
114	Dieldrin	60571	0.24 K	0.056 K,O	0.000052 B,C	0.000054 B,C	65FR31682 65FR66443
115	alpha-Endosulfan	959988	0.22 G,Y	0.056 G,Y	62 B	89 B	65FR31682 65FR66443
116	beta-Endosulfan	33213659	0.22 G,Y	0.056 G,Y	62 B	89 B	65FR31682 65FR66443
117	Endosulfan Sulfate	1031078			62 B	89 B	65FR66443
118	Endrin	72208	0.086 K	0.036 K,O	0.059	0.060	65FR31682 68FR75510
119	Endrin Aldehyde	7421934			0.29 B	0.30 B,H	65FR66443
120	Heptachlor	76448	0.52 G	0.0038 G,aa	0.000079 B,C	0.000079 B,C	65FR31682 65FR66443
121	Heptachlor Epoxide	1024573	0.52 G,V	0.0038 G,V,aa	0.000039 B,C	0.000039 B,C	65FR31682 65FR66443
122	Polychlorinated Biphenyls PCBs:			0.014 N,aa	0.000064 B,C,N	0.000064 B,C,N	65FR31682 65FR66443

					Human Health For Consumption of:		
Priority Pollutant		CAS Number	CMC (µg/L) A1	CCC (µg/L) A2	Water + Organism (µg/L) B1	Organism Only (µg/L) B2	FR Cite/ Source
123	Toxaphene	8001352	0.73	0.0002 aa	0.00028B ,C	0.00028 B,C	65FR31682 65FR66443

Note: The values for dissolved metals that are shown on this table are calculated using a hardness of 100.

Footnotes:

A This recommended water quality criterion was derived from data for arsenic (III), but is applied here to total arsenic, which might imply that arsenic (III) and arsenic (V) are equally toxic to aquatic life and that their toxicities are additive. In the arsenic criteria document (EPA 440/5-84-033, January 1985), Species Mean Acute Values are given for both arsenic (III) and arsenic (V) for five species and the ratios of the SMAVs for each species range from 0.6 to 1.7. Chronic values are available for both arsenic (III) and arsenic (V) for one species; for the fathead minnow, the chronic value for arsenic (V) is 0.29 times the chronic value for arsenic (III). No data are known to be available concerning whether the toxicities of the forms of arsenic to aquatic organisms are additive.

B This criterion has been revised to reflect The Environmental Protection Agency's q1* or RfD, as contained in the Integrated Risk Information System (IRIS) as of May 17, 2002. The fish tissue bioconcentration factor (BCF) from the 1980 Ambient Water Quality Criteria document was retained in each case.

C This criterion is based on carcinogenicity of 10^{-6} risk. Alternate risk levels may be obtained by moving the decimal point (e.g., for a risk level of 10^{-5}, move the decimal point in the recommended criterion one place to the right).

D Freshwater criteria for metals are expressed in terms of the dissolved metal in the water column. The recommended water quality criteria value was calculated by using the previous 304(a) aquatic life criteria expressed in terms of total recoverable metal, and multiplying it by a conversion factor (CF). The term "Conversion Factor" (CF) represents the recommended conversion factor for converting a metal criterion expressed as the total recoverable fraction in the water column to a criterion expressed as the dissolved fraction in the water column See "Office of Water Policy and Technical Guidance on Interpretation and Implementation of Aquatic Life Metals Criteria", October 1, 1993, by Martha G. Prothro, Acting Assistant Administrator for Water, available from the Water Resource center, USEPA, 401 M St., SW,

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mail code RC4100, Washington, DC 20460; and 40CFR131.36(b)(1). Conversion Factors applied in the table can be found in section 11 of this chapter.

E The freshwater criterion for this metal is expressed as a function of hardness (mg/L) in the water column. The value given here corresponds to a hardness of 100 mg/L. Criteria values for other hardness may be calculated from the following: CMC (dissolved) = $\exp\{m_A [\ln(\text{hardness})] + b_A\}$ (CF), or CCC (dissolved) = $\exp\{m_C [\ln(\text{hardness})] + b_C\}$ (CF) and the parameters specified in section 11 of this chapter - Parameters for Calculating Freshwater Dissolved Metals Criteria That Are Hardness-Dependent. Lead is expressed at Total Lead using the equation CMC (total) = $\exp\{m_A [\ln(\text{hardness})] + b_A\}$, or CCC (total) = $\exp\{m_C [\ln(\text{hardness})] + b_C\}$ and the parameters specified in section 11 of this chapter. Hardness is based on the ambient values found at the time of sampling; no low end hardness cap is used.

F Freshwater aquatic life values for pentachlorophenol are expressed as a function of pH, and are calculated as follows: CMC = exp(1.005(pH)-4.869); CCC = exp(1.005(pH)-5.134). Values displayed in table correspond to a pH of 7.8.

G This Criterion is based on 304(a) aquatic life criterion issued in 1980, and was issued in one of the following documents: Aldrin/Dieldrin (EPA 440/5-80-019), Chlordane (EPA 440/5-80-027), DDT (EPA 440/5-80-038), Endosulfan (EPA 440/5-80-046), Endrin (EPA 440/5-80-047), Heptachlor (EPA 440/5-80-052), Hexachlorocyclohexane (EPA 440/5-80-054), Silver (EPA 440/5-80-071). The Minimum Data Requirements and derivation procedures were different in the 1980 Guidelines than in the 1985 Guidelines. For example, a "CMC" derived using the 1980 Guidelines was derived to be used as an instantaneous maximum. If assessment is to be done using an averaging period, the values given should be divided by 2 to obtain a value that is more comparable to a CMC derived using the 1985 Guidelines.

H No criterion for protection of human health from consumption of aquatic organisms excluding water was presented in the 1980 criteria document or in the *1986 Quality Criteria for Water*. Nevertheless, sufficient information was presented in the 1980 document to allow the calculation of a criterion, even though the results of such a calculation were not shown in the document.

I This criterion for asbestos is the Maximum Contaminant Level (MCL) developed under the Safe Drinking Water Act (SDWA).

J This letter not used as a footnote.

K This recommended criterion is based on a 304(a) aquatic life criterion that was issued in the *1995 Updates: Water Quality Criteria Documents for the Protection of Aquatic Life in Ambient Water*, (EPA-820-B-96-001, September 1996). This value was derived using the GLI Guidelines (60FR15393-15399, March 23, 1995; 40CFR132 Appendix A); the difference between the 1985 Guidelines and the GLI Guidelines are explained on page iv of the 1995 Updates.

L This letter not used as a footnote.

M EPA is currently reassessing the criteria for arsenic.

N This criterion applies to total PCBs, (e.g., the sum of all congener or all isomer or homolog or Aroclor analyses.)

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O The derivation of the CCC for this pollutant (Endrin) did not consider exposure through the diet, which is probably important for aquatic life occupying upper trophic levels.

P Although a new RfD is available in IRIS, the surface water criteria will not be revised until the National Primary Drinking Water Regulations: Stage 2 Disinfectants and Disinfection Byproducts Rule (Stage 2 DBPR) is completed, since public comment on the relative source contribution (RSC) for chloroform is anticipated.

Q This recommended water quality criterion is expressed as weak acid dissociable µg free cyanide (as CN)/L.

R This letter not used as a footnote.

S This recommended water quality criterion for arsenic refers to the inorganic form only.

T This recommended water quality criterion for selenium is expressed in terms of total recoverable metal in the water column. It is scientifically acceptable to use the conversion factor (0.996- CMC or 0.922- CCC) that was used in the GLI to convert this to a value that is expressed in terms of dissolved metal.

U The organoleptic effect criterion is more stringent than the value for priority toxic pollutants.

V This value was derived from data for heptachlor and the criteria document provides insufficient data to estimate the relative toxicities of heptachlor and heptachlor epoxide.

W Although EPA has not published a completed criteria document for butylbenzyl phthalate it is EPA's understanding that sufficient data exist to allow calculation of aquatic criteria. It is anticipated that industry intends to publish in the peer reviewed literature draft aquatic life criteria generated in accordance with EPA Guidelines. EPA will review such criteria for possible issuance as national WQC.

X There is a full set of aquatic life toxicity data that show that DEHP is not toxic to aquatic organisms at or below its solubility limit.

Y This value was derived from data for endosulfan and is most appropriately applied to the sum of alpha-endosulfan and beta-endosulfan.

Z A more stringent MCL has been issued by EPA. Refer to drinking water regulations (40 CFR 141) or Safe Drinking Water Hotline (1-800-426-4791) for values.

aa This criterion is based on a 304(a) aquatic life criterion issued in 1980 or 1986, and was issued in one of the following documents: Aldrin/Dieldrin (EPA 440/5-80-019), Chlordane (EPA 440/5-80-027), DDT (EPA 440/5-80-038), Endrin (EPA 440/5-80-047), Heptachlor (EPA 440/5-80-052), Polychlorinated biphenyls (EPA 440/5-80-068), Toxaphene (EPA 440/5-86-006). This CCC is currently based on the Final Residue Value (FRV) procedure. Since the publication of the Great Lakes Aquatic Life Criteria Guidelines in 1995 (60FR15393-15399, March 23, 1995), the Agency no longer uses the Final Residue Value procedure for deriving CCCs for new or revised 304(a) aquatic life criteria. Therefore, the Agency anticipates that future revisions of this CCC will not be based on the FRV procedure.

bb This water quality criterion is based on a 304(a) aquatic life criterion that was derived using the 1985 Guidelines (*Guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses*, PB85-227049, January 1985) and was issued in one of the following criteria documents: Arsenic (EPA 440/5-84-033), Cadmium

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(EPA-822-R-01-001), Chromium (EPA 440/5-84-029), Copper (EPA 440/5-84-031), Cyanide (EPA 440/5- 84-028), Lead (EPA 440/5-84-027), Nickel (EPA 440/5-86-004), Pentachlorophenol (EPA 440/5-86-009), Toxaphene, (EPA 440/5-86-006), Zinc (EPA 440/5-87- 003).

cc When the concentration of dissolved organic carbon is elevated, copper is substantially less toxic and use of Water-Effect Ratios might be appropriate.

dd This letter not used as a footnote.

ee This letter not used as a footnote.

ff This letter not used as a footnote.

gg EPA is actively working on this criterion and so this recommended water quality criterion may change substantially in the near future.

hh if the CCC for mercury exceeds 0.012 ug/l more than once in a 3-year period in the ambient water, the edible portion of aquatic species of concern must be analyzed to determine whether the concentration of methylmercury exceeds the FDA action level.

ii This criterion applies to DDT and its metabolites (i.e., the total concentration of DDT and its metabolites should not exceed this value).

jj This recommended water quality criterion is expressed as total cyanide, even though the IRIS RFD we used to derive the criterion is based on free cyanide. The multiple forms of cyanide that are present in ambient water have significant differences in toxicity due to their differing abilities to liberate the CN-moiety. Some complex cyanides require even more extreme conditions than refluxing with sulfuric acid to liberate the CN-moiety. Thus, these complex cyanides are expected to have little or no 'bioavailability' to humans. If a substantial fraction of the cyanide present in a water body is present in a complexed form (e.g., $Fe_4[Fe(CN)_6]_3$), this criterion may be over conservative.

kk This recommended water quality criterion was derived using the cancer slope factor of 1.4 (LMS exposure from birth).

(11) Calculation of Dissolved Metals Criteria

The 304(a) criteria for metals, shown as dissolved metals, are calculated in one of two ways. For freshwater metals criteria that are hardness-dependent, the dissolved metal criteria were calculated using a hardness of 100 mg/l as $CaCO_3$ for illustrative purposes only. Freshwater metals' criteria that are not hardness-dependent are calculated by multiplying the total recoverable criteria before rounding by the appropriate conversion factors. The final dissolved metals' criteria in the table are rounded to two significant figures. Information regarding the calculation of hardness dependent conversion factors are included in the footnotes. Actual hardness values found at the time of sampling shall be used in hardness-dependent calculations. High end hardness is capped at 400mg/L and is not capped at the low end.

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Conversion Factors for Dissolved Metals

Metal	Conversion Factor freshwater CMC	Conversion Factor freshwater CCC
Arsenic	1.000	1.000
Cadmium	1.136672-[(ln hardness)(0.041838)]	1.101672-[(ln hardness)(0.041838)]
Chromium III	0.316	0.860
Chromium VI	0.982	0.962
Copper	0.960	0.960
Mercury	0.85	0.85
Nickel	0.998	0.997
Selenium	--	--
Silver	0.85	--
Zinc	0.978	0.986

Parameters for Calculating Freshwater Dissolved Metals Criteria That Are Hardness-Dependent

Chemical	m_A	b_A	m_C	b_C	Freshwater Conversion Factors (CF)	
					CMC	CCC
Cadmium	1.0166	-3.924	0.7409	-4.719	1.136672-[(ln hardness)(0.04183	1.101672-[(ln hardness)(0.04183

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Chemical	m_A	b_A	m_C	b_C	Freshwater Conversion Factors (CF)	
					CMC	CCC
					8)]	8)]
Chromium III	0.8190	3.7256	0.8190	0.6848	0.316	0.860
Copper	0.9422	-1.700	0.8545	-1.702	0.960	0.960
Lead (Total)	1.273	-1.460	1.273	-4.705		
Nickel	0.8460	2.255	0.8460	0.0584	0.998	0.997
Silver	1.72	-6.59	--	--	0.85	--
Zinc	0.8473	0.884	0.8473	0.884	0.978	0.986

Hardness-dependent metals= criteria may be calculated from the following:
CMC (dissolved) = $\exp\{m_A [\ln(\text{hardness})] + b_A\}$ (CF); CCC (dissolved) = $\exp\{m_C [\ln(\text{hardness})] + b_C\}$ (CF)
Total Lead: CMC = $\exp\{m_A [\ln(\text{hardness})] + b_A\}$; CCC = $\exp\{m_C [\ln(\text{hardness})] + b_C\}$

(12) Calculation of Freshwater Ammonia Criterion

(a). The one-hour average concentration of total ammonia nitrogen (in mg N/L) does not exceed, more than once every three years on the average, the CMC (acute criterion) calculated using the following equations.

$$CMC = \frac{0.275}{1 + 10^{7.204-pH}} + \frac{39.0}{1 + 10^{pH-7.204}}$$

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(b) The thirty-day average concentration of total ammonia nitrogen (in mg N/L) does not exceed, more than once every three years on the average, the CCC (chronic criterion) calculated using the following equations.

When fish early life stages are absent:

$$CCC = \left(\frac{0.0577}{1 + 10^{7.688-pH}} + \frac{2.487}{1 + 10^{pH-7.688}}\right) \times 1.45 \times 10^{0.028(25-MAX(T,7)}$$

(c) In addition, the highest four-day average within the 30-day period should not exceed 2.5 times the CCC.

8. RADIOACTIVE SUBSTANCES

(1) Radioisotope concentrations in all Reservation TAS Waters shall not exceed concentrations which result in a significant hazard to humans

(2) For the protection of human health concentrations of radioactive materials for all Reservation TAS Waters shall not exceed the following:
(a) Gross Alpha Particle Activity - 15 pCi/L
(b) Gross Beta Particle Activity - 50 pCi/L
(c) Tritium - 20,000 pCi/L
(d) Strontium 90 - 8 pCi/L
(e) Radium 226/Radium 228 - 3 pCi/L

9. BIOLOGICAL CRITERIA

(1) Reservation TAS Waters shall be of sufficient quality to support aquatic biota without detrimental changes in the resident aquatic communities.

(2) Reservation TAS Waters shall be free from substances, whether attributable to point source discharges, nonpoint sources, or instream activities, in concentrations or combinations which would impair the structure or limit the function of the resident aquatic community as it naturally occurs.

(3) The structure and function of the aquatic community shall be measured by biological assessment methods approved by the Department.

(4) Determination of impairment or limitation of the resident aquatic community shall be based on a comparison with the aquatic community found at an appropriate reference site or region.

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10. WILDLIFE CRITERIA

Reservation TAS Waters shall be of sufficient quality to protect and support all life stages of resident and/or migratory wildlife species which live in, on, or drink from Reservation TAS Waters.

11. WETLANDS

(1) All wetlands which are considered Reservation TAS Waters, and which are not constructed wetlands, shall be subject to the Narrative Criteria (section 5), Antidegradation (section 6), and Narrative Toxic Substances Criterion (section 7(1)) provisions within this chapter.

(2) Water quality in wetlands which are considered Reservation TAS Waters shall be maintained at naturally occurring levels, within the natural range of variation for the individual wetland.

(3) Physical and biological characteristics shall be maintained and protected by:
(a) Maintaining hydrological conditions, including hydroperiod, hydrodynamics, and natural water temperature variations;
(b) Maintaining the natural hydrophytic vegetation; and
(c) Maintaining substrate characteristics necessary to support existing and designated uses.

(4) Wetlands shall not be used in lieu of stormwater treatment, except as specified by number 7, below. Stormwater shall be treated before discharge to a wetland.

(5) Point and nonpoint sources of pollution shall not cause destruction or impairment of wetlands except where authorized under section 404 of the CWA.

(6) Wetlands shall not be used as repositories or treatment systems for wastes from human sources, except as specified by number 7, below.

(7) Wetlands intentionally created from non-wetland sites for the sole purpose of wastewater or stormwater treatment (constructed wetlands) are not considered "Reservation TAS Waters" and are not subject to the provisions of this section.

12. MIXING ZONES

(1) General Conditions

(a) The Department may allow a designated portion of a receiving water to serve as a zone of dilution for wastewaters and receiving waters to mix thoroughly and this zone will be defined as a mixing zone.

(b) Mixing zones may be granted for whole effluent or on a pollutant by pollutant basis.

(c) The allowable size, shape, and location of a mixing zone shall be established in certifications under Section 401 of the CWA, or orders, as appropriate. In determining the location, surface

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area, and volume of a mixing zone, the Department or EPA may use appropriate mixing zone guidelines (such as EPA /505/2-90-001) to assess the biological, physical, and chemical character of receiving waters, and effluent, and the most appropriate placement of the outfall, to protect instream water quality, public health, and other designated uses.

(d) The Department may, as necessary, require mixing zone monitoring studies and/or bioassays and biosurveys as appropriate to be conducted to evaluate water quality or biological status within and outside of the mixing zone boundary.

(e) The Department may require revision, revocation or denial of permits authorizing mixing zones upon expiration of the permit, or prior to expiration if information suggests that the nature and impacts of the mixing zone are different than the conditions used to determine mixing zone criteria.

(f) No mixing zone shall be granted unless the supporting information clearly indicates the mixing zone would not have a reasonable potential to cause a loss of or impair recovery of aquatic life, wildlife, or sensitive or important habitat; create a barrier to migration of species; or substantially interfere with the existing or designated uses of the water body as a whole; result in damage to the ecosystem; or adversely affect threatened and endangered species or public health as determined by the Department.

(g) No Mixing zone shall be granted unless the supporting information clearly indicates that it would not cause lethality to organisms passing through the mixing zone.

(h) Mixing zones will not be granted for discharges to outstanding resource waters, wetlands, or ephemeral or intermittent streams.

(i) In TAS waters having a mean detention time greater than 15 days, mixing zones shall not be allowed unless it can be demonstrated to the satisfaction of the Department that:
(A)other siting, technological, and managerial options that would avoid the need for a lake mixing zone are not reasonably achievable;
(B) overriding considerations of the public interest and the Tribe will be served; and,
(C) all technological and managerial methods available for pollution reduction and removal that are economically achievable would be implemented prior to the discharge. Such methods may include, but not be limited to, advanced waste treatment techniques.

(j) The Department shall consider prohibiting mixing zones under the following circumstances:
(A) where discharges could create or foster conditions in sediments within and outside of the mixing zone that have the reasonable potential to cause damage to the ecosystem;
(B) for known or suspected carcinogens, mutagens, teratogens, or bioaccumulative or persistent pollutants;
(C)where discharges could cause an exceedance of the chronic criteria outside of the mixing zone boundary;
(D) where aquatic life could be attracted to the plume and harmed;

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(E) where the mixing zone could impact drinking water intakes, recreation sites, cultural areas, and biologically important areas such as fish spawning/nursery areas; and,
(F) where the discharge could adversely impact threatened and endangered species.

(k) Mixing zones shall not be used for, or considered as, a substitute for waste treatment. The applicant shall show, to the satisfaction of the Department, that all reasonable current technology for wastewater treatment, pollution control, and waste reduction have been fully applied before a mixing zone is granted.

(l) Except as specified in "Narrative Water Quality Criteria"(section 4) water quality standards may be exceeded within the mixing zone as provided for in a discharge permit or order. Determination of the dilution available and size of mixing zones will consider the following:
(A) critical conditions;
(B) mixing characteristics of the receiving water;
(C) characteristics of the effluent; and,
(D) impacts to use classifications of the receiving water.

(m) Mixing zones shall be as small as feasible, and shall minimize the adverse effects on the indigenous biological community, especially when species are present that warrant special protection for their cultural significance, economic importance, ecological uniqueness, or for other similar reasons as determined by the Department.

(n) Where mixing zones are adjacent or overlapping, the total size of all mixing zones shall not exceed the size allowed for one mixing zone.

(2) Critical Design Flows

Mixing zone specifications and water quality-based effluent limits shall be based on the following critical design flows:
(A) chronic criteria: the 7Q10 flow
(B) acute criteria: 1Q10 flow or at the point of discharge
(C) human health criteria - carcinogens: harmonic mean flow
(D) health criteria - non-carcinogens: the 30Q5 flow
(E) ammonia – 30B4 (in accordance with EPA-822-R-99-014 Dec 1999)

13. IMPLEMENTATION

(1) The requirements of these water quality standards shall be met for Reservation TAS Waters with approved water quality standards. No person shall engage in any activity that violates or causes the violation of these standards. All discharges from point sources, all in-stream activities and all activities which generate nonpoint source pollution shall be conducted so as to comply with this chapter. Compliance shall be determined by the Department.

(2) All permits issued or reissued (upstream of, or creating a direct impact to Reservation TAS approved waters), and all activities undertaken by the Tribe, the U.S. Environmental Protection

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Agency, the Bureau of Indian Affairs, the U.S. Army Corps of Engineers, the Federal Energy Regulatory Commission (FERC), state agencies, or any other government agencies or commissions shall be conditioned in such a manner as to authorize only activities that will not cause violations of this chapter. Permits may be subject to modification by the permitting authority whenever it appears to the Department and/or the permitting authority that the activity violates water quality standards.

(3) Best management practices shall be applied so that when all appropriate combinations of individual best management practices are utilized, violation of water quality criteria shall be prevented. If a person is applying all best management practices appropriate or required by the Department and a violation of water quality criteria occurs, the person shall modify existing practices or apply further water pollution control measures, selected or approved by the Department, to achieve compliance with water quality criteria. Best management practices established in permits, orders, rules or directives shall be reviewed and modified by the Department, as appropriate, to achieve compliance with water quality criteria.

(4) Activities which cause pollution of stormwater shall be conducted so as to comply with the water quality standards. The primary means to be used for requiring compliance with the standards shall be through best management practices required in waste discharge permits, rules, orders, and directives issued by the Department for activities which generate stormwater pollution.

(5) Sample collection, preservation, and analytical procedures to determine compliance with these standards shall conform to the guidelines of 40 CFR, Part 136, and with the Coeur d'Alene Tribe's Quality Assurance Project Plan (QAPP) for Nonpoint Source and Point Source Pollution Monitoring and Water Quality Standards Implementation Monitoring (approved by EPA in October, 2003). If guidance does not exist, procedures shall conform with other methods accepted by the scientific community and deemed appropriate by the Department.

14. ENFORCEMENT

This Chapter shall be enforced through all methods available to the Department.

15. ALLOWANCE FOR COMPLIANCE SCHEDULES

(1) NPDES permits issued under federal or tribal authority, and orders and directives of the Department issued under tribal authority for existing discharges or activities may include a schedule for achieving compliance with water quality criteria contained in this chapter. Such schedules of compliance shall be developed to ensure final compliance with all water quality criteria in the shortest practicable time, but not to exceed five years. Decisions regarding whether to issue schedules of compliance will be made on a case-by-case basis by the permitting agency and must be approved by the Department. Schedules of compliance may not be issued for new discharges or activities. Schedules of compliance may be issued to allow for:

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(a) construction of necessary treatment capability;
(b) implementation of necessary best management practices;
(c) implementation of additional best management practices for sources determined not to meet water quality criteria following implementation of an initial set of best management practices; and,
(d) completion of necessary water quality studies.

(2) For the period of time during which compliance with water quality criteria is deferred, interim limitations and/or other conditions may be formally established, based on the best professional judgment of the permitting agency and the Department.

(3) Prior to establishing a schedule of compliance, the permitting agency shall require the permittee to evaluate the possibility of achieving water quality criteria via non-construction changes (e.g. facility operation, pollution prevention).

16. SHORT-TERM EXCEEDANCES

(1) The criteria established in these standards may be exceeded for a specific water body on a short-term basis in order to respond to emergencies, to accommodate essential activities, or to otherwise protect the public health and welfare, even though such activities may result in a temporary reduction of water quality conditions below those criteria established by this regulation. Such exceedances shall be issued in writing by the Director, subject to such terms and conditions as he/she may prescribe.

(2) Short-term exceedances shall not exceed a thirty day period and shall be kept as short as feasible.

(3) In no case will any degradation of water quality or aquatic habitat be allowed if this degradation could interfere with, or becomes injurious to, existing water uses or causes long-term harm to the environment or cultural resources. No short-term exceedance may be issued where it could adversely impact threatened or endangered species or their critical habitat.

(4) A request for a short-term exceedance shall be made, in writing, to the Department. Such requests shall be made at least thirty days prior to the start of the activity impacting water quality, unless the exceedance is in response to an emergency requiring immediate attention in which case notification shall be provided within twenty-four hours of the response decision.

(5) Aquatic application of all pesticides shall require a short-term exceedance be granted prior to application. These applications shall include, at a minimum, the following conditions:
(a) Such pesticide application shall be in accordance with all federal, tribal and local regulations; and,
(b) Such application shall be in accordance with label provisions promulgated by EPA under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended (7 U.S.C. 136, et seq.); and,
(c) Such application shall not result in conditions injurious to indigenous aquatic biota, wildlife, humans, cultural resources, or other existing or designated uses of the water body; and,

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(d) Public notice, including identification of the pesticide, applicator, location where the pesticide will be applied, proposed timing and method of application, and any water use restrictions shall be provided by the applicator; and,
(e) The Department shall be notified at least three business days prior to pesticide application; and,
(f) Any additional conditions required by the Department.

(6) In the event of any fish kills or other harm to indigenous aquatic dependent resources, the Department shall be notified within three hours.

17. PUBLIC INVOLVEMENT

From time to time, but at least once every three years (or whenever revisions to the standards are deemed necessary or mandated by EPA), the Department shall hold public hearings for the purpose of reviewing the water quality standards and, as appropriate, modifying and adopting standards. The Department will issue public notice of proposed changes and provide opportunity for public comment. Public participation, including time periods for public notice and commenting, will follow federal regulations for public participation in programs under the Clean Water Act defined in 40 CFR Part 25. The Tribe will submit all revisions to these standards to EPA for review.

18. WATER USE CLASSIFICATION

Water quality standards regulations require the Tribe to specify appropriate water uses to be achieved and protected. Section 131.10 of 40 CFR requires that Tribes take into consideration the use and value of water for public water supplies; protection and propagation of fish, shellfish, and wildlife, recreation in and on the water, agricultural, industrial, and other purposes including navigation. The Tribe must also take into consideration the water quality standards of downstream waters, and ensure that its water quality standards provide for the attainment and maintenance of the water quality standards of downstream waters.

The designated uses for which Reservation TAS Waters are to be protected include, but are not limited to, the following:

(1) Domestic Water Supply. Surface waters which are suitable or intended to become suitable for drinking water supplies.

(2) Agricultural Water Supply. Surface waters which are suitable or intended to become suitable for the irrigation of crops or as drinking water for livestock.

(3) Recreational and Cultural Water Uses. Surface waters which are suitable or intended to become suitable for prolonged intimate contact by humans or for activities where the ingestion of small quantities of water is likely to occur. Such waters include, but are not restricted to, those used for swimming, wading, fishing, boating, or for ceremonial or cultural purposes.

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(4) Aquatic Life Uses

(a) Bull Trout and Cutthroat Trout. Surface waters used for, or naturally suitable as habitat for bull trout and cutthroat trout.

19. SPECIFIC WATER QUALITY CRITERIA FOR USE CLASSIFICATIONS

(1) Domestic Water Supply. Waters designated for domestic water supply are subject to the following criteria:

(a) Turbidity. Turbidity shall not exceed 1 NTU (Nephelometric turbidity unit) over natural background levels when the natural background turbidity is 10 NTU or less, or have more than a 10 percent increase in turbidity when the natural background level is more than 10 NTU. Natural background turbidity for implementing this criteria is to represent the 90th percentile value of the annual average turbidity.
(b) pH. pH shall be within the range of 6.5 to 8.5, with a human caused variation within this range of less than 0.5 units over any 24 hour period.
(c) Alkalinity. Alkalinity should generally be maintained within the range of 50 to 120 mg/L. Variations outside this range are to be avoided where practical alternatives exist.
(d) Bacterial Waste. Livestock, pet, and human sewage are not allowed to drain or be discharged into Reservation TAS Waters unless controlled or treated with best management practices or waste treatment technology appropriate and approved by the Tribe or the U.S. Environmental Protection Agency.
(e) Total Dissolved Solids. Total dissolved solids shall not exceed 500mg/L

(2) Agricultural Water Supply. Waters designated for agricultural water supply are subject to the following criteria:

(a) Electrical Conductivity. Electrical conductivity is not to exceed an arithmetic mean of 700 microsiemens per centimeter during periods when the surface water is used as an agricultural water supply, based on a minimum of three samples.
(b) Total Suspended Solids. The concentration of total suspended solids is not to exceed an arithmetic mean of 75 mg/L during periods when the surface water is used as an agricultural water supply, based on a minimum of three samples.
(c) pH. pH shall be within the range of 6.5 to 8.5, with a human caused variation within this range of less than 0.5 units over any 24-hour period.
(d) Bacterial Waste. Livestock, pet, and human sewage are not allowed to drain or be discharged into Reservation TAS Waters unless controlled or treated with best management practices or waste treatment technology appropriate and approved by the Tribe or the U.S. Environmental Protection Agency.

(3) Recreational, and Cultural Water Uses.

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(a) Waters designated for recreational and cultural use shall not contain concentrations of *E. coli* bacteria exceeding a 30-day geometric mean of 126 per colonies/100 ml, based on a minimum of 5 samples, and a single sample maximum of 235 colonies/100ml.

(4) Aquatic Life Uses. Waters designated for specific aquatic life uses are subject to the following criteria.

(a) Bull Trout and Cutthroat Trout.

(i) pH. pH shall be within the range of 6.5 to 8.5, with a human caused variation within this range of less than 0.5 units over any 24-hour period.

(ii) Dissolved Oxygen. Dissolved oxygen (DO) shall exceed 8.0 mg/L at all times. From June 1 to September 30 DO criteria shall be determined by natural conditions at the time of stratification. In the event natural conditions are less than 8mg/L at the time of stratification the natural condition found at that time (for that time period only) will become the standard, pursuant to Section 4.

(A) Natural Conditions for DO and Temperature. When TAS waters stratify (usually in June) the average whole water column DO content and temperature at the time of stratification shall be considered the natural condition (for DO and temperature only), pursuant to Section 4.
(B) In TAS waters greater than 15 meters this standard applies to the bottom (deepest) 80 percent of the water column present below the metalimnion. In TAS waters less than 15 meters and greater than 8 meters this standard applies to only the bottom 50 percent of the water column present below the metalimnion. TAS waters exhibiting total water column depths less than 8 meters are not expected to maintain a stable stratified condition and are therefore exempt from this standard.

(iii) Temperature. From June 1, through September 30, the 7-day average of the daily maximum temperatures within the hypolimnion is not to exceed 16° C.

In thermally stratified TAS waters the hypolimnetic temperature shall be determined by natural conditions as defined in Section 19 (4), (a), (ii), (A) and pursuant to Section 4 of these standards. In TAS waters greater than 15 meters this standard applies to the bottom 80 percent of the lake water column present below the metalimnion. In TAS waters less than 15 meters and greater than 8 meters this standard applies to only the bottom 50 percent of the water column present below the metalimnion. TAS waters exhibiting total water column depths less than 8 meters are not expected to maintain a stable stratified condition and are therefore exempt from this standard.

(iv) Turbidity. Turbidity shall not exceed 5 NTU over natural background levels when the natural background turbidity is 50 NTU or less, or have more than a 10 percent increase in turbidity when the natural background level is more than 50 NTU. Natural background turbidity for implementing this criteria is to represent the 90th percentile value of the annual average turbidity.

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20. GENERAL CLASSIFICATIONS

All Reservation TAS Waters shall be designated, at a minimum, for the protection of Bull Trout and Cutthroat Trout and for recreational and cultural uses, unless a Use Attainability Analysis has first been performed in accordance with water quality standards regulations at 40 CFR 131.10(g). All surface waters not specifically classified in Section 21 shall be designated for aquatic life uses and for recreational and cultural uses. Unclassified Reservation TAS Waters must be of sufficient quality to ensure that downstream uses are fully protected. All Reservation TAS Waters shall be designated for the uses of industrial water supply, aesthetics, and wildlife habitat. Water quality criteria for those uses will be generally satisfied by implementation of the General Conditions in Section 3, and the Narrative Criteria in Section 5.

21. SPECIFIC CLASSIFICATIONS

Specific classifications for Reservation TAS Waters:

Water Body Name	**Class**
Lake Coeur d'Alene	1,3,4a
St. Joe River	1,2,3,4a
Use Classification Key:	
Domestic Water Supply	1
Agricultural Water Supply	2
Recreational and Cultural Use	3
Aquatic Life Uses	4
	4a: Bull Trout and Cutthroat Trout

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