# The Shoshone-Bannock Tribes
# Surface Water Quality Standards

**Final After Public Comment**

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# Surface Water Quality Standards

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## PART I. GENERAL PROVISIONS

### 1.1 Title, Authority and Purpose

a) These regulations are to be known and cited as the Shoshone-Bannock Tribes Surface Water Quality Standards. They are promulgated pursuant to Section 502 of the Shoshone-Bannock Tribes' Water Quality Protection Act (WQPA) in order to control and prevent water pollution on the Fort Hall Reservation (FHR), preserve existing surface water quality, serve as cleanup standards, and implement the requirements of the federal Clean Water Act, 33 U.S.C. §§ 1251-1387 (CWA or Clean Water Act).

b) Pursuant to WQPA § 402, the Tribal Water Resources Department, through its Water Quality Program, is the agency authorized to regulate water quality on all lands under the jurisdiction of the Shoshone-Bannock Tribes (SBT or Tribes) and to promulgate and administer these standards.

c) It is the policy of the Fort Hall Business Council (FHBC) of the Shoshone-Bannock Tribes to preserve, protect, and enhance the water quality of the Fort Hall Reservation (FHR), for current and future generations, in order to protect the health, safety, economic security, political integrity, cultural and ceremonial practices and beliefs, and the environment of the Shoshone-Bannock Tribes and all residents of the Reservation. Water is an essential resource to the Shoshone-Bannock Tribes that must be protected from harmful levels of pollution. Improving water quality and protecting water resources are Reservation-wide concerns and matters of public interest.

d) The purposes of these surface water quality standards are to: restore, maintain and protect the chemical, physical, and biological quality of Tribal Surface Waters; preserve SBT cultural, ceremonial, and religious uses and the spiritual integrity of those Surface Waters; and promote the health, social welfare, and economic well-being of the Shoshone-Bannock Tribes, its people, and all residents of the FHR, thereby safeguarding the Tribes' political integrity. These standards are designed to help achieve a level of water quality that provides for: all cultural and ceremonial uses of the water; the protection and propagation of fish and wildlife; recreation in and on the water; public/domestic water supply; all existing and designated uses of the water; protection of threatened and endangered species; and promotion of a holistic watershed approach to management of all waters within the Reservation.

e) To carry out these purposes, these standards:

1. Designate the uses which define goals for the protection and restoration of Tribal Surface Waters;

2. Prescribe water quality criteria to sustain those designated uses; and

3. Assure that degradation of Tribal Surface Waters shall be prevented or minimized, and that economic growth shall occur consistent with preserving the SBT's existing clean water resources.

f) An additional purpose of these standards is to attain at least the minimum level of water quality described by the most recently updated EPA water quality standards regulations codified in 40 CFR Parts 131 and 132, and to achieve higher levels of water quality protection where needed to support the designated water body uses described in these standards.

### 1.2 Applicability

These Surface Water Quality Standards apply to surface waters on all lands under the jurisdiction of the Shoshone-Bannock Tribes, which include all lands within the Reservation, as that term is defined herein, and to all persons and activities within the Reservation. These standards will become applicable and effective for purposes of the Clean Water Act if and to the extent they are approved by EPA pursuant to CWA § 303(c), 33 U.S.C. § 1313(c).

### 1.3 Definitions

For the purpose of these standards, the following definitions apply unless another meaning is clearly indicated by context.

a) "Acute Criteria" means, unless otherwise specified in these standards, the one (1)-hour average concentration of a toxic substance or effluent that ensures adequate protection of sensitive species of aquatic organisms from acute toxicity resulting from exposure to the toxic substance or effluent. Acute criteria will adequately protect the designated aquatic life use if not exceeded more than once every three (3) years. The terms "acute criteria" and "criterion maximum concentration" (CMC) are equivalent.

b) "Acute Toxicity" means the existence of mortality or injury to aquatic organisms resulting from a single or short-term (i.e., ninety-six (96) hours or less) exposure to a substance. As applied to toxicity tests, acute toxicity refers to the response of aquatic test organisms to a concentration of a toxic substance or effluent which results in a lethal concentration of a chemical that will kill 50 percent of the sample population under scrutiny, or "LC-50".

c) "Aquatic species" means any plant or animal that lives at least part of its life cycle in water.

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

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

f) "Chronic Criteria" means, unless otherwise specified in these standards, the four (4)-day average concentration of a toxic substance or effluent that ensures adequate protection of sensitive species of aquatic organisms from chronic toxicity resulting from exposure to the toxic substance or effluent. Chronic criteria will adequately protect the designated aquatic life use if not exceeded more than once every three (3) years. The terms "chronic criteria" and "criterion continuous concentration" (CCC) are equivalent.

g) "Chronic toxicity" means a fairly long-term adverse effect to an organism as compared to the life span of the organism and caused by or related to changes in feeding, growth,

metabolism, reproduction, genetic mutation, or other adverse long-term effect. Short-term test methods for detecting chronic toxicity may be used.

h) "Clean Water Act" or "CWA" means the federal Clean Water Act, 33 U.S.C. §§ 1251-1387, as amended.

i) "Commission" means the Tribal Water Resources Commission, which has the authority pursuant to WQPA § 601 to approve these Surface Water Quality Standards.

j) "Compliance schedule" means a schedule of remedial measures, including an enforceable sequence of actions or operations, leading to compliance with an effluent limitation or other limitation, prohibition or standard.

k) "Deleterious Material" means any nontoxic substance that may cause the tainting of an edible organism, taste and odors in drinking water supplies, or the reduction of the usability of water without causing physical injury to water users or aquatic and terrestrial species.

l) "Department" means the Tribal Water Resources Department.

m) "Designated use" means a use defined in these standards as a target for each water body or water body segment, whether or not that use is currently being met.

n) "Ephemeral Water" means a water body that flows temporarily in direct response to precipitation or snowmelt and with a channel that is always above the water table.

o) "EPA" means the United States Environmental Protection Agency.

p) "Existing uses" means all uses actually attained in a water body on or after November 28, 1975, whether or not they are explicitly stated as designated uses in these standards or currently exist.

q) "Fort Hall Business Council" means the governing body of the Shoshone-Bannock Tribes.

r) "FHR" means the Fort Hall Reservation.

s) "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.

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

u) "Harmonic mean flow" means the number of daily flow measurements divided by the sum of the reciprocals of the flows.

v) "mg/L" means milligrams per liter.

w) "Natural Conditions" means surface water quality that would be present without human–caused pollution. When assessing natural conditions in a disturbed watershed it may be necessary to use an undisturbed similar watershed as a reference condition.

x) "Non-point source" means pollution that enters any surface 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 other vessels not otherwise regulated under the National Pollutant Discharge Elimination System program.

y) "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 CWA § 307, 318, 402, and 405 of the CWA.

z) "NTU" means nephelometric turbidity unit, which is a unit of turbidity based on a standard method using formazin polymer or its equivalent as the standard reference suspension. NTUs are numerically identical to formazin turbidity units.

aa) "Permit" means a document issued pursuant to Tribal code or federal laws (such as CWA §§ 401, 402 and 404) specifying waste treatment and control requirements or discharge conditions.

bb) "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 (federal, tribal, state, or local), or otherwise, and including any part, subdivision, or agency of any of the foregoing; and any combination of individuals or organizations in whatever form, and the plural as well as the singular number.

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

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

ee) "Pollutant" includes, but is not limited to, 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, hydrocarbons, oil and product chemicals, and industrial, municipal, and agricultural waste discharged into water.

ff) "Pollutant Minimization Program" means a structured set of activities to improve processes and pollutant controls that will prevent and reduce pollutant loadings.

gg) "Pollution" includes, but is not limited to, such contamination, or other alteration of the physical, chemical or biological properties, of any surface waters, 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 surface waters that will or is likely to create a nuisance or impair any designated use of such waters.

hh) "Program" means the Water Quality Program within the Tribal Water Resources Department.

ii) "Reservation" means all lands within the exterior boundaries of the Fort Hall Reservation, as set forth in the Fort Bridger Treaty, including individual Tribal member-owned lands and non-member owned fee lands within the exterior boundaries of the Fort Hall Reservation and notwithstanding the issuance of any patent, easement, or rights-of-way running through the Reservation; ceded lands; and such other lands outside the Fort Hall Reservation boundaries as may be added by purchase, exchange, transfer, gift or grant, or which are otherwise under the jurisdiction of the Tribes, for example by virtue of being tribal trust land or allotted land.

jj) "Site-specific criteria" means criteria applicable to a specific site or water body that reflect site-specific conditions.

kk) "Storm water" 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 storm water drainage system into a defined surface water body, or a constructed infiltration facility.

ll) "Surface Water" means all natural and man-made surface waters and associated ecosystems, including, but not limited to, all perennial and intermittent streams, rivers, creeks, seeps, springs, canals, reservoirs and wetlands, and tributaries of such surface waters. Man-made water bodies used solely for treating, transporting, or impounding pollutants as part of a waste treatment system shall not be considered surface water.

mm) "Temperature" means water temperature expressed in degrees Celsius ($^{o}$ C).

nn) "Toxic Substance" or "Toxic Pollutant" means any substance, material or disease-causing agent, or a combination thereof, which after discharge to surface waters and upon exposure, ingestion, inhalation or assimilation into any organism (including humans), either directly from the environment or indirectly by ingestion through food chains, will cause death, disease, behavioral abnormalities, malignancy, genetic mutation, physiological abnormalities (including malfunctions in reproduction) or physical deformations in affected organisms or their offspring. Toxic substances include, but are not limited to, the one hundred twenty-six (126) priority pollutants identified by EPA pursuant to Section 307(a) of the Clean Water Act.

oo) "Toxicity" means acute or chronic toxicity.

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

qq) "Tribal Surface Waters" means all surface waters within or bordering upon the Reservation.

rr) "Tribes" or "SBT" means the Shoshone-Bannock Tribes.

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

tt) "µg/L" means micrograms per liter.

uu) "Waste" includes sewage, industrial waste, and all other liquid, gaseous, solid, radioactive, or other substances that will or may cause pollution or tend to cause pollution of any water body.

vv) "Water body" means any surface water, including any portion thereof.

ww) "Water quality" means the chemical, physical, biological, and cultural and ceremonial characteristics of a water body.

xx) "Water Quality Specialist" means the manager of the Water Quality Program, as provided in WQPA § 401.

yy) "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 would support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

zz) "WQPA" means the Shoshone-Bannock Tribes' Water Quality Protection Act (November 24, 2015), as amended.

### 1.4 Powers and Responsibilities

The Water Quality Program, under the direction of the Water Quality Specialist, is authorized to administer these standards in accordance with WQPA §§ 401-402. The day-to-day operations necessitated by these standards include but are not limited to sampling and monitoring water quality and preparing for the mandatory triennial review process in Section 1.5 of these standards, including any interim review of the standards that may be needed. The Water Quality Specialist also is authorized to develop related water quality protection programs, such as but not limited to a CWA § 319 nonpoint source management program, CWA § 401 certification program, and a groundwater quality program, in consultation with the Tribal Water Engineer, Tribal Water Resources Commission, and Fort Hall Business Council, as appropriate.

### 1.5 Revisions to Surface Water Quality Standards

a) The Shoshone-Bannock Tribes Surface Water Quality Standards may be revised on a Reservation-wide basis or water body-specific basis as needed to protect existing and designated uses or to increase the technical accuracy of the criteria being applied, in accordance with subsection b) of this section.

b) Consistent with CWA § 303(c)(1) and 40 C.F.R. Part 25, the Water Quality Program shall hold a public hearing at least once every three years to review and, as appropriate, revise these standards. Revisions shall incorporate relevant scientific and engineering advances with respect to water quality. Whenever the SBT revises or adopts a new standard, the Program

will issue public notice of proposed changes and provide opportunity for public hearing and comment in accordance with the rulemaking procedures in WQPA Chapter 6. All revisions shall become effective upon approval by the Commission, unless a later date is required by applicable law or is specified in the rule, pursuant to WQPA § 6.1.4. The revised or new standard shall be submitted to EPA for review pursuant to CWA § 303(c)(2) and will be effective under the CWA after EPA approval.

### 1.6 Severability

If any provision of these standards or the application of any provision of these standards to any person or circumstance is held to be invalid, the remainder of these standards and the application of such provision to other persons or circumstances shall remain unaffected.

### 1.7 Water Rights

The water rights of the SBT and the authority of the SBT to allocate quantities of water and administer water rights within its jurisdiction shall not be superseded, abrogated, or otherwise impaired by these standards.

### 1.8 Collaboration with Federal and State Agencies

The SBT may collaborate with federal and state agencies to prevent, reduce, and eliminate water quality threats and impairments in coordination with programs for managing water resources.

### 1.9 Dispute Resolution

If a dispute arises between the SBT and a state or another Indian tribe approved by EPA to administer a surface water quality standards program due to differing standards between the two jurisdictions, the SBT will follow the Dispute Resolution Mechanism promulgated by EPA and found at 40 C.F.R. §131.7, as may be revised from time to time.

## PART II. ANTIDEGRADATION POLICY AND IMPLEMENTATION

### 2.1 Antidegradation Policy

a) Existing water uses and the level of water quality necessary to protect existing water uses shall be maintained and protected.

b) Where existing water quality exceeds levels necessary to support the protection and propagation of fish, shellfish, and wildlife, cultural/ceremonial uses, and recreation in and on the water, that water body shall be classified as a High-Quality Water. Decisions about whether a water body will be classified as a High-Quality Water, and the factors considered when making those decisions, shall allow for full public participation in accordance with 40 C.F.R. § 131.12(a). A water body shall not be excluded from classification as a High-Quality Water solely because water quality does not exceed levels necessary to support all of the uses specified in this section. High-Quality Waters shall be maintained and protected unless the SBT find, after full intergovernmental coordination and public participation, that allowing a lower level of water quality is appropriate to accommodate important economic or social development in the area in

which the waters are located. In allowing such degradation of water quality, the SBT shall ensure water quality adequate to protect existing uses fully.

c) The SBT shall mandate the highest statutory and regulatory requirements for all new and existing point sources, and the most cost-effective and reasonable best management practices for control of nonpoint source pollution must be achieved before allowing a lowering of water quality in a high-quality water.

d) Before allowing any lowering of high water quality, the SBT shall find, after an analysis of alternatives, that such a lowering is necessary to accommodate important economic or social development in the area in which the waters are located. The analysis of alternatives shall evaluate a range of practicable alternatives that would prevent or lessen the degradation associated with the proposed activity. *Practicable* in this case means technologically possible, able to be put into practice, and economically viable. When the analysis of alternatives identifies one or more practicable alternatives, the SBT shall only find that a lowering is necessary if one such alternative is selected for implementation.

e) Where High-Quality Waters constitute an exceptional recreational, cultural, or ecological resource of the SBT based on their extraordinary water quality or ecological values, or where special water quality protection is needed to maintain critical habitat areas, the SBT may classify those waters as Outstanding Tribal Resource Waters. Waters meeting one or more of the following criteria shall be considered for Outstanding Tribal Resource Water classification:

1. Outstanding national or tribal resource;

2. Areas designated as critical habitat for populations of threatened or endangered species;

3. Waters of exceptional cultural, ceremonial, recreational or ecological significance; and

4. Waters supporting priority species as determined by SBT.

f) The existing water quality of Outstanding Tribal Resource Waters shall be fully maintained and protected and no permanent degradation of such water quality shall be permitted for any reason.

g) The Water Quality Program may propose to classify water bodies as Outstanding Tribal Resource Waters based on data collected or submitted. In addition, the Commission may nominate water bodies for classification as Outstanding Resource Waters as necessary to protect the water quality parameters that affect the ecological integrity of important habitat or special water quality values that are vital to the unique character of those waters. The Water Quality Program shall issue public notice of all proposed classifications and provide an opportunity for public comment in accordance with Section 1.5 of these standards. Any final classifications shall be adopted in accordance with Section 1.5.

h) In those cases where potential water quality impairment associated with a thermal discharge is involved, the antidegradation policy and implementing methods shall be consistent with CWA § 316, 33 U.S.C. § 1326, as amended.

## 2.2 Implementation

a) Antidegradation assessments and analyses required under this Part II shall be conducted on a water body basis, with no exceptions based on de minimis impacts.

b) For all waters, the SBT shall ensure that the level of water quality necessary to protect existing uses is maintained, as required by Section 2.1(a).

1. In order to achieve this requirement, the SBT shall identify existing uses and consider whether a discharge would lower the water quality to the extent that it would no longer be sufficient to protect and maintain the existing uses of that water body. Such consideration shall be based on all existing uses and readily available water quality-related data and information, as well as any additional use and water quality-related data and information submitted during the public comment period for the permit or license.

2. There shall be no lowering of water quality such that the criteria assigned in this chapter to protect designated uses are not met. Where designated uses of the water body are impaired, there shall be no additional lowering of water quality with respect to the pollutant or other parameter that is causing or contributing to the impairment. Where water quality criteria are not met because of natural conditions, human actions are not allowed to further lower the water quality.

c) Activities that will likely result in lowered surface water quality may be permitted as stipulated in this section after a review of: the proposed activity; any appropriate, relevant, and reasonable alternatives; the activity's economic and social development impacts; current or baseline water quality data and studies; and projected impacts on water quality and biota. The burden of providing the analyses and information required by this section shall be on the person or persons proposing the activity under consideration. In evaluating the proposed activity, the review process shall focus on approaches for avoiding, minimizing, and/or mitigating any effects resulting from a lowering of water quality. Any long-term or permanent lowering of water quality is not permitted for Outstanding Tribal Resource Waters; however, short term, temporary degradation (i.e., weeks or months) may occur to repair or construct infrastructure or for similar activities, as long as water quality returns to previous levels after the project is completed.

d) Prospective dischargers or permittees shall demonstrate that any lowering of water quality is necessary to meet the requirements of this section, including a review of alternatives to the proposed discharge and evaluation of water quality, social, and economic impacts.

e) If the lowering of water quality is necessary, and will accommodate important social and economic development goals, the SBT may allow a lowering of water quality as long as one of the alternatives analyzed in Subsection (c) of this section is selected for implementation. If a non-degrading practicable alternative is selected, no lowering of water quality need occur, and

the Tribes shall not authorize the lowering. In no event may the decision reached under this section allow water quality to be lowered below the level required to support existing and designated uses.

f) Data collected to support antidegradation reviews must be collected under an approved Quality Assurance Project Plan. Data collection methods must be reviewable and reported in a format specified by the Water Quality Specialist.

g) The Water Quality Program shall implement these standards, including the antidegradation policy and implementation methods, by establishing and maintaining controls on the introduction of pollutants into Tribal Surface Waters and by pursuing the actions listed below, in coordination with federal, tribal, and state agencies, as appropriate:

1. Review the adequacy of existing data regarding Tribal Surface Waters, including their quality and existing and designated uses, as well as on any activities that may detrimentally impact those waters and uses, and obtain additional data where required;

2. Monitor water quality to assess the effectiveness of pollution controls and to determine whether designated uses are being supported and water quality criteria and standards are being attained;

3. Obtain and assess information from dischargers and other sources on existing water quality and the impact of effluents on receiving waters, including the capability of receiving waters to support designated uses and achieve these surface water quality standards;

4. Advise prospective dischargers of antidegradation and discharge requirements, and coordinate with the appropriate permitting agencies as to the same;

5. Require the highest and best degree of waste treatment practicable, commensurate with protecting and maintaining designated uses and existing water quality;

6. Develop water quality-based effluent limitations and provide comment on technology-based effluent limitations, as appropriate, for inclusion in any permit issued to a discharger pursuant to CWA § 402, as amended;

7. Require that effluent limitations or other appropriate limitations applicable to activities with the potential to discharge into Tribal Surface Waters be included in any permit as a condition for certification by the SBT pursuant to CWA § 401, as amended;

8. Coordinate water pollution control activities with other local, tribal, state, and federal agencies, as appropriate;

9. Develop and pursue inspection programs to ensure that dischargers comply with the requirements of these standards and to support the enforcement of federal permits issued by EPA or the U.S. Army Corps of Engineers;

10. Provide technical assistance to wastewater treatment facility operators, within the limits of available technical and other resources;

11. Publish results of water quality investigations and interpretation of those results;

12. Encourage, in conjunction with other agencies, implementation of best management practices to control nonpoint sources of pollution and so to support designated uses and meet these standards;

13. Examine existing and future SBT policies pertaining to septic systems, wastewater treatment systems, stormwater management, solid waste disposal, and other relevant activities to ensure that those policies are consistent with meeting these standards;

14. Determine whether in-stream flows and water levels are adequate to support existing and designated uses and to meet these standards;

15. Collect information provided by current and prospective dischargers, conduct a review and evaluation of antidegradation analyses and information related to regulated actions that may result in a lowering of water quality, and make recommendations regarding whether or not such actions are consistent with these standards; and

16. Implement specific policies and procedures to protect designated High-Quality Waters and Outstanding Tribal Resource Waters.

h) To implement Section 2.1(c), the SBT shall:

1. Identify point sources and regulated nonpoint sources that discharge to, or otherwise impact, the affected waters;

2. Consider any outstanding noncompliance issues relative to regulatory requirements for point sources or required best management practices for regulated nonpoint sources;

3. Ensure that the regulatory requirements for point sources and required best management practices for regulated nonpoint sources are either being achieved, or shall be achieved through federal and Tribal regulatory mechanisms, such as consent orders and compliance schedules; and

4. Coordinate with appropriate state, federal, or tribal agencies as necessary to achieve such implementation.

i) Section 2.1 mandates public participation in the Tribe's decision to classify a water as a High-Quality Water or Outstanding Tribal Resource Water, or to permit lowering the water quality of a High-Quality Water to accommodate important economic or social development. Public participation procedures will be consistent with Section 1.5(b) of these standards. Any data and information relevant to the decision shall be made available at least thirty days before the hearing.

j) Antidegradation protections will be addressed in new or reissued general permits authorized, implemented, or administered by the permitting authority either at the time the

permitting authority develops and issues the general permit or upon review of an applicant's request to be covered by a general permit. The permitting authority will describe in writing in the permit fact sheet how the general permit is consistent with the antidegradation requirements of this paragraph and the antidegradation policy in Subsection (g) of this section.

k) For reservation waters assigned as Outstanding Tribal Resource Waters consistent with Section 2.1(e), the Tribes shall ensure, through the application of appropriate controls on point and nonpoint pollutant sources, that water quality is maintained and protected. No new or expanded point source discharges will be allowed to Outstanding Tribal Resource Waters, and no new or expanded point source discharges to tributaries to Outstanding Tribal Resource Waters that would result in lower water quality in the Outstanding Tribal Resource Waters will be allowed. The Tribes intend to allow short-term, temporary degradation in an Outstanding Tribal Resource Water as long as the short-term, temporary degradation is limited to the shortest possible time in the context of weeks to months, does not impact existing uses, and does not alter the essential or special characteristics that make the reservation water an Outstanding Tribal Resource Water.

l) In the event that water quality monitoring identifies water bodies where attainable quality is less than the water quality required under designated uses, these standards may be revised to reflect actual attainability for those water bodies subject to the provisions of the Clean Water Act and consistent with the use attainability analysis described in 40 C.F.R. § 131.10(g), as may be revised from time to time.

## PART III. NARRATIVE CRITERIA FOR ALL WATERBODIES

### 3.1 General Narrative Criteria

a) All Tribal Surface Waters shall be free from substances in concentrations or combinations that exceed the criteria for protection of the most sensitive use of the water body or that will prevent attainment of the designated uses specified in Part IV.

In addition, all Tribal Surface Waters shall be free from conditions or activities that may:

1. Injure or otherwise adversely affect human health, public safety, public welfare, or any designated uses of the water body; or

2. Injure or otherwise adversely affect the habitation, growth, reproduction, or propagation of indigenous aquatic plant and animal communities or any individual member of these communities, or of waterfowl accessing the water body; or otherwise adversely affect the physical, chemical, or biological conditions upon which these communities depend;

3. Result in sludge or bottom deposits that adversely affect the physical, chemical, biological, or aesthetic conditions of the water body;

4. Cause physical, chemical, or biological conditions that promote the habitation, growth, or propagation of non-indigenous species of plant or animal life in the water body;

5. Cause solids, oils, grease, foam, scum, or other objectionable floating materials or suspended substances in or on the surface of the water body, including in the form of a film or iridescence, or cause a deposit on a shoreline, bank, or aquatic vegetation;

6. Cause objectionable or aesthetically undesirable color in the water body;

7. Cause objectionable odor in, on, or around the water body;

8. Cause objectionable taste in the water body or in any plant, fish or animal, including waterfowl, found in, on, or adjacent to the water body, or impart an unpalatable flavor to fish or other aquatic species;

9. Cause objectionable turbidity, such as that which reduces light transmission to a point where aquatic biota are inhibited, or which causes an unaesthetic visible contrast with the natural appearance of the water;

10. Cause the growth of algae or aquatic plants that inhibit or prohibit the habitation, growth, or propagation of other aquatic species or that threaten or impair designated uses; or

11. Cause deleterious levels of soil particles in the water body from erosion of land involved in earthwork, such as construction of public works, highways, residences, or commercial or industrial developments, or the cultivation and management of agricultural or forested lands.

b) Tribal Surface Waters shall be free of pathogens associated with human sources, such as wastewater management, agriculture, and other anthropogenic activities, at levels that would impair designated and existing uses.

c) Hazardous materials, toxic substances, nutrients, other oxygen-demanding or other deleterious materials from human causes or algal toxins caused by human activities shall not be present in Tribal Surface Waters in quantities, concentrations, or combinations that impair designated uses; are injurious to humans, animals, plants, or aquatic species; interfere with the normal propagation, growth, reproduction, and survival of indigenous aquatic biota; or that will or are reasonably expected to bioaccumulate in tissues of fish, shellfish, or other aquatic organisms to levels that will threaten or impair the health of aquatic organisms or wildlife or result in undesirable tastes, odors, or unacceptable health risks to humans based on consideration of non-cancer hazards and cancer risks.

d) Whenever the natural conditions of Tribal Surface Waters are of a lower quality than assigned criteria, the Water Quality Program may develop site-specific or seasonal criteria based on natural conditions, subject to Commission approval, provided, however, that any such determination shall have a documented, scientifically defensible basis that demonstrates the site-specific criteria protect the applicable designated uses. Site-specific criteria based on natural

conditions shall be subject to public review and comment and EPA approval in accordance with Section 6.5.

e) At the boundary between waters of different classifications, the more stringent water quality criteria shall apply. If existing or designated uses of more than one water body are affected, the most stringent criteria shall apply.

### 3.2 Temperature

a) Normal, seasonal variations of surface water temperatures that are necessary to support aquatic species shall be maintained. However, within the natural range of climatic conditions, high water temperatures caused by unusually high ambient air temperatures are not violations of these standards. For the purposes of these standards, an "unusually high ambient air temperature" shall mean a daily maximum air temperature exceeding the $90^{th}$ percentile value of the annual maximum air temperatures, as calculated using at least 10 years of air temperature data from the natural historic record.

b) The introduction of heat by other than natural causes shall not result in conditions injurious to indigenous or desirable plants, animals, or aquatic species. In instances of potential water quality impairments associated with thermal discharge, the requirements of CWA § 316 shall apply.

### 3.3 Minerals

The natural mineral content of Tribal Surface Waters shall not be altered by municipal, industrial, or in-stream activities or other waste discharges so as to interfere with their designated uses.

### 3.4 Radioactive Materials

Concentrations of radioactive constituents shall not exceed EPA Safe Drinking Water Act (SDWA) standards except when concentrations caused by naturally occurring materials exceed those standards, in which case the Water Quality Program may develop site-specific criteria based on natural conditions, subject to Commission approval, provided, however, that any such determination shall have a documented, scientifically defensible basis that demonstrates the site-specific criteria protect the applicable designated uses. Site-specific criteria based on natural conditions shall be subject to public review and comment and EPA approval in accordance with Section 6.5. Notwithstanding the foregoing sentences, if a standard more stringent than the SDWA standard is indicated for a designated use, the more stringent standard will apply for that designated use.

### 3.5 Biological Conditions

a) All Tribal Surface Waters shall be of sufficient quality to support aquatic species without detrimental changes in the resident biological communities.

b) The goal of the SBT is for all Tribal Surface Waters to be free from substances, whether attributable to point source discharges, nonpoint sources, or in-stream activities, in concentrations or combinations which impair the structure or limit the function of the resident aquatic community as it naturally occurs.

c) The structure and function of the resident aquatic community shall be measured by biological assessment methods approved by the Water Quality Specialist.

d) 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.

### 3.6 Wetland Conditions

a) All natural wetlands and wetlands created for compensatory mitigation within the Reservation are considered Tribal Surface Waters and are subject to narrative criteria, antidegradation provisions, and applicable site-specific numeric criteria, if any. It is the goal of the SBT to maintain the water quality of wetlands at naturally occurring levels, including natural hydrological conditions (including hydroperiod, hydrodynamics and natural water temperature variations); the native hydrophytic vegetation; and the substrate characteristics necessary to support existing and designated uses, all within the natural range of variation for the individual wetland. For substances that are not naturally occurring, water quality requirements shall be based upon protecting existing uses of the wetland consistent with antidegradation requirements, the narrative water quality criteria in these standards, or appropriate criteria guidance issued by the EPA.

b) Natural wetlands shall not be considered as repositories or treatment systems for wastes from human sources. Wetlands intentionally created from non-wetland sites for the sole purpose of wastewater or stormwater treatment (constructed wetlands) are not considered "surface waters" and therefore are not subject to the provisions of this section. Wetlands intentionally created for the purpose of compensatory mitigation are considered "surface waters" and therefore are subject to the provisions of this section.

c) Point and nonpoint sources of pollution shall not cause destruction or impairment of wetlands except where authorized by the Commission and with approval of the United States Army Corps of Engineers under CWA § 404.

### 3.7 Determining Compliance with Narrative Standards

a) Visual assessment methods, chemical testing, monitoring of physical attributes, and biomonitoring and/or bioassessment following current EPA test methods or other methods approved by the Water Quality Specialist may be used to determine compliance with the narrative criteria in §§ 3.1 through 3.6.

b) When no historical or background data exist, data collection and analysis will be used to determine the standard. Data from an appropriate reference site, which reflects the natural condition, may also be used for this purpose. "Reference site" means a similar site that approximates a natural, unimpacted condition (biological, chemical, physical, etc.) for the target water body.

## PART IV. DESIGNATED USES OF WATERBODIES

### 4.1 Existing Uses

The following sections describe the designated uses for Tribal Surface Waters. Designated uses shall include all existing uses. Narrative water quality criteria and relevant numeric criteria in this section and Appendix 1 shall apply to Tribal Surface Waters. When more than one numeric criterion for a specific parameter applies to a water body, the most stringent criterion shall be used.

### 4.2 Human Health Uses

a) Cultural/Ceremonial (CC). Waters appropriate to support or maintain the way of life and traditional activities of the Shoshone-Bannock people. These activities include, but are not limited to, ceremonial practices that may involve contact with water to the point of complete submergence and/or intentional ingestion of the water, use of water in cultural practices, use for instream flow, and protection and preservation of habitat for fish, wildlife, berries, roots, medicines and other vegetation integral to the values of the Shoshone-Bannock people. This use applies to all Tribal Surface Waters. Numeric criteria specific to this use are listed in Part V.

b) Recreation (REC). Waters supporting any activities in or on the water where ingestion of small quantities of raw water or consumption of fish and/or aquatic organisms may occur. These activities may include, but are not limited to, swimming, fishing, boating, and wading. Numeric criteria specific to this use are listed in Part V.

c) Domestic Water Supply (DWS). Waters that with conventional treatment can be used as a source of drinking water. Numeric criteria specific to this use are listed in Part V.

### 4.3 Aquatic Life and Wildlife Uses

a) Wildlife Habitat (WLH). Waters that support birds, mammals, and other non-aquatic organisms that consume surface waters or any of the various forms of aquatic life found in surface waters. Numeric criteria specific to this use are listed in Part V.

b) Coldwater Aquatic Life (CAL). Waters that support the protection and maintenance of a viable aquatic life community of indigenous cold-water species. This use applies to all surface waters of the FHR. Numeric criteria specific to this use are listed in Part V.

c) Salmonid Spawning (SSP). Waters that provide or could provide a habitat for active self-propagating populations of salmonid fishes. Numeric criteria specific to this use are listed in Part V.

### 4.4 Other Designated Uses

a) Industrial Uses (IND). Waters used for the commercial production, manufacture, or construction of goods or services. All surface waters of the Fort Hall Reservation shall be of sufficient quality to be used for industrial purposes.

b) Agriculture Uses (AGR). Waters used for irrigation purposes, livestock watering, and/or any other farming practices involving the use of water. All surface waters shall be of sufficient quality to support agriculture uses.

## 4.5 Table of Water Body Use Designations

| Water Body | CAL | SSP | CC | REC | DWS | AGR | IND | WLH |
|---|---|---|---|---|---|---|---|---|
| American Falls Res. | X | | X | X | X | X | X | X |
| Bannock Cr. | X | X | X | X | | X | X | X |
| Barclay Cr. | X | | X | X | | X | X | X |
| Beaver Cr. | X | | X | X | | X | X | X |
| Big Jimmy Cr. | X | X | X | X | | X | X | X |
| Birch Cr. | X | X | X | X | | X | X | X |
| Blackfoot River | X | X | X | X | | X | X | X |
| Blind Spring Cr. | X | | X | X | | X | X | X |
| Chesterfield Res. | X | | X | X | | X | X | X |
| Clear Cr. | X | X | X | X | | X | X | X |
| Cold Cr. | X | X | X | X | | X | X | X |
| Deadman Cr. | X | | X | X | | X | X | X |
| Deer Cr. | X | | X | X | | X | X | X |
| Diggie Cr. | X | X | X | X | | X | X | X |
| Farmer Cr. | X | | X | X | | X | X | X |
| Fourth of July Cr. | X | X | X | X | | X | X | X |
| Garden Cr. | X | | X | X | | X | X | X |
| Gibson Cr. | X | | X | X | | X | X | X |
| Indian Cr. | X | | X | X | | X | X | X |
| Jeff Cabin Cr. | X | X | X | X | | X | X | X |
| Jimmy Drinks Cr. | X | X | X | X | | X | X | X |
| Keogh Cr. | X | | X | X | | X | X | X |

| **Water Body** | **CAL** | **SSP** | **CC** | **REC** | **DWS** | **AGR** | **IND** | **WLH** |
|---|---|---|---|---|---|---|---|---|
| Kinney Cr. | X | X | X | X | | X | X | X |
| Lincoln Cr. | X | | X | X | | X | X | X |
| Little Toponce Cr. | X | X | X | X | | X | X | X |
| Mareet Cr. | X | | X | X | | X | X | X |
| Michaud Cr. | X | X | X | X | | X | X | X |
| Midnight Cr. | X | X | X | X | | X | X | X |
| Mill Cr. | X | X | X | X | | X | X | X |
| Moonshine Cr. | X | | X | X | | X | X | X |
| Mud Slough Str. | X | X | X | X | | X | X | X |
| N. Fork Toponce Cr. | X | X | X | X | | X | X | X |
| Porcupine Cr. | X | | X | X | | X | X | X |
| Portneuf River | X | X | X | X | X | X | X | X |
| Rass Cr. | X | | X | X | | X | X | X |
| Rattlesnake Cr. | X | X | X | X | | X | X | X |
| Red Rock Cr. | X | | X | X | | X | X | X |
| Right Fork Cr. | X | | X | X | | X | X | X |
| Ross Fork Cr. | X | X | X | X | | X | X | X |
| S. Fork Ross Fork Cr. | X | X | X | X | | X | X | X |
| Sawmill Cr. | X | X | X | X | | X | X | X |
| Short Cr. | X | | X | X | | X | X | X |
| Snake River | X | X | X | X | X | X | X | X |
| Spring Cr. | X | X | X | X | | X | X | X |
| Squaw Cr. | X | X | X | X | | X | X | X |
| Starlight Cr. | X | X | X | X | | X | X | X |
| Supon Cr. | X | | X | X | | X | X | X |
| Thirty Day Cr. | X | X | X | X | | X | X | X |

| Water Body | CAL | SSP | CC | REC | DWS | AGR | IND | WLH |
|---|---|---|---|---|---|---|---|---|
| Trail Cr. | X | | X | X | | X | X | X |
| Two and a Half Mile Cr. | X | | X | X | | X | X | X |
| West Fork Bannock Cr. | X | X | X | X | | X | X | X |
| Wood Cr. | X | X | X | X | | X | X | X |
| All unnamed or unlisted waters of the Fort Hall Reservation. | X | | X | X | | X | X | X |

### 4.6 Designated Use Category Modifications

Modifications to designated use categories, including the addition or removal of a designated use category or establishment of a use subcategory, may be made pursuant to the provisions of Section 1.5 of these standards and consistent with the requirements of 40 C.F.R. § 131.10, as may be revised from time to time.

## PART V. NUMERIC WATER QUALITY CRITERIA FOR VARIOUS USES

### 5.1 General Numeric Criteria

a) Numeric criteria are established in these Surface Water Quality Standards for pollutants and other parameters, including toxic pollutants and a thermal component (consistent with the requirements of the Clean Water Act), which may adversely affect the water quality of Tribal Surface Waters. The numeric criteria shall support existing uses and the designated uses described in Sections 4.2 – 4.4 of these standards. In setting numeric criteria, the Water Quality Program may consider the effect of local conditions on water quality and may develop site-specific criteria when justified by sufficient data and need. Tables listing numeric water quality criteria for specific pollutants may be found in Appendix 1 of these standards.

b) When numeric criteria are not available and the Water Quality Program determines they are necessary to protect designated uses, it shall adopt criteria based on biological monitoring or methods consistent with information published pursuant to CWA § 304(a) or other scientifically defensible methods. WQS revisions will be adopted according to procedures in Section 1.5 of these standards. Nothing in this section shall be construed to limit or delay the use of effluent limitations or other permit conditions based on or involving biological monitoring or assessment methods or previously adopted numeric criteria, or to limit the ability of the Water Quality Program to adopt other criteria it determines are necessary to protect the designated uses of Tribal Surface Waters.

c) When numeric criteria for the protection of human health are not identified in these standards or Appendix 1, such criteria may be derived by the Water Quality Program from the most recent toxicity information defined in EPA's Integrated Risk Information System (IRIS), EPA guidance and recommendations under CWA Section 304(a), and other scientifically

defensible toxicity data. When using EPA-recommended data and procedures to derive surface water quality standards to protect human health, a fish consumption rate of one hundred seventy-five (175) grams/day, a water ingestion rate of two (2.4) liters/day and a cancer risk level of $10^{-6}$ shall be utilized, unless otherwise noted. For permitting purposes, the quantitation limit becomes the compliance point for dischargers. The quantitation limit refers to the minimum level, concentration, or quantity of a target analyte that can be reported with a specified degree of confidence.

d) Numeric criteria for the protection of aquatic life uses not identified in these standards or Appendix 1 may be developed by the Water Quality Program from the following information and methods:

1. Site-specific criteria developed pursuant to Section 6.5.

2. Effluent biomonitoring, toxicity testing and whole-effluent toxicity determinations;

3. The most recent recommended criteria defined in EPA's ECOTOX database. When using EPA recommended criteria to derive water quality criteria to protect aquatic life uses, the lowest observed effect concentrations (LOECs) shall be considered.

e) Radioactive materials. Concentrations of radioactive constituents shall not exceed the following:

1. Gross Alpha Particle Activity: 15 pCi/L

2. Gross Beta Particle Activity; 50 pCi/L

3. Tritium: 20,000 pCi/L

4. Strontium 90: 8 pCi/L

5. Radium 226 and 228: 5 pCi/L

6. Uranium: 30 µg/L

f) Total phosphorus. During base flow conditions, total phosphorus concentrations shall not exceed 50 µg/L in any stream or river at the point where it enters any lake or reservoir. For purposes of these WQS, "base flow conditions" mean flow that is not under the direct influence of snow melt runoff or rain, when concentrations of contaminants are diluted. Base flow is measured on a case-by-case basis. The point of entry also is determined on a case-by-case basis and is the point at full pool of the lake or reservoir where there are no backwater effects on the stream; it would not move as the lake or reservoir recedes. During other flow conditions, total phosphorus levels shall not exceed naturally occurring levels in surface waters.

### 5.2 Additional Numeric Criteria for Designated Uses

a) Cultural/Ceremonial (CC). Waters designated for this use are to exhibit the characteristics identified in Appendix 1, Column B of Table 3, Table 4, and the following:

1. Concentrations of the following substances shall not exceed the following:

| Substance | Concentration |
|---|---|
| Alachlor | 0.002 mg/L |
| Atrazine | 0.003 mg/L |
| Carbofuran | 0.005 mg/L |
| Dinoseb | 0.007 mg/L |
| Diquat | 0.02 mg/L |
| Endothall | 0.1 mg/L |
| Ethylene Dibromide | 0.00005 mg/L |
| Glyphosate | 0.7 mg/L |
| Oxamyl (Vydate) | 0.2 mg/L |
| Picloram | 0.5 mg/L |
| Simazine | 0.004 mg/L |

b) Recreation (REC). Waters designated for this use shall comply with Appendix 1, Column B of Table 3 and Table 4, and shall not contain *E. coli* bacteria or Enterococci bacteria significant to the public health in concentrations exceeding:

1. A geometric mean of 126 *E. coli* CFUs per 100 ml based on a minimum of five (5) samples taken over a thirty (30)-day period; or

A geometric mean of 35 Enterococci per 100 ml based on a minimum of five (5) samples taken over a thirty (30)-day period.

2. A Statistical Threshold Value of 410 E. coli CFUs per 100 ml; there should not be a greater than ten (10) percent excursion frequency of the selected Statistical Threshold Value magnitude in the same thirty (30)-day interval; or

A Statistical Threshold Value of 130 Enterococci CFUs per 100 ml; there should not be a greater than ten (10) percent excursion frequency of the selected Statistical Threshold Value magnitude in the same thirty (30)-day interval.

c) Domestic Water Supply (DWS). Waters designated for this use are to exhibit the characteristics identified in Appendix 1, column A of Table 3, and the following:

1. Radioactive materials or radioactivity not to exceed concentrations specified in Section 5.1(e), measured at the public water intake prior to treatment.

2. For small public water supplies (Surface Water):

a. Turbidity as measured at the public water intake shall not be:

1) Increased by more than 5 NTU above natural conditions, measured at a location upstream from or not influenced by any human-introduced non-point source activity, when background turbidity is 50 NTU or less.

2) Increased by more than ten percent (10%) above natural conditions, measured at a location upstream from or not influenced by any human-induced non-point source activity, not to exceed 25 NTU, when background turbidity is greater than 50 NTU.

d) Aquatic Life Communities. The following shall apply to all aquatic life use designations (CAL and SSP), in addition to numeric criteria identified for this use in Appendix 1, Tables 1, 1a, 1b, and 2:

1. Hydrogen Ion Concentration (pH) values within the range of 6.5 to 9.0. Human caused variation in pH is limited to no more than ±0.2 pH units within the numeric range described above;

2. The total concentration of dissolved gas not exceeding 110% of saturation at atmospheric pressure at the point of sample collection;

3. Total chlorine residual:

a. One-hour average concentration not to exceed 19 µg/l.

b. Four-day average concentration not to exceed 11 µg/l.

e) Coldwater Aquatic Life (CAL). Waters designated for this use are to exhibit the characteristics identified in Appendix 1, Table 1, Table 2, and the following:

1. Dissolved Oxygen (DO) concentrations exceeding 8.0 mg/l at all times.

a. In lakes and reservoirs that are naturally stratified, the dissolved oxygen criteria apply to the epilimnion and metalimnion strata. Dissolved oxygen in the hypolimnion may, due to the natural conditions, be less than the above criteria.

b. In lakes and reservoirs that are not stratified, the dissolved oxygen criteria apply through out the water column.

When natural conditions prevent attainment of the numeric dissolved oxygen criteria, all human-caused conditions and activities considered cumulatively may not decrease dissolved oxygen levels by more than 0.2 mg/L.

2. Water temperatures shall not exceed the seven-day average of the daily maximum temperature (7-DADM) of 20 degrees C. When natural conditions prevent the attainment of the numeric temperature criteria, human-caused conditions and activities considered cumulatively may not increase the 7-DADM temperature more than 0.3 degrees C. The spatial and temporal characteristics of the natural thermal regime, including thermal refugia, must be maintained to the maximum extent practicable at all times.

3. Ammonia. The following criteria are not to be exceeded dependent upon the temperature, T (degrees C), and pH of the water body:

a. Acute Criterion (Criterion Maximum Concentration (CMC)). The one (1)-hour average concentration of total ammonia nitrogen (in mg N/L) is not to exceed, more than once every three (3) years, the value calculated using the following equation:

$$CMC = MIN\left(\left(\frac{0.275}{1+10^{7.204-pH}}+\frac{39.0}{1+10^{pH-7.204}}\right),\left(0.7249\times\left(\frac{0.0114}{1+10^{7.204-pH}}+\frac{1.6181}{1+10^{pH-7.204}}\right)\times\left(23.12\times 10^{0.036\times(20-T)}\right)\right)\right)$$

b. Chronic Criterion (Criterion Continuous Concentration (CCC)). The thirty (30)-day rolling average concentration of total ammonia nitrogen (in mg N/L) is not to exceed, more than once every three (3) years, the value calculated using the following equation:

$$CCC = 0.8876\times\left(\frac{0.0278}{1+10^{7.688-pH}}+\frac{1.1994}{1+10^{pH-7.688}}\right)\times\left(2.126\times 10^{0.028\times(20-MAX(T,7))}\right)$$

c. The highest four (4)-day average within the thirty (30)-day period should not exceed two point five (2.5) times the CCC.

4. Turbidity, below any applicable compliance point, shall not exceed background turbidity by more than 50 NTU instantaneously or more than 25 NTU for more than ten (10) consecutive days.

f) Salmonid Spawning (SSP). Waters designated for this use are to exhibit the characteristics identified in Appendix 1, Table 1, Table 2, and the following characteristics during the spawning period, incubation, and larval stages for the particular species inhabiting those waters:

1. Dissolved Oxygen.

a. Intergravel Dissolved Oxygen.

1) One (1)-day minimum of not less than 8.0 mg/l.

b. Water Column Dissolved Oxygen (applies after salmonid fry emergence).

1) One (1)-day minimum of not less than 9.0 mg/l..

When natural conditions prevent attainment of the numeric dissolved oxygen criteria, all human-caused conditions and activities considered cumulatively may not decrease dissolved oxygen levels by more than 0.2 mg/L.

2. Water temperatures with a 7-DADM of 13 degrees C or less. When natural conditions prevent the attainment of the numeric temperature criteria, human-caused conditions and activities considered cumulatively may not increase the 7-DADM temperature more than 0.3 degrees C. The spatial and temporal characteristics of the natural thermal regime, including thermal refugia, must be maintained to the maximum extent practicable at all times.

3. Ammonia. Concentration of ammonia is not to exceed the criteria defined in paragraph 5.2(e)(3).

g) Wildlife Habitat (WLH). Criteria for waters designated for this use will generally be satisfied by the water quality criteria set forth in Section 5.1. Should specificity be desirable or necessary to protect a specific use, appropriate criteria will be adopted pursuant to Section 6.5.

h) Industrial Uses (IND). Criteria for waters designated for this use will generally be satisfied by the water quality criteria set forth in Section 5.1. Should specificity be desirable or necessary to protect a specific use, appropriate criteria will be adopted pursuant to Section 6.5.

i) Agriculture Uses (AGR). Criteria for agricultural water supplies will generally be satisfied by the water quality criteria set forth in Section 5.1. Should specificity be desirable or necessary to protect a specific use, appropriate criteria will be adopted pursuant to Section 6.5 of these standards.

## 5.3 Application and Construction

a) The criteria assigned and applicable to a surface water body are those required to sustain all designated uses of the water body. When a water body has more than one designated use, as indicated in Table 1, the applicable numeric criteria for each parameter shall be those necessary to maintain all the designated uses of that water body, that is, the most stringent of the criteria established for that body of water shall apply.

b) The following design flows shall be used to implement the aquatic life and human health criteria in Appendix 1.

| Criteria | Design Flow |
|---|---|
| Aquatic Life Acute Criteria (CMC) | 1 Q 10 or 1 B 3 |
| Aquatic Life Chronic Criteria (CCC) | 7 Q 10 or 4 B 3 |
| Human Health Criteria | Harmonic Mean Flow |

**Notes:**

1. CMC (Criteria Maximum Concentration) is the water quality criterion to protect against acute effects in aquatic life and is the highest instream concentration of a priority toxic pollutant consisting of a short-term average not to be exceeded more than once every three years on the average.
2. CCC (Continuous Criteria Concentration) is the water quality criterion to protect against chronic effects in aquatic life and is the highest in-stream concentration of a priority toxic pollutant consisting of a 4-day average not to be exceeded more than once every three years on the average.

3. 1 Q 10 is the lowest one-day flow with an average recurrence frequency of once in 10 years determined hydrologically.
4. 1 B 3 is biologically based and indicates an allowable exceedance of once every 3 years. It is determined by EPA's computerized method (DFLOW model).
5. 7 Q 10 is the lowest average 7 consecutive day low flow with an average recurrence frequency of once in 10 years determined hydrologically.
6. 4 B 3 is biologically based and indicates an allowable exceedance for 4 consecutive days once every 3 years. It is determined by EPA's computerized method (DFLOW model).

c) Surface water quality standards established for the attainment and maintenance of upstream designated uses shall be sufficient to protect the attainment and maintenance of downstream designated uses.

d) These standards provide the basis for managing discharges attributable to point and nonpoint sources of pollution, including in-stream activities. These standards are not intended to apply to or control natural conditions or phenomena.

## PART VI. SAMPLING AND ANALYSIS, VARIANCES AND EXCEEDANCES

### 6.1 Sampling and Analysis

a) To the extent feasible, all methods of sample collection, preservation, and analysis used in determining water quality and compliance with these standards shall be in accordance with procedures prescribed by "Guidelines Establishing Test Procedures for the Analysis of Pollutants" (40 C.F.R. Part 136, Appendix A). When a test method is not prescribed by 40 C.F.R. Part 136 for a particular parameter, the most recent edition of "Standard Methods for the Examination of Water and Wastewater" (American Public Health Association, American Waterworks Association, and the Water Pollution Control Federation) and other or superseding methods published and/or approved by the Water Quality Program shall be used.

b) For criteria requiring "no measurable change" (or "no measurable decrease/increase") from natural background conditions, the approved analytical method with the greatest precision shall be used. A change shall be considered measurable if the concentration measured is statistically different from the background concentration.

c) "Natural conditions" sampling locations shall be upstream or up-gradient from all human-caused sources of pollution. When assessing natural conditions in a disturbed watershed, it may be necessary to use an undisturbed similar watershed as a reference condition.

d) The Water Quality Program shall require water quality monitoring to assess the effectiveness of pollution controls and to determine whether these standards are being attained.

### 6.2 Mixing Zone Policy

In conjunction with the issuance of CWA section 402 and 404 permits, the SBT may authorize the use of mixing zones in Tribal Surface Waters on a case-by-case basis, in accordance with the following provisions.

a) Mixing zones, including their size, configuration, and location, may be authorized by the Water Quality Program on a case-by-case basis in accordance with the provisions of this

section at the time a permit is issued, renewed, or materially modified and is in effect, as long as the permit remains in effect. Such an authorization is required before the permitting authority can use the mixing zone to determine the need for, or level of, effluent limits for a particular pollutant.

b) Mixing zones shall not be authorized for a pollutant when the receiving water does not meet water quality criteria for that pollutant, except when: (1) the effluent limits established using a mixing zone are consistent with an EPA-approved or EPA-established TMDL, and (2) the mixing zone is in accordance with this section.

c) Mixing zones shall not be authorized when they may cause unreasonable interference with or danger to designated uses, including, but not limited to, any of the following:

1. Impairment to the integrity of the aquatic community, including interference with successful spawning, egg incubation, rearing, or passage of aquatic life.

2. Lethality to aquatic life passing through the mixing zone.

3. Heat in the discharge that may cause thermal shock, lethality, or loss of cold water habitat or may attract aquatic life to a toxic discharge.

4. Bioaccumulative pollutants in the discharge.

5. Pollutant concentrations that exceed maximum contaminant levels at drinking water intakes.

6. Conditions that impede or prohibit recreation in or on the water body. Mixing zones shall not be authorized for the indicator bacteria and cyanotoxins identified in Section 5.2(b).

d) Mixing zones shall not overlap.

e) Water quality within an authorized mixing zone is allowed to exceed chronic water quality criteria for those parameters approved by the Water Quality Program. Acute water quality criteria may be exceeded for such parameters within the zone of initial dilution inside the mixing zone. Acute criteria shall be met as near to the point of discharge as practicably attainable. Narrative criteria in paragraph (c) of this section apply within the mixing zone. Water quality criteria shall not be exceeded outside of the boundary of a mixing zone as a result of the discharge for which the mixing zone was authorized.

f) Mixing zones shall be no larger than necessary, and the concentrations of pollutants present shall be minimized. Mixing zones shall meet the following restrictions:

1. Mixing zones shall be designed to avoid or minimize adverse effects to species and critical habitat listed under the Endangered Species Act.

2. Mixing zones in flowing waters shall <u>not</u>:

a. Extend in a downstream direction for a distance from the discharge port(s) greater than 300 feet plus the depth of water over the discharge port(s);

b. Extend upstream for a distance of over 100 feet;

c. Utilize greater than 25% of the critical low flow; nor

d. Occupy greater than 25% of the width of the water body.

3. Mixing zones in nonflowing waters shall not:

a. Exceed 10% of the volume of the water body;

b. Exceed 10% of the surface area of the water body (maximum radial extent of the plume regardless of whether it reaches the surface); nor

c. Extend beyond 15% of the width of the water body.

4. Mixing zones that result in shore-hugging plumes shall not be authorized.

g) The following elements shall be incorporated when designing an outfall:

1. Rapid mixing shall be promoted to the extent practicable through careful location and outfall design;

2. Diffusers shall be used.

### 6.3 Variances

Variances from certain surface water quality standards may be granted by the Water Quality Program after opportunity for public comment pursuant to WQPA Chapter 6 and with the approval of the Commission, provided they are consistent with the requirements of 40 C.F.R. § 131.14 and approved by EPA in accordance with 40 C.F.R. § 131.5(a)(4).

a) A variance may be adopted for a discharger or water body/water body segment(s), but will apply only to the discharger(s) or water body/water body segment(s) specified in the variance.

b) When the Water Quality Program and EPA approve a variance, the underlying designated use and criterion shall be retained. All other applicable standards not specifically addressed by the variance remain applicable. A variance, once granted by the Water Quality Program, approved by the Commission, and subsequently approved by EPA, shall be the applicable standard in accordance with 40 C.F.R. § 131.21(d) & (e) for the purposes of developing NPDES permit limits and requirements under CWA § 301(b)(1)(C), where appropriate, or when issuing certifications under CWA § 401.

c) If the designated use and criterion addressed by the variance can be achieved by implementing technology-based effluent limits required under CWA §§ 301(b) and 306, no variance shall be allowed

d) A variance must include:

1. Identification of the pollutant(s) or water quality parameter(s) and the water body/water body segment(s) to which the variance applies. Discharger-specific variances must also identify the discharger(s) subject to the variance.

2. The variance requirements shall represent the highest attainable condition of the water body or water body segment applicable throughout the term of the variance and shall not result in any lowering of the currently attained ambient water quality, unless a variance is necessary for restoration activities, consistent with paragraph (e)(1)(ii) of this section.

a. For discharger-specific variances, the highest attainable condition of the water body or water body segment shall be expressed as:

1) The highest attainable interim criterion; or

2) The interim effluent condition that reflects the greatest pollutant reduction achievable; or

3) If no additional feasible pollutant control technology can be identified, the interim criterion or interim effluent condition that reflects the greatest pollutant reduction achievable with the pollutant control technologies installed at the time of adoption of the variance, and the adoption and implementation of a Pollutant Minimization Program.

b. For variances applicable to a water body or water body segment, the highest attainable condition of the water body or water body segment shall be expressed as:

1) The highest attainable interim use and interim criterion; or

2) If no additional feasible pollutant control technology can be identified, the interim use and interim criterion that reflect the greatest pollutant reduction achievable with the pollutant control technologies installed at the time of adoption of the variance and the adoption and implementation of a Pollutant Minimization Program.

3. A statement providing that the requirements of the variance are either the highest attainable condition identified at the time of the adoption of the variance or the highest attainable condition later identified during any reevaluation, whichever is more stringent.

4. The term of the variance may be an interval of time from the date of EPA approval or a specific date. The term of the WQS variance must be only as long as necessary to achieve the highest attainable condition and shall not exceed five (5) years. One renewal may be granted that shall not exceed five (5) years.

e) To obtain a variance, the discharger must submit documentation demonstrating the need for a variance, as follows:

1. For a variance to a use specified in CWA § 101(a)(2) or a sub-category of such a use, the discharger must demonstrate that attaining the designated use and criterion is not feasible throughout the term of the WQS variance because either:

a. One of the following factors is met:

1) Naturally occurring pollutant concentrations prevent the attainment of the use.

2) Natural, intermittent, or low flow conditions or water levels prevent attainment of the use.

3) Human-caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place.

4) Dams, diversions or other types of hydrologic modifications preclude attainment of the use and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in attainment of the use. However, it will be presumed that small diversions and other agricultural modifications can be modified to attain designated uses and that larger hydrological dams are detrimental to native fishes, such as Salmonids, and to water quality.

5) Physical conditions related to the natural features of the water body, unrelated to water quality, preclude attainment of the use.

6) Controls more stringent than technology-based effluent limitations would result in substantial and widespread economic and social impact; or

b. Actions necessary to facilitate lake, wetland, or stream restoration through dam removal or other significant reconfiguration activities preclude attainment of the designated use and criterion while the actions are being implemented.

2. For a variance to a use that is not listed in CWA § 101(a)(2), the discharger must submit justification of how its consideration of the use and value of the water for those uses listed in 40 C.F.R. §131.10(a) appropriately support the variance and term. A demonstration consistent with paragraph (e)(1)(a) of this section may be used to satisfy this requirement.

3. Documentation demonstrating that the term of the variance is only as long as necessary to achieve the highest attainable condition. Such documentation must justify the term of the variance by describing the pollutant control activities required to achieve the highest attainable condition, including those activities identified through a Pollutant Minimization Program which serve as milestones for the variance.

4. For a WQS variance that applies to a water body or water body segment, an applicant for a variance must submit:

a. Identification and documentation of any cost-effective and reasonable best management practices for nonpoint source controls related to the pollutant(s) or water quality parameter(s) and water body or water body segment(s) specified in the variance that could be implemented to make progress towards attaining the underlying designated use and criterion.

b. Any subsequent application for a variance for a water body or water body segment, in excess of the original term of the variance, must include documentation of whether and to what extent best management practices for nonpoint source controls were implemented to address the pollutant(s) or water quality parameter(s) subject to the variance and the water quality progress achieved.

f) Upon expiration of the variance, the discharger must either meet the standard at issue or must re-apply for a variance in accordance with these rules.

g) In considering a re-application for a variance, the discharger must include documentation of whether and to what extent best management practices for nonpoint source controls were implemented to address the pollutant(s) or water quality parameter(s) subject to the variance and must demonstrate reasonable progress towards meeting the designated use.

h) A variance serves as the applicable water quality standard for implementing NPDES permitting requirements pursuant to 40 C.F.R. §122.44(d) for the term of the variance. Any limitations and requirements necessary to implement the variance shall be included as enforceable conditions of the NPDES permit for the permittee(s) subject to the WQS variance.

### 6.4 Compliance Schedules

a) Licenses, permits or orders issued by the Commission, Water Quality Program or other permitting agencies for existing discharges or activities may include a schedule for achieving compliance with these surface water quality standards and criteria. The Tribes may authorize the use of compliance schedules, on a case-by-case basis, for water quality-based effluent limits in National Pollutant Discharge Elimination System (NPDES) permits, when appropriate, and consistent with 40 CFR § 122.47. Compliance schedules shall be developed to ensure final compliance with all water quality criteria in the shortest practicable time. Decisions regarding whether to issue compliance schedules will be made on a case-by-case basis by the Water Quality

Program and must be approved by the Commission. Compliance schedules may not be issued for new discharges or activities. Compliance schedules may be issued to allow for:

1. Construction of necessary treatment capability;

2. Implementation of necessary best management practices;

3. Implementation of additional best management practices for sources determined not to be meeting water quality criteria following implementation of an initial set of best management practices; and

4. Completion of necessary water quality studies.

b) For the period during which compliance with water quality criteria is deferred, interim limitations may be formally established, based on the best professional judgment of the Water Quality Program.

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

## 6.5 Site-Specific Surface Water Quality Criteria

The water quality criteria contained in these standards may not reflect the toxicity of a pollutant in a specific water body. These criteria also represent a limited number of the natural and human-made chemicals that exist in the environment and that may pose a threat to designated or existing uses. Thus, it may be necessary or desirable to develop new water quality criteria or modify existing criteria for a specific water body, through site-specific analyses, which will effectively protect designated and existing uses of that water body. The Commission, upon the recommendation of the Water Quality Program, shall formally adopt any revised criteria following public review and comment in accordance with Section 1.5 of these standards. After adoption by the Commission, revised criteria will be submitted to EPA for approval, along with any information that will aid EPA to determine the adequacy of the scientific basis of the revised criteria.

a) The following are acceptable conditions for developing site-specific criteria:

1. Resident species of the water body are more or less sensitive than those species used to develop a water quality criterion.

   a. Natural adaptive processes have enabled a viable, balanced aquatic life community to exist in water where natural conditions include levels of a pollutant that exceed the water quality criterion (i.e., resident species have evolved a greater resistance to higher concentrations of a pollutant).

   b. The composition of aquatic species in a water body is different from that used to derive a water quality criterion (i.e., more or less

sensitive species to a pollutant are present or representative of a water body than have been used to derive a criterion).

2. Biological availability and/or toxicity of a pollutant may be altered due to differences between the physicochemical characteristics of the water in a water body and the laboratory water used in developing a water quality criterion (e.g., alkalinity, hardness, pH, salinity, total organic carbon, suspended solids, turbidity, natural complexing, or temperature).

3. The effect of seasonality on the physicochemical characteristics of a water body and subsequent effects on biological availability and/or toxicity of a pollutant may justify seasonally dependent site-specific criteria.

4. Site-specific water quality criteria may be derived to protect and maintain existing ambient water quality where existing water quality is better than needed to protect the designated use.

5. Other factors or combinations of factors that upon review of the Water Quality Program may warrant modification of the criteria.

b) The Water Quality Program may develop site-specific criteria by identifying existing data, additional data needs, methods to be used in generating new data, testing procedures to be used, schedules to be followed and quality control and assurance provisions to be used.

c) If site-specific criteria are seasonally dependent, the period when the criteria apply shall be clearly identified.

d) Site-specific criteria, if appropriate, shall include both chronic and acute concentrations to more accurately reflect the different tolerances of resident species to the inherent variability between concentrations and toxicological characteristics of a pollutant.

e) Site-specific criteria shall be clearly identified as maximum (not to exceed) or average values. If a criterion represents an average value, the averaging period shall be specified. The conditions, if any, when the criteria apply shall be clearly stated (e.g. specific levels of hardness, pH, water temperature, or bioavailability). Specific sampling requirements (location, frequency, etc.), if any, shall also be specified.

f) A site may be limited to the specific areas affected by a point or non-point source of pollution or, if appropriate, may be an expanded geographical area (e.g., ecoregion, river basin, sub-basin, etc.). For a number of different water bodies to be designated as one site, their respective aquatic communities cannot vary substantially in sensitivity to a pollutant. Site boundaries shall be geographically defined.

g) The following are acceptable procedures for developing site-specific criteria for aquatic life protection:

1. Site-specific analyses for the development of new water quality criteria shall be conducted in a manner that is scientifically justifiable and consistent with the

assumptions and rationale in "Guidelines for deriving Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses," EPA 1985. This document is available for review and may be obtained from the EPA or online at https://www.epa.gov/wqc/guidelines-deriving-numerical-national-water-quality-criteria-protection-aquatic-organisms-and

2. Site-specific analyses for the modification of existing water quality criteria shall be conducted in accordance with one of the following procedures, as described in the "Water Quality Standards Handbook," available on line at https://www.epa.gov/wqs-tech/water-quality-standards-handbook.

a. Recalculation procedure. This procedure is used to account for differences in sensitivity to a pollutant between resident species and those species used in deriving the criterion. Bioassays in laboratory water may be required for untested resident species.

b. Indicator Species Procedure. This procedure is used to account for differences in biological availability and/or toxicity of a chemical between the physicochemical characteristics of the water in a water body and the laboratory water used in developing criteria. Bioassays in site water are required using resident species of acceptable nonresident species.

c. Resident Species Procedure. This procedure is used to account for differences in resident species sensitivity and biological availability and/or toxicity of a pollutant. Bioassays in site water using resident species are required.

d. Water effects ratios as defined by EPA guidance documents.

e. Other scientifically defensible procedures such as relevant aquatic field studies, laboratory tests, biological translators, fate and distribution models, risk analyses or available scientific literature.

h) The data, testing procedures and application factors used to develop site-specific criteria shall reflect the nature of the pollutant (e.g., persistency, bioaccumulation potential, avoidance or attraction responses in fish, etc.), the designated and existing designated uses, and the most sensitive resident species of the water body.

# Appendix 1

# Numeric Criteria for Toxic Substances

## 1.1 Documents Incorporated by Reference

For the purposes of NPDES permitting and discharge licenses issued pursuant to Water Resources Code § 4.C.1.b, interpretation and implementation of metals criteria listed in Table 1 of this Appendix should be governed by the following standards that are hereby incorporated by reference, in addition to other scientifically defensible methods deemed appropriate by the Department; provided, however, any identified conversion factors within these documents are not incorporated by reference. Metals criteria conversion factors are identified in Table 1a and Table 1b of this Appendix.

a) "Guidance Document on Dissolved Criteria—Expression of Aquatic Life Criteria," EPA, October 1993.

b) "Guidance Document on Dynamic Modeling and Translators," EPA, August 1993.

c) "Sampling Ambient Water for Trace Metals at EPA Water Quality Criteria Levels," EPA, July 1996.

d) "Interim Guidance on Determination and Use of Water-Effect Ratios for Metals," EPA, February 1994.

## 1.2 Applicability

Toxic substance criteria in Table 1 through Table 4, below, apply to Tribal Surface Waters as follows:

a) Tables 1, 1a, 1b, and 2 apply to waters designated for Coldwater Aquatic Life and Salmonid Spawning uses.

b) Table 3 Column A applies to Domestic Water Supply designated uses, Table 3 Column B applies to waters designated for Cultural Ceremonial and Recreation uses.

c) Table 4 applies to waters designated for Cultural Ceremonial and Recreation uses.

| Table 1. Aquatic Life Criteria | | | |
|---|---|---|---|
| | | Freshwater | |
| Compound | CAS Number | Criterion Maximum Concentration (CMC) (µg/L) B1 | Criterion Continuous Concentration (CCC) (µg/L) B2 |
| Acrolein | 107028 | 3 | 3 |
| Aldrin[A] | 309002 | 3 | - |
| alpha-Endosulfan[A,B] | 959988 | 0.22 | 0.056 |
| Ammonia | 7664417 | See Section 5.2(e)(3) | |
| Arsenic[D,E] | 7440382 | 340 | 150 |
| beta-Endosulfan[A,B] | 33213659 | 0.22 | 0.056 |
| Cadmium[E] | 7440439 | See Table 1b | |
| Carbaryl | 63252 | 2.1 | 2.1 |
| Chlordane[A] | 57749 | 2.4 | 0.0043 |
| Chloride | 16887006 | 860000 | 230000 |
| Chlorine | 7782505 | 19 | 11 |
| Chlorpyrifos | 2921882 | 0.083 | 0.041 |
| Chromium (III)[E] | 16065831 | See Table 1b | |
| Chromium (VI)[E] | 18540299 | 16 | 11 |
| Copper[E,L] | 7440508 | See footnote L | |
| Cyanide[F] | 57125 | 22 | 5.2 |
| Demeton | 8065483 | - | 0.1 |
| Diazinon | 333415 | 0.17 | 0.17 |
| Dieldrin | 60571 | 0.24 | 0.056[a] |
| Endrin | 72208 | 0.086 | 0.036[g] |
| gamma-BHC (Lindane) | 58899 | 0.95 | - |
| Guthion | 86500 | - | 0.01 |
| Heptachlor[A] | 76448 | 0.52 | 0.0038 |
| Heptachlor Epoxide[A,H] | 1024573 | 0.52 | 0.0038 |
| Iron | 7439896 | - | 1000 |
| Lead[E] | 7439921 | See Table 1b | |
| Malathion | 121755 | - | 0.1 |
| Mercury[E,I] | 7439976 | 1.4 | 0.012 |
| Methoxychlor | 72435 | - | 0.03 |
| Mirex | 2385855 | - | 0.001 |
| Nickel[E] | 7440020 | See Table 1b | |
| Nonylphenol | 84852153 | 28 | 6.6 |
| Parathion | 56382 | 0.065 | 0.013 |

| Table 1. Aquatic Life Criteria | | | |
|---|---|---|---|
| | | Freshwater | |
| Compound | CAS Number | Criterion Maximum Concentration (CMC) (µg/L) B1 | Criterion Continuous Concentration (CCC) (µg/L) B2 |
| Pentachlorophenol | 87865 | 19[k] | 15[k] |
| Polychlorinated biphenyls, total[M] | - | - | 0.014 |
| Selenium | 7782492 | See Table 2 | |
| Silver[A,E] | 7440224 | See Table 1b | |
| Sulfide-Hydrogen Sulfide | 7783064 | - | 2 |
| Toxaphene | 8001352 | 0.73 | 0.0002 |
| Tributyltin (TBT) | | 0.46 | 0.072 |
| Zinc[E] | 7440666 | See Table 1b | |
| 4,4'-DDT[A, N] | 50293 | 1.1 | 0.001 |

**Footnotes to Table 1:**

A. These criteria are based on EPA's 1980 criteria, which used different Minimum Data Requirements and derivation procedures from EPA's 1985 Guidelines. If evaluation is to be done using an averaging period, the acute criteria values given are not to be exceeded and should be divided by 2 to obtain a value that is more comparable to a CMC derived using the 1985 Guidelines.

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

C. Freshwater criteria for aluminum is reserved for new values under development. Criteria will be added once available.

D. This recommended water quality criterion was derived from data for arsenic (III), but is applied here to total arsenic.

E. Freshwater and saltwater criteria for metals are expressed in terms of the dissolved metal in the water column. See EPA's Office of Water Policy and Technical Guidance on Interpretation and Implementation of Aquatic Life Metals Criteria. See Table 1a for conversion factors.

F. These recommended water quality criteria are expressed as µg free cyanide (CN/L).

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

H. This value was derived from data for heptachlor and there were insufficient data to determine relative toxicities of heptachlor and heptachlor epoxide.

I. This recommended water quality criterion was derived from data for inorganic mercury (II) but is applied here to total dissolved mercury. If a substantial portion of the mercury in the water column is methylmercury, this criterion will probably be under-protective. In addition, even though inorganic mercury is converted to methylmercury and methylmercury bioaccumulates to a great extent, this criterion does not account for uptake via the food chain because sufficient data were not available when the criterion was derived.

J. For fresh waters, see Quality Criteria for Water, 1986 ("Gold Book"). For marine waters, see Ambient Aquatic Life Water Quality Criteria for Dissolved Oxygen (Saltwater): Cape Cod to Cape Hatteras (EPA-822-R-00-012).

K. Freshwater aquatic life values for pentachlorophenol are expressed as a function of pH and values displayed in the table correspond to a pH of 7.8. $CCC = e^{1.005(pH) - 5.134}$, $CMC = e^{1.005 (pH) - 4.869}$

L. Freshwater copper criteria shall be developed using EPA's current Biotic Ligand Model (BLM current criteria document: EPA-822-R-07-001). When criteria are developed such criteria must be protective of aquatic life for all expected water quality conditions. A minimum number of 24X samples over two years, reflecting intra-annual or seasonal flow and spatial variability related water quality, variability must be collected. If inter-annual or spatial

| Table 1. Aquatic Life Criteria | | | |
|---|---|---|---|
| | | Freshwater | |
| Compound | CAS Number | Criterion Maximum Concentration (CMC) (µg/L) B1 | Criterion Continuous Concentration (CCC) (µg/L) B2 |

variability in water quality occurs regularly, the monitoring plan shall reflect these characteristics. In the absence of sufficient ambient data for any of the BLM input parameters, default values corresponding to the 10th percentile of the applicable ecoregional dataset for the relevant stream order for each missing parameter shall be used. Default values shall be found in EPA's Missing Parameters Technical Support Document (EPA 820-R-15-106), hereby incorporated by reference. All BLM criteria shall be made available on the Tribes' website.

M. As for the HHC criteria: This criterion applies to total PCBs (e.g., the sum of all congener or all isomer or homolog or Aroclor analyses).

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

## Table 1a: Conversion Factors for Dissolved Metals

| Metal | Freshwater CMC | 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 |
| Lead | 1.46203-[(ln hardness)(0.145712)] | 1.46203-[(ln hardness)(0.145712)] |
| Mercury | 0.85 | 0.85 |
| Nickel | 0.998 | 0.997 |
| Silver | 0.85 | — |
| Zinc | 0.978 | 0.986 |

## Table 1b: Parameters for Calculating Dissolved Metals Criteria That Are Hardness-Dependent

| Chemical | mA | bA | mC | bC | Conversion Factors (CF) | |
|---|---|---|---|---|---|---|
| | | | | | CMC | CCC |
| Cadmium | 0.9789 | -3.866 | 0.7977 | -3.909 | 1.136672-[(*ln*hardness)(0.041838)] | 1.101672-[(*ln*hardness)(0.041838)] |
| Chromium III | 0.8190 | 3.7256 | 0.8190 | 0.6848 | 0.316 | 0.860 |
| Lead | 1.273 | -1.460 | 1.273 | -4.705 | 1.46203-[(*ln*hardness)(0.145712)] | 1.46203-[(*ln*hardness)(0.145712)] |
| 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{mA [*ln*(hardness)]+ bA} (CF)

CCC (dissolved) = exp{mC [*ln*(hardness)]+ bC} (CF)

## Table 2. Selenium Aquatic Life Criterion

| Criterion Element | Magnitude | Duration | Frequency |
|---|---|---|---|
| Fish Tissue[a] (Egg-Ovary)[b] | 15.1 mg/kg dw | Instantaneous measurement[c] | Not to be exceeded |
| Fish Tissue[a,g] (Whole Body)[d] | 8.5 mg/kg dw | Instantaneous measurement[c] | Not to be exceeded |
| Fish Tissue[a,g] (Muscle-skinless, boneless filet)[d] | 11.3 mg/kg dw | Instantaneous measurement[c] | Not to be exceeded |
| Water Column[e] (Monthly Average Exposure) | 1.5 µg/L in lentic aquatic systems<br><br>3.1 µg/L in lotic aquatic systems | 30 days | Not more than once in three years on average |
| Water Column[e] (Intermittent Exposure)[f] | $WQC_{int} = \frac{WQC_{30\text{-}day} - C_{bkgrnd}(1 - f_{int})}{f_{int}}$ | Number of days/month with an elevated concentration | Not more than once in three years on average |

[a] Fish tissue elements are expressed as steady-state.
[b] Egg/ovary supersedes any whole-body, muscle, or water column element when fish egg/ovary concentrations are measured, except as noted in footnote e below.
[c] Fish tissue data provide instantaneous point measurements that reflect integrative accumulation of selenium over time and space in fish population(s) at a given site.
[d] Fish whole-body or muscle tissue supersedes water column element when both fish tissue and water concentrations are measured, except as noted in footnote e below.
[e] Water column values are based on dissolved total selenium in water and are derived from fish tissue values via bioaccumulation modeling. When selenium inputs are increasing, water column values are the applicable criterion element in the absence of steady-state condition fish tissue data.
[f] Where $WQC_{30\text{-}day}$ is the water column monthly element, for either lentic or lotic waters; $C_{bkgrnd}$ is the average background selenium concentration, and $f_{int}$ is the fraction of any 30-day period during which elevated selenium concentrations occur, with $f_{int}$ assigned a value ≥0.033 (corresponding to 1 day).

| Criterion Element | Magnitude | Duration | Frequency |
|---|---|---|---|
| [g] This tissue value may not be protective of human health. If values greater than 7.6 mg/kg dw are encountered in fish muscle tissue or whole body samples, further investigation is necessary to evaluate protection of human health designated uses. | | | |

## Table 3. Human Health Criteria

| **Human Health Criteria are based on a Fish Consumption Rate of 175 grams/day and Cancer Risk Level of 1 in 1,000,000 people ($10^{-6}$), unless otherwise noted.** | | | |
|---|---|---|---|
| **Pollutant** | **CAS Number** | **Water + Organism (µg/L) A** | **Organism Only (µg/L-unless otherwise noted) B** |
| 1,1,1-Trichloroethane [a] | 71556 | 8000 | 20000 |
| 1,1,2,2-Tetrachloroethane | 79345 | 0.1 | 0.3 |
| 1,1,2-Trichloroethane [a] | 79005 | 0.38 | 1.1 |
| 1,1-Dichloroethylene [a] | 75354 | 300 | 2000 |
| 1,2,4,5-Tetrachlorobenzene | 95943 | 0.004 | 0.004 |
| 1,2,4-Trichlorobenzene [a] | 120821 | 0.0092 | 0.0092 |
| 1,2-Dichlorobenzene [a] | 95501 | 300 | 400 |
| 1,2-Dichloroethane [a] | 107062 | 9 | 79 |
| 1,2-Dichloropropane | 78875 | 0.74 | 3.8 |
| 1,2-Diphenylhydrazine | 122667 | 0.02 | 0.03 |
| 1,2-Trans-Dichloroethylene [a] | 156605 | 100 | 500 |
| 1,3-Dichlorobenzene | 541731 | 2 | 2 |
| 1,3-Dichloropropene | 542756 | 0.23 | 1.4 |
| 1,4-Dichlorobenzene [a] | 106467 | 90 | 100 |
| 2,3,7,8-TCDD (Dioxin)[c] | 1746016 | 5.8E-10 | 5.9E-10 |
| 2,4,5-Trichlorophenol [b] | 95954 | 60 | 70 |
| 2,4,6-Trichlorophenol [b] | 88062 | 0.31 | 0.34 |
| 2,4-Dichlorophenol [b] | 120832 | 5 | 7 |

| | | | |
|---|---|---|---|
| 2,4-Dimethylphenol [b] | 105679 | 90 | 300 |
| 2,4-Dinitrophenol | 51285 | 10 | 40 |
| 2,4-Dinitrotoluene | 121142 | 0.04 | 0.2 |
| 2-Chloronaphthalene | 91587 | 100 | 100 |
| 2-Chlorophenol [b] | 95578 | 20 | 100 |
| 2-Methyl-4,6-Dinitrophenol | 534521 | 1 | 3 |
| 3,3'-Dichlorobenzidine | 91941 | 0.014 | 0.018 |
| 3-Methyl-4-Chlorophenol [b] | 59507 | 200 | 300 |
| 4,4'-DDD | 72548 | 0.000015 | 0.000015 |
| 4,4'-DDE | 72559 | 0.0000021 | 0.0000021 |
| 4,4'-DDT | 50293 | 0.000004 | 0.000004 |
| Acenaphthene [b] | 83329 | 10 | 10 |
| Acrolein | 107028 | 3 | 50 |
| Acrylonitrile | 107131 | 0.058 | 0.85 |
| Aldrin | 309002 | 9.4e-8 | 9.4e-8 |
| alpha-BHC | 319846 | 0.000047 | 0.000047 |
| alpha-Endosulfan | 959988 | 3 | 3 |
| Anthracene | 120127 | 40 | 40 |
| Antimony [a,c,d] | 7440360 | 5 | 73 |
| Asbestos [a,c,e] | 1332214 | 7 million fibers/L | -- |
| Arsenic [j] | 7440382 | 2.1 | 2.7 |
| Barium [a,c,e,f] | 7440393 | 1000 | -- |
| Benzene [a] | 71432 | 0.46 | 1.9 |
| Benzidine | 92875 | 0.00013 | 0.0013 |
| Benzo(a) Anthracene | 56553 | 0.00016 | 0.00016 |
| Benzo(a) Pyrene [a] | 50328 | 0.000016 | 0.000016 |
| Benzo(b) Fluoranthene | 205992 | 0.00016 | 0.00016 |
| Benzo(k) Fluoranthene | 207089 | 0.0016 | 0.0016 |

| | | | |
|---|---|---|---|
| beta-BHC (beta-HCH) | 319857 | 0.0016 | 0.0017 |
| beta-Endosulfan | 33213659 | 5 | 5 |
| Bis(2-Chloro-1-Methylethyl) Ether | 108601 | 200 | 400 |
| Bis(2-Chloroethyl) Ether | 111444 | 0.027 | 0.27 |
| Bis(2-Ethylhexyl) Phthalate [a] | 117817 | 0.045 | 0.046 |
| Bis(Chlormethyl) Ether | 542881 | 0.00014 | 0.0021 |
| Bromoform [a] | 75252 | 4.9 | 14 |
| Butylbenzyl Phthalate | 85687 | 0.01 | 0.01 |
| Carbon Tetrachloride [a] | 56235 | 0.3 | 0.6 |
| Chlordane [a] | 57749 | 0.000038 | 0.000038 |
| Chlorobenzene [a,b] | 108907 | 60 | 100 |
| Chlorodibromomethane [a] | 124481 | 0.63 | 2.5 |
| Chloroform [a] | 67663 | 50 | 300 |
| Chlorophenoxy Herbicide (2,4,5-TP) [Silvex] [a] | 93721 | 40 | 50 |
| Chlorophenoxy Herbicide (2,4-D) [a] | 94757 | 720 | 1500 |
| Chrysene [a] | 218019 | 0.016 | 0.016 |
| Copper [a,b,c,e] | 7440508 | 1300 | -- |
| Cyanide [a] | 57125 | 4 | 50 |
| Di-n-Butyl Phthalate | 84742 | 3 | 3 |
| Dibenzo(a,h) Anthracene | 53703 | 0.000016 | 0.000016 |
| Dichlorobromomethane [a] | 75274 | 0.75 | 3.3 |
| Dieldrin | 60571 | 1.5e-7 | 1.5e-7 |
| Diethyl Phthalate | 84662 | 80 | 80 |
| Dimethyl Phthalate | 131113 | 200 | 200 |
| Dinitrophenols | 25550587 | 10 | 100 |
| Endosulfan Sulfate | 1031078 | 4 | 5 |
| Endrin | 72208 | 0.004 | 0.004 |
| Endrin Aldehyde [a] | 7421934 | 0.1 | 0.1 |

| | | | |
|---|---|---|---|
| Ethylbenzene [a] | 100414 | 14 | 15 |
| Fluoranthene | 206440 | 2 | 2 |
| Fluorene | 86737 | 8 | 8 |
| Gamma-BHC (HCH); Lindane [a] | 58899 | 0.53 | 0.54 |
| Heptachlor [a] | 76448 | 7.1e-7 | 7.1e-7 |
| Heptachlor Epoxide [a] | 1024573 | 0.0000039 | 0.0000039 |
| Hexachlorobenzene [a] | 118741 | 0.0000096 | 0.0000096 |
| Hexachlorobutadiene [a] | 87683 | 0.001 | 0.001 |
| Hexachlorocyclohexane (HCH) - Technical | 608731 | 0.0012 | 0.0012 |
| Hexachlorocyclopentadiene [a,b] | 77474 | 0.5 | 0.5 |
| Hexachloroethane | 67721 | 0.02 | 0.02 |
| Indeno(1,2,3-cd) Pyrene | 193395 | 0.00016 | 0.00016 |
| Isophorone | 78591 | 30 | 220 |
| Manganese [b,c,e,g] | 7439965 | 50 | 100 |
| Methoxychlor [a] | 72435 | 0.002 | 0.002 |
| Methyl Bromide | 74839 | 100 | 1000 |
| Methylene Chloride [a] | 75092 | 20 | 200 |
| Methylmercury [c,h] | 22967926 | N/A | 0.03 *mg/kg* |
| N-Nitrosodi-n-Propylamine [c] | 621647 | 0.0044 | 0.058 |
| N-Nitrosodimethylamine [c] | 62759 | 0.00065 | 0.34 |
| N-Nitrosodiphenylamine [c] | 86306 | 0.62 | 0.69 |
| Nickel [c,d] | 7440020 | 30 | 40 |
| Nitrates [a,c,e] | 14797558 | 10000 | -- |
| Nitrobenzene [b] | 98953 | 10 | 70 |
| Nitrosamines [c] | -- | 0.000756 | 0.0526 |
| Nitrosodibutylamine [c] | 924163 | 0.0049 | 0.025 |
| Nitrosodiethylamine [c] | 55185 | 0.000756 | 0.0526 |
| Nitrosopyrrolidine [c] | 930552 | 0.016 | 3.9 |

| | | | |
|---|---|---|---|
| Pentachlorobenzene | 608935 | 0.01 | 0.01 |
| Pentachlorophenol (PCP) [a,b] | 87865 | 0.004 | 0.004 |
| Phenol [b] | 108952 | 4000 | 30000 |
| Polychlorinated Biphenyls (PCBs) [a,c,i] | 1336363 | 0.0000073 | 0.0000073 |
| Pyrene | 129000 | 3 | 3 |
| Selenium [a,c] | 7782492 | 20 | 100 |
| Tetrachloroethylene [a] | 127184 | 2.9 | 3.5 |
| Thallium[c] | 74440280 | 0.048 | 0.054 |
| Toluene [a] | 108883 | 32 | 63 |
| Toxaphene [a] | 8001352 | 0.000087 | 0.000087 |
| Trichloroethylene [a] | 79016 | 0.4 | 0.8 |
| Vinyl Chloride [a] | 75014 | 0.02 | 0.2 |
| Zinc [b,c] | 7440666 | 500 | 600 |

a. EPA has issued a Maximum Contaminant Level (MCL) for this chemical which may be more stringent. See EPA's National Primary Drinking Water Regulations.

b. The criteria for organoleptic (taste and odor) effects may be more stringent. See National Recommended Water Quality Criteria - Organoleptic Effects.

c. EPA's National Recommended Human Health Water Quality Criteria for this pollutant were not updated in 2015. However, this table's criteria values are calculated using the 2015 revised inputs for body weight and drinking water intake rate, and the Tribes' input for fish consumption rate set at 175g/day is used (see 2015 EPA Updated Ambient Water Quality Criteria for the Protection of Human Health), unless otherwise noted.

d. This criterion was revised to reflect EPA's q1* or RfD as contained in the Integrated Risk Information System (IRIS) as of May 17, 2002. The fish tissue bioconcentration factor (BCF) is from the 1980 Ambient Water Quality Criteria document.

e. Criteria for these pollutants are from the National Recommended Water Quality Criteria - Human Health Criteria Table. They are not calculated based on this table's inputs for fish consumption rate and cancer risk level.

f. This human health criterion is the same as originally published in the Quality Criteria for Water, 1976 ("Red Book") which predates the 1980 methodology and did not utilize the fish ingestion BCF approach. This same criterion value is published in the Quality Criteria for Water, 1986 ("Gold Book").

g. The Human Health for the consumption of Water + Organism criterion for manganese is not based on toxic effects, but rather is intended to minimize objectionable qualities such as laundry stains and objectionable tastes in beverages.

h. This fish tissue residue criterion for methylmercury is based on the total fish consumption rate of 175 g/day.

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

j. The "organism only" criterion is based on a risk level of 1 x $10^{-5}$, and the "water + organism" criterion is based on a risk level of 1 x$10^{-4}$.

**Table 4. Cyanotoxin Criteria**

| | Microcystins | | | Cylindrospermopsin | | |
|---|---|---|---|---|---|---|
| | Magnitude (µg/L) | Duration | Frequency | Magnitude (µg/L) | Duration | Frequency |
| Recreational Water Quality Criteria | 8 | 1 in 10-day assessment period across a recreational season | More than 3 excursions in a recreational season, not to be exceeded more than once in a three year period [a] | 15 | 1 in 10-day assessment period across a recreational season | More than 3 excursions in a recreational season, not to be exceeded more than once in a three year period [a] |

a. An excursion is defined as a 10-day assessment period with either toxin concentration higher than the criteria magnitude. When more than three excursions occur within a recreational season and the pattern reoccurs more than once in a three-year period, that is an indication the water body does not support the designated use.